



Electronic Products for electrical panels

February 2009 edition







WARNING If not specified, the technical data in this catalogue are typical and measured at 25°C (77°F), 230 Vac, Unom, Vdc and rated current; ripple is measured at 20 MHz with probe connected to 0.1 μ F. The technical data in this catalogue are typical and are not binding for Cabur and may be modified without prior notice, simply for production or improvement and/or evolution reason. Please contact our technical-commercial offices for any relevant confirmation or updates. For more informations visit our web site www.cabur.eu.



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DOGMA

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Quality wins! That's guaranteed!

Quality, reliability, high technology, know-how, efficient use are all aspects and features of a product of primary importance.

For the safety and piece of mind of its Customers, Cabur designs and creates its Electronic Products with great care, using selected materials and components, in perfect harmony with the Quality choices made by the company in the last few decades. That's why we can guarantee our electronic products for five years.

Cabur's electronic products warranty

Cabur guarantees its electronic products against manufacturing defects and faults as well as defects due to their parts and/or components (except for wearable parts and/or components) for 5 years starting from the date of the shipping document issued by Cabur.

www.cabur.eu/5

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• Terminal blocks for electrical boards

polyamide screw clamp, spring-clamp terminal blocks, melamine insulated terminal blocks, terminal boards for metering panels, high current terminal blocks

 Electronic products for electrical boards power supplies, analog modules, relay modules, signal converters
 Installation products

junction boxes terminals, distribution terminal boards, polyamide 12-pole terminal boards, connection systems for photovoltaic equipments

• Multipole connectors



If you wish to receive complete and updated technical documentation on Cabur products, please send a request using the dedicated form that you can download **online on the www.cabur.eu website** http://www.cabur.eu/documentations

Connetto

or just fill in, and send the form below

PLEASE SEND ME THE COMPREHENSIVE TECHNICAL DOCUMENTATION

Surname	Name	Function
Company Name		Field of activity: 🔲 Distributor 🛄 Installer 🛄 Panel Builder 🛄 Other
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I agree to my personal data being processed for the a.m. purposes. Signature

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Gabur

Shortly after its foundation, back in 1952, Cabur became a leading manufacturer of electrical panel terminal blocks, by focusing on installers' needs and providing leading edge technical solutions that, in some cases, would become popular in the industry.

In particular, in our product design and manufacturing, we have pioneered a quality focus on raw materials, functionality, reliability over time, and respect for the environment. That is the reason why Cabur was granted Class 1E (Equipment for Nuclear Power Generating Stations) qualification as early as in 1985 and, in addition, the ISO 9001/UNI-EN 29001 (Quality) and ISO 14001 (Environment) certifications, as well as compliance to Atex standards for "Ex e" installations on the most important terminal block lines.

The Headoffices

n 2006 a significant growth in company structure urged the organization to move from the historic site in Albissola Marina to a new logistic and manufacturing centre in Altare (SV).

Rather than moving abroad, Cabur has opted to invest in Italy, by acquiring a new state-of-the-art 15,000 sqm production site.

By doubling our production surface and increasing our staff with the recruitment of new people, we will be able to rationalise and make our current production processes, logistics, and sales, even more efficient.



2009

1952









Product range

With over 50 years of experience, Cabur develops and produces, by its own designs, a wide range of products for the electrical industry, providing the best in working conditions, in terms of operability and reliability. Current production of:

- Terminal blocks for electrical boards
- Electronic products for electrical boards
- Installation products
- Fully meets users' varied and complex installation needs.

Our varied and diversified production represents the optimal synthesis of Cabur's long experience as partner of Italy's most important Industries and Research Laboratories, combined with foreign activities and collaboration, always with the aim of pinpointing and meeting users' installation needs.





In particular as a result of a specific planning decision, products in our "standard" series are designed to meet the fundamental requirements of the most severe installation conditions and environments, thus avoiding to produce special product series for specific applications. This kind of planning has determined a clear qualitative improvement in the entire production, as well as a more streamlined and simplified product management, first of all to the advantage of the Distribution, which can guarantee to final Clients the most efficient service.

n addition to terminal blocks, Cabur product offering features a full range of electronic products for electric panels for plant and machine automation and process control. These products are designed for an easy deploy and for easy material management, thanks to the use of innovative and leading-edge technology.

Following an agreement with Tyco Electronics, Cabur distributes in the Italian market the HTS **heavy duty connector line**, which enlarges and completes the product range with over 250 items, presenting a series of highly qualified solutions.

HTS was selected as our partner for their strong experience in this field, their reliability and top material and finished product quality.





Highest ...mass produced quality

We guarantee top performance of our contacts and maximum flexibility of connection solutions.

A full range of standard products for automation panels is available at all major Wholesalers. Full support is provided by Cabur sales force both in Italy and in over 30 countries abroad, as well as by our Engineers, in order to provide our clients with the best installation solutions.



Web site

www.cabur.eu web site

On our web site, our customers and industry operators can always get up-to-date information on new products and sales offers.

All data sheets of Cabur product range, including those in this Catalogue, are available on our online catalogue featuring advanced user-friendly search functions.

Moreover, on our web site you can:

- ask our specialists for technical information and application advice
- contact our sales staff and ask them for estimates
- download manuals and other technical literature
- get access to quality and compliance certificates
- look at our latest sales literature
- ask for free catalogues and brochures
- ... and much more.

By this newsletter, Cabur communicates also via e-mail its main innovations and commercial activities to all those who apply for it through the registration form. In conclusion, Cabur web site (**www.cabur.eu**) is the ideal tool to get real time information and contacts with our company.





www.cabur.eu

Real time information on our company, products, and certifications

In order to be promptly updated about the availability of new technical and commercial documentation, please register on the site and join the newsletter service.

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Quality and environment

ISO 9001 CSQ Certification



Until recently, Cabur "Quality" was simply recognised through the appreciation of its customers. This has allowed the company to become a leader in Italy in the design, production and distribution of "terminal blocks for electrical panels" and, more recently, to extend its products offering to the segment of "electronic products" with recognised reliability levels in both Italian and foreign markets. Obviously, this cannot be the result of improvisation, but of a constant organisation process begun back in 1985 with the definition and implementation of a Quality Assurance Programme based on ANSI N 45.2 (referred to the particularly severe nuclear environment) that has involved the entire structure of the Company and has made each function and worker responsible for quality standards. Since 1995. CSQ (international institute for the certification of business quality

since 1995, USQ (international institute for the certification of business quality systems) has certified the Quality system designed and adopted by Cabur. The Quality system refers to the most complete and severe standard amongst



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UNI EN ISO 9000 series defining the requirements for Total Quality in Companies, that is ISO 9001, including the activities of Product Design, Development, Manufacturing and Customer Service.

After the issue of the new Edition of the Standard (ISO 9001.2000), the whole Quality System has been revised and renewed to be fully compliant with the new regulations. This compliance was confirmed by CSQ with the new Certificate issued in 2003.

THE QUALITY OF OUR PRODUCTS IS JUDGED BY OUR CUSTOMERS. OUR QUALITY ASSURANCE SYSTEM IS CERTIFIED BY CSQ.

ISO 14001 CSQ Certification



n its continuous improvement process, CABUR has adopted an environmental management system since 2001, obtaining the international CSQ UNI EN 14001 recognition.

This goal represents a guarantee given of the respect Cabur has for the surrounding environment as well as a demonstration of the adoption of environmental safeguard rules and, additionally, a pledge for constant ecological improvement.

This kind of Certification is still quite uncommon in Italy; Cabur has nevertheless been able to achieve and add it to its corporate philosophy, which is always aimed at the anticipation, rather than to the passive adaptation, of those needs that are becoming more and more urgent and global. Environment is undoubtedly one of these issues and, anticipating many other companies, not only in Italy, Cabur



firmly decided to adopt a system that monitors and prevents environmental risk, inherent to every stage of its manufacturing process.

Operational procedures and other paper documentation were unified and harmonised with the running Quality Assurance System and the manual, becoming of both Quality and Environmental Management, is now a complete reference point. The Quality Assurance and Environmental Management Department is at your complete disposal to provide any further information and/ or clarification on the entire Quality / Environment System and Customer Service. Cabur can provide you with a copy of both CSQ and EQNET certificates, or with a copy of the Quality and Environmental Management manual.

Standards and directives

The 2002/95/CE Directive



The 2002/95/CE Directive, known as RoHS, sets limits to the use of specific dangerous materials in electric and electronic devices. The Directive applies exclusively to devices included in the following categories, as listed in attachment 1A of 2002/96/EC Directive, also

- knows as WEEE, excluding categories 8 and 9. 1. Large appliances excluding fixed ones
- 2. Small appliances
- 3. IT and telecommunication appliances
- 4. Consumers' appliances
- 5. Lighting appliances
- Lighting appliances
 Electric and electronic to:
- 6. Electric and electronic tools, excluding large fixed industrial tools
- 7. Toys and devices for hobbies and sports
- 10. Vending machines

Cabur Products' compliance to RoHS Directive

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Cabur products are generally deployed in electric panels for electric distribution and for industrial automation, which are excluded from the application field of the RoHS Directive, as components of "fixed industrial tools" and of "fixed installations".

Nevertheless, in consideration of the needs of those Customers deploying Cabur products into devices and appliances that need to be RoHS compliant, we have decided to review our production according to RoHS Directive requirements.

From the beginning of the year we have been disposing of non-compliant items, not only to reduce dangerous substances but to eliminate them completely from components in our production, with a Zero Tolerance mindset.

The small amount of our products which is currently non-RoHS compliant consists of dated stocked parts or of those few items that cannot be produced by different materials or process yet. In any case, as mentioned above, these items are deployed in product categories that are not listed in the RoHS Directive application field.

Our staff is available for further details both on our products and on the application of the RoHS Directive.

For more information, please click on www.cabur.eu

C € Marking



All products in this catalogue meet all EU applicable standards when the Catalogue was printed. Therefore, all required CE markings are placed on the products and on all product related documents.

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Do not hesitate to contact our staff for any further information and/or explanations on Reference Standards. Cabur Customer Service can provide you with certificates of compliance to Reference Standards, type approvals, and CE markings.





Cabur power house

Cabur continues to renew and expand the range of power supplies for the use in industrial automation of vehicles, overhaul of processes and plants by improving technologies and product services und by introducing new models.

Quality and safety: Cabur ist the first Italian company to obtain the special approval UL508C Industrial Control Equipment for devices used for the processes in the industrial automation, in conformity with the direction IEC950, EN60950 for Electric Safety and thus EC labelled.

Innovation and research: in 1997 Cabur was the first italian company to produce switching power supplies for Din guide with universal input 120-230 Vac, while others were offering power supplies with outperformed, heavy and cumbersome step-down network transformer.

With the new generation of products presented in this catalogue, Carbur aimed at obtaining the highest possible output, to reduce energy costs and working temperatures altough reducing the dimensions of power supplies. By increasing the output, the dissipated power is reduced and besides the duration of the power supplies it is possible to reduce the thermic stress of the components for more reliability and savings while running.

By using circuit tecnologies and innovative components, we obtained the highest output on the market with over 94% in three-phase. The new three-phase power supply of 20°/24V has an output of 94.5%, supplies 480 W and dissipates only 28W compared to more than 50 W dissipated in other products: 25 W saved, less heat and much more reliability.

The new generation of power supplies has all the characteristics of flexibility and functionality for use of the previous series:

- all models are adequate for a network voltage of 100-120-230-240 Vac with a range of
- 90...264 Vac/110...370 Vdc which makes it possible to use them all over the world – new mono- two-phase power supplies of the CEW series with an extended range from
- 185...550 Vac in only one model - the output voltage of the power supplies above 2 A can be adjusted between 24 to
- 27.5 Vdc
- all models supply a high output peak power (above 200% for 200 ms or 1 sec according to the model) to start the hardest loads and guarantee the selectivity of safety fusibles on the 24 V line
- there are the versions with alarm contact and diode in an "o-ring" available on the output for the redundant parallel connection and all standard power supplies can be connected in parallel to sum power.

EN61000-3-2: all the models are in conformity with the EN61000-3-2 regulations of emissions of harmonic currents in low-voltage power supply systems, in force since 01/01/2001. By using our power suppli systems, the user can declare the conformity of its own panel to the EMC directives without additional external Emi filters and without knowing points 1,2, 3,4 which may be unknown to the user or vary from one panel to the next or from client to client.

Thermic protection: all models are equipped with protections against overtemperature adjusted at 60° C with full load: in case of insufficient ventilation of the panel, continous overload and high ambient temperature you avoid a broken power supply because of overheating and you reduce the thermic stress. The area of functioning of ambient temperature ranges from 20 a + 50°C for all models with full load without derating (except other indications).

Protection from short-overload: the protection from short-circuit and overload is used to protect the power supply from break down through overcurrent and subsequent overheating above the limits supported by the components. This function can be designed by starting with different applicable needs, with practical results and very different costs. In an automated process, the conditions for use, the value and the nature of the load can vary a lot, they are not known to those who project power supplies and sometimes not even to the users. The power supply in automation must reconcile needs which are in contrast between each other: protect themselves from overcurrent, but at the same time try to feed loads which call for a high peak current, work at ambient temperatures of max 45° C according to the regulation and sometimes also above in critical ventilation situations and furthermore guarantee high reliability and acepptable costs.

Choice of tecnology for protection of power supplies in automated processes:

- the overcurrent protection must support the high peak currents required by loads such as filament lamps, capacitive loads (dc/dc converter and filter condensators when switching on are almost a short-circuit for some ms) or inductive loads (engines in dc, electromagnets, etc.) at the peak they require currents above 5-10 times their nominal power and furthermore all these loads must sometimes be started synchronously.
- high peak power must be supplied for a sufficient time in oder to "start" the loads, for at least about ten ms or even up to 1-2 s according to the power of the power supply
- if the power supply has a high power and supplies a number of power outlets protected by fusibiles, the circuit protection from the short circuit/overload must guarantee the selectivity of the operation of the protections from overcurrent by burning the fusible of the broken load before its internal protection circuit intervenes by switching off the output or reducing the voltage and output power.
- the ambient temperature to which the project must refer to in order to measure the components, the admitted overcurrent and its duration must be equal or superior to 45°C, established in the directives regarding electric panels; the ambient temperature is a basic reference parameter because besides on supplied power and output, the heating of components depends also on ambient temperature.
- To protect the power supply you can use various tecniques:
- switch off the output as soon as possible: it is safe and costs less but it does not enable you to start heavy loads or to burn fuse on the 24 Vdc line
- constant power protection: if the admitted overcurrent is sufficiently high it enables you to start heavy loads, but if the overload lasts longer the power supply is always working with overload
- hiccup protection: combines the two tecniques listed above and admits over +200% of overcurrent for a relatively long time and then it switches off the output for a even longer break; the result is that you obtain the necessary peak of power when heavy loads are coming in with less heating of the components and during the break it cools down instead of being in continous overload such as it is the case for protections with constant power.

The protection with Hiccup tecnology with overcurrent output admitted up to +200% of the nominal power for a time duration between 200ms to over 1s (according to the power of the model) which has shown to be effective and reliable in practice for many processes in the field of automation.

Environment and RoHs conformity: as our products are not included in the Rohs WEEE directive, Cabur has adapted its own products. Cabur is one of the first italian companies to obtain the International Environmental Certificate UNI EN ISO 14001, certified by CSQ on ecologically compatible treatment of all materials necessary during the working cycle in order to produce its own products.

Filtered power supplies: a few components for a simple, reliable and economic solution in order to supply engines in dc or loads able to work without problems also with reciprocating wastage relatively high in output (ripple) and variations of output voltage equal to $\pm 10\%$, due to the variations of loads and variations of network. The filtered power supplies supply continous non-stabilized voltage and if combined with underdimensioned transformers, in cases where the load calls for high power with a simultaneous decrease of the network voltage, the output voltage can decrease remarkably and cause a disfunctioning of the supplied devices. They are not recommended in case of a network voltage which cannot guarantee major stability or a voltage at least equal to $\pm 10\%$ of the nominal voltage provided by the regulations.

Linear power supplies: Cabur produces linear power supplies with small power and high performace, reliability and an acceptable price. The linear power supplies make only a small part of the market and are offered as standard products, even though the performance of the high quality switching tecnology permits to realize compact power supplies with a very superior performance.

"Custom" power supplies: Cabur plans and produces "custom" power supplies on request of the client to be able to meet the requirements of the directives and the high demands. Furthermore our lab offers a tecnical documentation and the measures which prove the conformity of the products with the directives on Electric Safety and Eletromagnetic compatibility, besides the necessary tecnical support to define the characteristics of the product on the basis of the client's needs and our own experience.



Linear

Filtered

Cabur offers three different technologies with the right performance and price

	Switching	Linear	Filtered
Efficiency	>87%	< 50%	80%
Energy dissipated	14%	> 50%	20%
Mains var. tolerance	90-264 Vac	207-257 Vac	218-240 Vac
Load var. stability	$> \pm 50 \text{ mV}$	$> \pm 200 \text{ mV}$	$> \pm 2.5 V$
Ripple	@ 100 mV _{pp}	@ 100 mV _{pp}	$\geq 2 V_{pp}$
Weight	reduced	high	high
Dimensions	small	high	high
Cost	higher	higher	low
EMI	below standard limits	low	low

GENERAL NOTES

All technical data indicated in this catalogue are "typical", and are measured at 25°C, rated input voltage, rated output voltage and current, after 10 min warm up; ripple is measured at rated input and output, 20 MHz, probe on 100 nF.

Length of insulation stripping: 9 mm, model with fixed terminals; 6 mm, model with pluggable terminals.

Cooling: distance the power supply units 2 cm(1") from adjacent devices and at least 5 cm(2") from other equipment on the upper and lower sides.

We recommend to mount the power supply on horinzontal DIN rails.

Assembly: the power supply units are equipped with an EN 50.022 guide fitting. For a better stability we recommend attaching the guide to the panel, also in the point where the power supply unit is to be mounted.

DC input supply voltage: it is possible to supply the input of 90...264 Vac wide range models with 100....370 Vdc following these indications: reduce output current 25%, min. input DC voltage 100 Vdc, respect input polarity indicated on instruction sheet. Models with double voltage input cannot be supplied with DC voltage lower than 220 Vdc.

Redundant parallel and parallel connection: models with the letter P in their type and Cat. No. are supplied as standard with the output protection diode for redundant parallel and parallel connection.

We recommend adjusting to the same voltage (tolerance + 50 mV) the outputs of all the power supply units, applying the same calibration load, before connecting them in parallel and using

power supply units of the same model. If two power supply units not provided with an internal diode (standard versions) have to be connected in parallel, the connection shown in Figure 1 has to be applied out.

The CSDB module allows to connect in redundant parallel power supplies with 12, 15, 24 and 48 Vdc output voltages up to 15 A total max.

Connection in series of two power

supply units: possible by connecting a diode in anti-parallel to the output of each power supply unit, dimensioned to withstand the max. current of the power supply unit (see Figure 2).

LС

NC

AC

GND

AC

۵C

GND

AC

+

Dual voltage output power supplies: if a specific model with dual output is not available, dual output voltage can de achieved by connecting the outputs of two power supply unit as in Figure 3.

Power good signal available on "**P**" models: failure signal is provided by a 1A /30 Vdc SPST or SPDT contact (depending on model) of an internal relay: contact is closed when



functions are all OK, contact is opened

- to reduce costs

Which power supply unit to use

- with electronic loads

- with electronic loads

Switching - with highly variable line voltages (from 90 to 246 Vac)

- to reduce energy consumption, dissipated heat, weight, dimensions

- for applications requiring very low electromagnetic emissions

- when high Vdc stability is required

- with line voltages stable within +10%

with very stable line voltages within +5%
with loads having high tolerance to high ripple
with loads having high tolerance to variations of 25 Vdc

in case of AC line shut off, overload or short circuit on 24 Vdc line or power supply failure.

NOTES FOR POWER SUPPLY UNITS WITH TRANSFORMER SECONDARY INPUT



Isolation: this series of power supply units is not isolated.

Type of use: they are suitable for use

in PELV (one pole of the Protective Extra Low Voltage earthed) and SELV (Safety Extra Low Voltage, no pole earthed). The transformer used must have double or reinforced isolation in accordance with CEI 14.6 / EN 60742.

In the case of use in PELV circuits, only earth one pole of the 24 Vdc of the power supply unit. In the case of use in SELV circuits, do not earth the input earth terminal.

Do not connect to the negative pole of the power supply output (- Vdc) together with one pole of the AC secondary source; this condition will damage the power supply; the secondary output vltage of the transformer must be kept isolated from ground and only the negative pole of the power supply output can be grounded for safety.



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figure 2



SUPPLY QU iick selectio D ß Î Î

These tables allow you to quickly select only the items, then check if all product's technical data meet your application requirements.

Switching power supply - Cool Power series

Output voltage	Output current	Input voltage	Notes	Туре	Cat. No.	Page		
1015 Vdc	1.51 A	90264 Vac / 100320 Vdc	(1) (9) (11)	CSF30B	XCSF30B	22		
1215 Vdc	6 A	90264 Vac / 100370 Vdc	(1) (8) (9) (11)	CSF85B	XCSF85B	24		
1215 Vdc	7 A	90264 Vac / 100370 Vdc	(1) (8) (9) (11)	CSF120B	XCSF120B	26		
1215 Vdc	16 A	120 Vac / 230 Vac	(2) (8) (9) (11)	CSF240B	XCSF240B	28		
24 Vdc	1.2 A	90264 Vac / 100320 Vdc	(1) (11)	CSF30C	XCSF30C	22		
24 Vdc	3.5 A	90264 Vac / 100370 Vdc	(1) (8) (11)	CSF85C	XCSF85C	24		
24 Vdc	3.5 A	90264 Vac / 100370 Vdc	(1) (7) (8) (11)	CSF85CP	XCSF85CP	24		
24 Vdc	5 A	90264 Vac / 100370 Vdc	(1) (8) (11)	CSF565	XCSF565	30		
24 Vdc	5 A	90264 Vac / 100370 Vdc	(1) (8) (11)	CSF120C	XCSF120C	26		
24 Vdc	5 A	90264 Vac / 100370 Vdc	(1) (7) (8) (11)	CSF120CP	XCSF120CP	26		
24 Vdc	10 A	120 Vac / 230 Vac	(2) (8) (11)	CSF240C	XCSF240C	28		
24 Vdc	10 A	120 Vac / 230 Vac	(2) (7) (8) (11)	CSF240CP	XCSF240CP	28		
24 Vdc	20 A	120 Vac / 230 Vac	(2) (8) (11)	CSF500C	XCSF500C	29		
48 Vdc	2.5 A	90264 Vac / 100370 Vdc	(1) (8) (11)	CSF120D	XCSF120D	26		
48 Vdc	2.5 A	90264 Vac / 100370 Vdc	(1) (7) (8) (11)	CSF120DP	XCSF120DP	26		
48 Vdc	5 A	120 Vac / 230 Vac	(2) (8) (11)	CSF240D	XCSF240D	28		
48 Vdc	10 A	120 Vac / 230 Vac	(2) (8) (11)	CSF500D	XCSF500D	29		

Single-phase switching power supply - Easy Power series

Output voltage	Output current	Input voltage	Notes	Туре	Cat. No.	Page
24 Vdc	3.5 A	90264 Vac / 100370 Vdc	(1) (11)	CSP85C	XCSP85C	32
24 Vdc	5 A	90264 Vac / 100370 Vdc	(1) (11)	CSP120C	XCSP120C	33
24 Vdc	10 A	120 Vac / 230 Vac	(2) (11)	CSP240C	XCSP240C	34

Single-phase switching power supply - Domotic Power series

Output voltage	Output current	Input voltage	Notes	Туре	Cat. No.	Page
515 Vdc	31.5 A	90264 Vac / 100370 Vdc	(1) (9) (11)	CSD30E	XCSD30E	18
±12±15	0.6 A	90264 Vac / 100370 Vdc	(1) (9) (11)	CSD30F	XCSD30F	18
12 Vdc	1.2 A	90264 Vac / 100370 Vdc	(1) (11)	CSD15B	XCSD15B	17
1215 Vdc	3.53 A	90264 Vac / 100370 Vdc	(1) (9) (11)	CSD50B	XCSD50B	19
24 Vdc	0.6 A	90264 Vac / 100370 Vdc	(1) (11)	CSD15C	XCSD15C	17
24 Vdc	1.2 A	90264 Vac / 100370 Vdc	(1) (11)	CSD30C	XCSD30C	18
24 Vdc	2 A	90264 Vac / 100370 Vdc	(1) (11)	CSD50C	XCSD50C	19
24 Vdc	3 A	90264 Vac / 100370 Vdc	(1) (11)	CSD70C	XCSD70C	20

Single and two-phase switching power supply - Universal Power series

Output voltage	Output current	Input voltage	Notes	Туре	Cat. No.	Page
1215 Vdc	87 A	185550 Vac	(3) (9) (11)	CSW120B	XCSW120B	36
1215 Vdc	1615 A	185550 Vac	(3) (8) (9) (11)	CSW240B	XCSW240B	37
24 Vdc	5 A	185550 Vac	(3) (11)	CSW120C	XCSW120C	36
24 Vdc	10 A	185550 Vac	(3) (8) (11)	CSW240C	XCSW240C	37
48 Vdc	5 A	185550 Vac	(3) (8) (11)	CSW240D	XCSW240D	37

Note

- (1) wide range single-phase input
- (2) double range single-phase input
- (3) single-phase and two-phase input
- (4) two-phase input (5)
- three-phase input

- (6) input from a secondary of a transformer
- (7) with Oring diode for redundant parallel
- (8) with failure contact (power good)
- (9) with adjustable output
- (10) DC/DC converter
- (11) UL508C approved 🕲



Power supply quick selection table

These tables allow you to quickly select only the items, then check if all product's technical data meet your application requirements.

Two and three-phase switching power supply - Triple Power series

		1 01				
Output voltage	Output current	Input voltage	Notes	Туре	Cat. No.	Page
24 Vdc	3.5 A	340550 Vac / 507700 Vdc	(4) (9) (11)	CSB85C	XCSB85C	39
24 Vdc	6 A	340550 Vac / 507700 Vdc	(4) (11)	CSB150C	XCSB150C	40
24 Vdc	10 A	340550 Vac / 507700 Vdc	(5) (8) (11)	CSG240C	XCSG240C	42
24 Vdc	20 A	340550 Vac / 507700 Vdc	(5) (8) (11)	CSG500C	XCSG500C	43
24 Vdc	30 A	340550 Vac / 507700 Vdc	(5) (8) (11)	CSG720C	XCSG720C	44
24 Vdc	42 A	340550 Vac / 507700 Vdc	(5) (11)	CSG42	XCSG42	45
24 Vdc	40 A	340550 Vac / 507700 Vdc	(5) (8) (11)	CSG960C	XCSG960C	46
24 Vdc	100 A	340550 Vac / 507700 Vdc	(5) (11)	CSG2400C	XCSG2400C	47
48 Vdc	10 A	340550 Vac / 507700 Vdc	(5) (8) (11)	CSG500D	XCSG500D	43
48 Vdc	15 A	340550 Vac / 507700 Vdc	(5) (8) (11)	CSG720D	XCSG720D	44
48 Vdc	20 A	340550 Vac / 507700 Vdc	(5) (8) (11)	CSG960D	XCSG960D	46
48 Vdc	50 A	340550 Vac / 507700 Vdc	(5) (11)	CSG2400D	XCSG2400D	47

Switching power supply out 24 Vdc in IP65 case

Output voltage	Output current	Input tipology	Input voltage	Notes	Туре	Cat. No.	Page
24 Vdc	5 A	Single-phase	90264 Vac / 100370 Vdc	(1) (8)	CSF565	XCSF565	30

Switching power supply with input from transformer and out 24 Vdc

Output voltage	Output current	Input tipology	Input voltage	Notes	Туре	Cat. No.	Page
24 Vdc	3 A	From transformer	24 Vac	(6)	CSE3	XCSE3	50
24 Vdc	5 A	From transformer	24 Vac	(6)	CSE5	XCSE5	50
24 Vdc	10 A	From transformer	24 Vac	(6)	CSE10	XCSE10	51

Linear power supply with adjustable output 1.2...24 Vdc

Output voltage	Output current	Input tipology	Input voltage	Notes	Туре	Cat. No.	Page
1.224 Vdc	1.5 A	From transformer	926 Vac	(6) (9)	CL1R	XCL1R	52
1.224 Vdc	5 A	From transformer	926 Vac	(6) (9)	CL5R	XCL5R	52

Filtered power supply with not stabilised output

Output voltage	Output current	Input tipology	Input voltage	Notes	Туре	Cat. No.	Page
1224 Vdc	1 A	From transformer	920 Vac	(6)	AR1	XAR1	53
1224 Vdc	2 A	From transformer	920 Vac	(6)	AR2	XAR2	53
1224 Vdc	4 A	From transformer	920 Vac	(6)	AR4	XAR4	54
1224 Vdc	6 A	From transformer	920 Vac	(6)	AR6	XAR6	54

Note

- (1) wide range single-phase input
- (2) double range single-phase input
- (3) single-phase and two-phase input
- (4) two-phase input
- (5) three-phase input

- (6) input from a secondary of a transformer
- (7) with Oring diode for redundant parallel
- (8) with failure contact (power good)
- (9) with adjustable output
- (10) DC/DC converter (11) UL508C approved •



Modular switching power supply GSD series

DOMOTIC POWER

Domotic Power series

It includes single-phase switching supplies with up to 75W for applications in civil and industrial automation.

Its housing is designed adopting the sizes of DIN standard modular products for units integrated into modular control panels and may also be used in standard switchboards or small-depth panels.

Suggested uses

- Applications in industrial automation
- Applications in civil automation
- General applications in systems fit into small remote panels

Main features

- The 90...264 Vac and 110...370 Vdc input makes them suitable for use on all power supply lines.
- These power supplies are Insulation Class 2, thus they don't require grounding, which reduces costs and times during installation into remote panels, surveillance and monitoring systems.
- Their high efficiency reduces energy consumption and working temperature and allows their use in small panels.
- Their backup power allows the supply of continuous current at least +25% above the rated value up to 45°C without exceeding standard temperature limits and ensuring safety and reliability.
- Dimensioned power supply and surge protection supplying breakaway starting currents 150% above the rated value required by heavy loads.
- Thermal protection prevents faults caused by prolonged overload at high ambient temperatures.
- Their internal components' high efficiency and excellent ventilation offer small dimensions and IP20 protection against accidental contacts in compliance with IEC529.







Single-phase switching power supply 120-230 Vac output power 15 W

- \bullet Single-phase input 90...264 Vac and DC 100...370 Vdc
- Short circuit, overload, over temperature, input overvoltage protections
- Isolation Class 2, no grounding needed
- Compact dimensions
- Suitable for applications in SELV and PELV circuits





BLOCK DIAGRAM

CE



- B version: -0.03 A/°C.
- (3) Overload and short circuit current depends on the total line resistance

NOTES



VERSIONS	Cod. XCSD15C	Cod. XCSD15B			
Dutput 24 Vdc 0.6 A	CSD15C				
utput 24 Vdc 0.6 A redundant version		-			
utput 12 Vdc 1.2 A		CSD15B			
Output 48 Vdc 0.3 A		-			
INPUT TECHNICAL DATA					
nput rated voltage	-	120–230 Vac (range 90264 Vac / 100370 Vdc)			
requency		4763 Hz			
Current @ nominal lout (Uin 120 /230 Vac)		0.3 A / 0.16 A ± 10%			
nrush peak current		< 5 A			
Power factor		> 0.6			
nternal protection fuse		T 1 A replaceable			
External protection on AC line		circuit breaker: 2 A - C characteristic - fuse: T 2 A			
OUTPUT TECHNICAL DATA					
Dutput rated voltage	24 Vdc	12 Vdc ± 0.5 Vdc			
Dutput adjustable range					
Continuous current	0.6 A @ 50°C (2)	1.2 A @ 50°C (2)			
Overload limit	1.08 A (3)	2.16 A (3)			
Short circuit peak current					
_oad regulation	< 1%	< 1%			
Ripple @ nominal ratings	\leq 30 mVpp	≤ 30 mVpp			
Hold up time @ In (Uin 120 / 230 Vac)	>12 ms / >20 ms	>12 ms / >20 ms			
Overload / short circuit protections	hiccup at	the overload limit with auto reset / over temperature protection			
Status display	"DC OK" green LED				
Alarm contact threshold	-	-			
Parallel connection	possible	possible			
Redundant parallel connection	possible with external ORing	possible with external ORing			
	diode	diode			
GENERAL TECHNICAL DATA					
fficiency (Uin 120 / 230 Vac)	>85% / >87%	>85% / >87%			
Dissipated power (Uin 120 / 230 Vac)	19 W / 13 W	21 W / 15 W			
Operating temperature range	-20+60)°C, with derating over 50°C / over temperature protection (2)			
nput/output isolation		3 KVac / 60 s SELV output			
nput/ground isolation		class 2 without PE connection			
Dutput/ground isolation		class 2 without PE connection			
Standard/approvals		EN50178, EN61558, EN60950, IEC950, UL508			
ATRE @ 0580 @ permised rations		1000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11			
MTBF @ 25°C @ nominal ratings	>750'000	h acc. to SN 29500 / >250'000 h acc. to MIL Std. HDBK 217F			
Dvervoltage category/Pollution degree		II / 2 IP 20 IEC 529, EN60529			
Protection degree					
Connection terminal		2.5 mm ² fixed screw type UL94V-0 plastic material			
łousing material Approx. weight		130 g (5.12 oz)			
Approx. weight Nounting information	vortical	on rail, allow 10 mm spacing between adjacent components			
-	Ventical				
MOUNTING ACCESSORIES					
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB			
Mounting rail type according to IEC60715/G32		—			

Single-phase switching power supply 120-230 Vac output power 30 W

- Single-phase input 90...264 Vac and DC 100...370 Vdc
- Short circuit, overload, over temperature, input overvoltage protections
- Isolation Class 2, no grounding needed
- Compact dimensions
- Suitable for applications in SELV and PELV circuits





BLOCK DIAGRAM

CE



-0.03 A/°C; E version: -0.08...-0.04 A/°C.
(3) Overload and short circuit current depends on the total line resistance.

NOTES

 (4) Output current depends on the output voltage: 3.3A @ 5Vdc, 2A @ 9Vdc, 2.2A @ 12Vdc, 1.5A @ 15Vdc.



VERSIONS	Cod. XCSD30C	Cod. XCSD30E	Cod. XCSD30F
Dutput 24 Vdc 1.2 A	CSD30C		
Dutput 24 Vdc 1.2 A redundant version		-	
Dutput 515 Vdc 3.31.5 A		CSD30E	
Dutput ±12±15 Vdc 0.6 A			CSD30F
INPUT TECHNICAL DATA			
nput rated voltage	120-	230 Vac (range 90264 Vac / 100370 Vdc)	
Frequency		4763 Hz	
Current @ nominal lout (Uin 120 /230 Vac)	0.55 A / 0.28 A ± 10%	0.45 A / 0.25 A ± 10%	0.4 A / 0.2 A ± 10%
nrush peak current	< 13 A	< 13 A	< 13 A
Power factor		> 0.6	
nternal protection fuse		T 2 A replaceable	
External protection on AC line	circui	it breaker: 3 A - C characteristic - fuse: T 3.15 A	
OUTPUT TECHNICAL DATA			
Dutput rated voltage	24 Vdc	515 Vdc	±12±15 Vdc
Dutput rated voltage Dutput adjustable range	24 900	515 Vdc	±12±15 Vdc
Continuous current	1.2 A @ 50°C (2)	3.31.5 A @ 50°C (2)(4)	2 x 0.6 A @ 50°C (2)
Overload limit	1.6 (3)	4 A (3)	$>2 \times 0.0 \text{ A} \oplus 50 \text{ C} (2)$ >2 x 0.8 A (3)
Short circuit peak current	1.0 (5)	4 A (3)	>2 X U.O A (J)
Load regulation	< 1%	< 1%	< 1%
Ripple @ nominal ratings	≤ 50 mVpp	≤ 50 mVpp	≤ 50 mVpp
Hold up time @ In (Uin 120 / 230 Vac)	>30 ms / >60 ms	>50 ms/>100 ms	>50 ms / >100 ms
Dverload / short circuit protections		verload limit with auto reset / over temperature protect	
Status display		"DC OK" green LED	
Alarm contact threshold	-		-
Parallel connection	possible	possible	possible
	possible with external ORing	possible with external ORing	possible with external ORin
Redundant parallel connection	diode	diode	diode
GENERAL TECHNICAL DATA			
Efficiency (Uin 120 / 230 Vac)	>85% / >87%	>87% / >89%	>87% / >89%
Dissipated power (Uin 120 / 230 Vac)	5.2 W / 4.5 W	4.5 W / 3.7 W	4.5 W / 3.7 W
Derating temperature range		and the second	(2)
nput/output isolation	2011.00 0,1	3 KVac / 60 s SELV output	(=)
nput/ground isolation		class 2 without PE connection	
Dutput/ground isolation		class 2 without PE connection	
Standard/approvals	EN	150178, EN61558, EN60950, IEC950, UL508	
MC Standards)-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN	61000-4-6. EN61000-4-11
MTBF @ 25°C @ nominal ratings		c. to SN 29500 / >250'000 h acc. to MIL Std. HDBK 2	
Dvervoltage category/Pollution degree		II / 2	
Protection degree		IP 20 IEC 529, EN60529	
Connection terminal		2.5 mm ² fixed screw type	
Housing material		UL94V-0 plastic material	
Approx. weight		200 g (7.06 oz)	
Nounting information	vertical on ra	ail, allow 10 mm spacing between adjacent components	3
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5	DD	X/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to EC60715/G32	rn	, , , , , , , , , , , , , , , , , , ,	

Single-phase switching power supply 120-230 Vac output power 50 W

- Single-phase input 90...264 Vac and DC 100...370 Vdc
- Short circuit, overload, over temperature, input overvoltage protections
- Isolation Class 2, no grounding needed
- Compact dimensions
- Suitable for applications in SELV and PELV circuits





BLOCK DIAGRAM

CE



(2) With 100...127 Vdc input voltage, constant output power and Ta>45°C, the output current must be derated by 25%

NOTES

- (3) Over 50°C (122°F) apply a derating: Cversion: -0.06 A/°C; Bversion: -0.085 A/°C.
- (4) Overload and short circuit current depends on the total line resistance.



VERSIONS	Cod. XCSD50C	Cod. XCSD50B
Dutput 24 Vdc 2.2 A	CSD50C	
Dutput 24 Vdc 2.2 A redundant version		-
Dutput 1215 Vdc 3.53 A		CSD50B
Dutput 48 Vdc 1.1 A		-
INPUT TECHNICAL DATA		
nput rated voltage	1	20–230 Vac (range 90264 Vac / 100370 Vdc) (2)
Frequency		4763 Hz
Current @ nominal lout (Uin 120 /230 Vac)		$0.9 \text{ A} / 0.5 \text{ A} \pm 10\%$
nrush peak current		<15A
Power factor		> 0.6
Internal protection fuse		T 2 A replaceable
External protection on AC line		circuit breaker: 3 A - C characteristic - fuse: T 3.15 A
OUTPUT TECHNICAL DATA		
	24 Vdc	1215 Vdc
Output rated voltage Output adjustable range	24 VUG	1215 Vdc
Continuous current	2.2 A @ 50°C (3)	3.53 A @ 50°C (3)
Overload limit	3 A (4)	
Short circuit peak current	3 A (4)	4.373.75 A (4)
Load regulation	< 1%	< 1%
Ripple @ nominal ratings	< 170 < 50 mVpp	< 1% < 50 mVpp
Hold up time @ In (Uin 120 / 230 Vac)	>20 ms / >40 ms	>20 ms / >40 ms
Overload / short circuit protections		at the overload limit with auto reset / over temperature protection
Status display	niccup	"DC OK" green LED
Alarm contact threshold		
Parallel connection	possible	possible
	possible with external ORing	possible with external ORing
Redundant parallel connection	diode	diode
GENERAL TECHNICAL DATA		
Efficiency (Uin 120 / 230 Vac)	>88% / >90%	>88% / >90%
Dissipated power (Uin 120 / 230 Vac)	6.8 W / 5.5 W	6.8 W / 5.5 W
Operating temperature range		50°C, with derating over 50°C / over temperature protection (3)
Input/output isolation		3 KVac / 60 s SELV output
nput/ground isolation		class 2 without PE connection
Output/ground isolation		class 2 without PE connection
Standard/approvals		EN50178, EN61558, EN60950, IEC950, UL508
EMC Standards	EN61000-6-2, EN61000-6-4, EN	V61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11
MTBF @ 25°C @ nominal ratings		00 h acc. to SN 29500 / >250'000 h acc. to MIL Std. HDBK 217F
Overvoltage category/Pollution degree		II / 2
Protection degree		IP 20 IEC 529, EN60529
Connection terminal		2.5 mm ² fixed screw type
Housing material		UL94V-0 plastic material
Approx. weight		200 g (7.06 oz)
Mounting information	vertic	al on rail, allow 10 mm spacing between adjacent components
MOUNTING ACCESSORIES		
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail type according to IEC60715/H135-7.5		

Single-phase switching power supply 120-230 Vac output power 70 W

- Single-phase input 90...264 Vac and DC 100...370 Vdc
- Short circuit, overload, over temperature, input overvoltage protections
- Isolation Class 2, no grounding needed
- Compact dimensions
- Suitable for applications in SELV and PELV circuits



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BLOCK DIAGRAM

CE



(2) With 100...127 Vdc input voltage, constant output power and Ta>45°C, the output current must be derated by 25%.

NOTES

- (3) Over 50°C (122°F) apply a derating: C version: -0.15 A/°C.
- (4) Overload and short circuit current depends on the total line resistance.



VERSIONS	Cod. XCSD70C			
Output 24 Vdc 3 A	CSD70C			
Output 24 Vdc 3 A redundant version		-		
Output 1215 Vdc 54 A			-	
Output 48 Vdc 1.5 A				-
INPUT TECHNICAL DATA			1	
Input rated voltage		120–230 Vac (range 9026	54 Vac / 100370 Vdc) (2)	
Frequency			63 Hz	
Current @ nominal lout (Uin 120 /230 Vac)			8 A ± 10%	
Inrush peak current			5 A	
Power factor			0.6	
Internal protection fuse			replaceable	
External protection on AC line			racteristic - fuse: T 3.15 A	
OUTPUT TECHNICAL DATA				
Output rated voltage	24 Vdc			
Output adjustable range	2427.5 Vdc			
Continuous current	3 A @ 55°C (3)			
Overload limit	4 A (4)			
Short circuit peak current				
Load regulation	< 1%			
Ripple @ nominal ratings	≤ 60 mVpp			
Hold up time @ In (Uin 120 / 230 Vac)	>15 ms / >30 ms			
Overload / short circuit protections	hi	ccup at the overload limit with aut	o reset / over temperature pro	tection
Status display		"DC OK"	green LED	
Alarm contact threshold	-			
Parallel connection	possible			
Redundant parallel connection	possible with external ORing diode			
GENERAL TECHNICAL DATA				
Efficiency (Uin 120 / 230 Vac)	>87% / >89%			
Dissipated power (Uin 120 / 230 Vac)	10.4 W / 8.6 W			
Operating temperature range		-20+60°C, with de	rating over 55°C (3)	
Input/output isolation		3 KVac / 60	s SELV output	
Input/ground isolation		class 2 without	PE connection	
Output/ground isolation			t PE connection	
Standard/approvals		EN50178, EN61558, El	160950, IEC950, UL508	
EMC Standards	EN61000-6-2, EN61000-6	-4, EN61000-4-2, EN61000-4-3,		, EN61000-4-6, EN61000-4-11
MTBF @ 25°C @ nominal ratings		50'000 h acc. to SN 29500 / >25		
Overvoltage category/Pollution degree		II	/ 2	
Protection degree		IP 20 IEC 52	9, EN60529	
Connection terminal		2.5 mm² fixe	d screw type	
Housing material			astic material	
Approx. weight			8.82 oz)	
Mounting information		vertical on rail, allow 10 mm space	ing between adjacent compon	ents
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB	PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32				

Switching power supply CSF series

Cool Power series

It includes DIN-rail single-phase switching power supplies, specifically designed for applications in industrial automation and process control switchboards and panels. They can supply 50% above the rated voltage for more than 5 sec. keeping the output voltage constant and the alarm contact controlled by a voltage threshold switching over when the voltage drops 90% below the rated value. **Thanks to these features and to the numerous international certifications, this series of power supplies allows engineers to meet with all the requirements of the new EN 60204-1 Machinery Directive.**

Suggested uses

- · Applications in industrial automation requiring high levels of efficiency and reliability
- Applications requiring selectivity of surge protection devices on DC lines.
- Application in machinery automation requiring high levels of reliability in terms of control and safety voltage
- Applications in process control
- Heavy duty uses
- Applications in civil automation

Main features

- The 90...264 Vac and 110...370 Vdc input makes them suitable for use on all power supply lines.
- Threshold alarm contact warning when the voltage drops 90% below the rated value.
- Versions with integrated Oring diode for redundant parallel connections, avoiding the use of external devices and reducing dimensions and installation costs.
- Their high efficiency reduces energy consumption and components' operating temperature allowing their use in small panels and under severe ambient conditions.
- Their backup power allows the supply of current and voltage at least +50% above the rated value at 45°C for a few minutes without exceeding standard temperature limits and ensuring safety and reliability.
- The output voltage may be adjusted and the output is protected against the input of surges coming from the DC line and caused by inductive loads.
- The output is equipped with double electronic protection devices preventing dangerous voltages which may damage powered components in the event of internal faults.
- Thermal protection prevents faults in the event of prolonged overloads at high ambient temperatures.
- Their design ensures excellent ventilation to internal components, small dimensions and IP20 protection against accidental contacts in compliance with IEC529.
- Thanks to their high efficiency and excellent ventilation, they are the smallest devices available on the market.



COOL POWER







Single-phase switching power supply 120-230 Vac output power 30 W

- \bullet Single-phase input 90...264 Vac and DC 100...370 Vdc
- Short circuit, overload, over temperature protection
- Isolation Class 2, no grounding needed
- Compact dimensions
- Suitable for applications in SELV and PELV circuits





NEW

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BLOCK DIAGRAM



(1) Version available upon request; for information call our sales department, local agent or representative

NOTES

- (2) With 100...127 Vdc input voltage, constant output power and Ta>45°C, the output current must be derated by 25%
- (3) Over 50°C (122°F) apply a derating: C version: -0.03 A/°C; B version: -0.038 A/°C; F version: -0.013 A/°C
- (4) Overload and short circuit current depends on the total line resistance.



VERSIONS	Cod. XCSF30C	Cod. XCSF30B	Cod. XCSF30F	
Dutput 24 Vdc 1.2 A	CSF30C			
Output 1015 Vdc 1.5 A		CSF30B		
Output ±12±15 Vdc 0.5 A			CSF30F (1)	
INPUT TECHNICAL DATA				
Input rated voltage		120-230 Vac (range 902	64 Vac / 100370 Vdc) (2)	
Frequency		47	63 Hz	
Current @ nominal lout (Uin 120 /230 Vac)	0.55 A / 0.3 A ± 10%	0.35 A / C	.2 A ± 10%	
Inrush peak current		<	25 A	
Power factor		>	0.60	
Internal protection fuse			t replaceable	
External protection on AC line		circuit breaker: 2 A - C	characteristic - fuse: T 2 A	
OUTPUT TECHNICAL DATA				
Output rated voltage	24 Vdc ± 10%	12 – 15 Vdc	±12 ±15 Vdc	
Output adjustable range	—	1015 Vdc	±12±15 Vdc	
Continuous current	1.2 A @ 50°C (3)	1.51 A @ 50°C (3)	0.5 A @ 50°C (3)	
Overload limit	1.4 A (4)	1.71.2 A (4)	0.80.6 A (4)	
Short circuit peak current	_	-	-	
Load regulation			1%	
Ripple @ nominal ratings			mVpp	
Hold up time @ In (Uin 120 / 230 Vac)			/ >30 ms	
Overload / short circuit protections			ad limit with auto reset	
Status display		"DC OK"	green LED	
Alarm contact threshold			_	
Parallel connection			sible	
Redundant parallel connection		possible with ex	ernal ORing diode	
GENERAL TECHNICAL DATA				
Efficiency (Uin 120 / 230 Vac)		>86%	/ >87%	
Dissipated power (Uin 120 / 230 Vac)		4.7 W	/ 4.3 W	
Operating temperature range		-20+60°C, with de	erating over 50°C (3)	
Input/output isolation		3 KVac / 60	s SELV output	
Input/ground isolation		class 2 without	t PE connection	
Output/ground isolation		class 2 without	t PE connection	
Standard/approvals		EN50178, EN61558, EN609	50, IEC950, UL508, UL60950	
EMC Standards	EN61000-6-2, EN61000-	6-4, EN61000-4-2, EN61000-4-3	EN61000-4-4, EN61000-4-5, EN61000	-4-6, EN61000-4-11
MTBF @ 25°C @ nominal ratings	>	750'000 h acc. to SN 29500 / >2	50'000 h acc. to MIL Std. HDBK 217F	
Overvoltage category/Pollution degree		II	/ 2	
Protection degree		IP 20 IEC 5	29, EN60529	
Connection terminal		2.5 mm ² fix	ed screw type	
Housing material		UL94V-0 pl	astic material	
Approx. weight		140 g	(4.94 oz)	
Mounting information			cing between adjacent components	
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC. PR/3/AC/ZE	, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32				

Single-phase switching power supply 120-230 Vac output power 40...72 W

- \bullet Single-phase input 90...264 Vac and DC 100...370 Vdc
- Short circuit, overload, over temperature, input and output overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- Compact dimensions
- Suitable for applications in SELV and PELV circuits

NOTES

The depth dimension includes the terminal blocks and the DIN clamp.

- (2) With 100...127 Vdc input voltage, constant output power and Ta>45°C, the output current must be derated by 25%
 (3) Over 45°C (113°E) apply derating: CSE3-CSE3P - 0.07 A/°C;
- (3) Over 45°C (113°F) apply derating: CSF3-CSF3P: -0.07 A/°C; B version: -0.1 A/°C; versione A: -0.13 A/°C
- (4) Overload and short circuit current depends on the total line resistance.

VERSIONS	Cod. XCSF3	Cod. XCSF3P	Cod. XCSF3B	Cod. XCSF3A
Output 24 Vdc 4 A	CSF3			
Output 24 Vdc 4 A redundant version		CSF3P		
Output 1215 Vdc 6 A			CSF3B	
Output 5 Vdc 8 A				CSF3A
INPUT TECHNICAL DATA				
nput rated voltage		120-230 Vac (range 9026	4 Vac / 100370 Vdc) (2)	
requency		476	3 Hz	
Current @ nominal lout (Uin 120 /230 Vac)		1.3A / 0.7	A ± 10%	
nrush peak current		< 20	A	
ower factor		> 0		
nternal protection fuse		T 2 A rep		
external protection on AC line		circuit breaker: 4 A C cha	aracteristic - fuse: T 4 A	
OUTPUT TECHNICAL DATA				
Dutput rated voltage	24	Vdc	1215 Vdc	5 Vdc
Dutput adjustable range		7.5 Vdc	1215 Vdc	—
Continuous current		I5°C (3)	6 A @ 45°C (3)	8 A @ 45°C (3)
Overload limit	6 A	(4)	8.5 A (4)	10.5 A (4)
Short circuit peak current	-	_	—	_
oad regulation		1%	< 1%	< 1%
lipple @ nominal ratings		mVpp	\leq 40 mVpp	\leq 40 mVpp
lold up time @ In (Uin 120 / 230 Vac)	>10 ms / >20 ms >10 ms / >20 ms >10 ms			
Iverload / short circuit protections	ŀ	niccup at the overload limit with auto		n
tatus display		"DC OK" green LED / "	DC OK" alarm contact	
larm contact threshold		-	-	-
arallel connection		sible	possible	possible
Redundant parallel connection	possible with external ORing diode	factory provided with internal ORing diode	possible with exte	ernal ORing diode
GENERAL TECHNICAL DATA		, , , , , , , , , , , , , , , , , , ,		
Efficiency (Uin 120 / 230 Vac)	>86%	/>90%	>86% / >90%	>83% / >86%
lissipated power (Uin 120 / 230 Vac)		/ 8 W	12 W / 8 W	8 W / 7 W
perating temperature range		-20+60°C, with derating 45°C /		
put/output isolation		3 KVac / 60 s		
put/ground isolation		1.5 KVao	c / 60 s	
utput/ground isolation		0.5 KVao	c / 60 s	
tandard/approvals		EN50178, EN61558, EN	60950, IEC950, UL508	
MC Standards	EN61000-6-2, EN61000-	6-4, EN61000-4-2, EN61000-4-3, E	EN61000-4-4, EN61000-4-5, EN6	1000-4-6, EN61000-4-11
ITBF @ 25°C @ nominal ratings	>	500'000 h acc. to SN 29500 / >15		7F
vervoltage category/Pollution degree		II /		
rotection degree		IP 20 IEC 52	-,	
onnection terminal		2.5 mm ² plugga		
ousing material		aluminium and		
pprox. weight		515 g (18		
Nounting information		vertical on rail, allow 10 mm spaci	ng between adjacent components	
MOUNTING ACCESSORIES				
Nounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB,	PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32		_	-	







CE

BLOCK DIAGRAM

Item available till sell-out, will be replaced by **CSF85** series...

Single-phase switching power supply 120-230 Vac output power 85 W

- \bullet Single-phase input 90...264 Vac and DC 100...370 Vdc
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- Failure contact for Uout -10%
- Compact dimensions
- Suitable for applications in SELV and PELV circuits

NOTES

The depth dimension includes the DIN rail clamp.

- (2) With 100...127 Vdc input voltage, constant output power and Ta>45°C, the output current must be derated by 25%
- (3) Over 45°C (113°F) apply derating: CSF3-CSF3P: -0.07 A/°C; B version: -0.1 A/°C; versione A: -0.13 A/°C
- (4) Overload and short circuit current depends on the total line resistance.



VERSIONS	Cod. XCSF85C	Cod. XCSF85CP	Cod. XCSF85B	
Dutput 24 Vdc 3.5 A	CSF85C			
Dutput 24 Vdc 3.5 A redundant version		CSF85CP		
Dutput 1215 Vdc 6 A			CSF85B	
Dutput 48 Vdc 1.8 A				-
INPUT TECHNICAL DATA				
nput rated voltage		120-230 Vac (range 9026	64 Vac / 100370 Vdc) (2)	
requency			53 Hz	
Current @ nominal lout (Uin 120 /230 Vac)		1.6 A / 0.9		
nrush peak current			10 A	
Power factor		> 0		
nternal protection fuse		T 2 A rep		
External protection on AC line		circuit breaker: 4 A - C c	haracteristic - fuse: T 4 A	
OUTPUT TECHNICAL DATA				
Dutput rated voltage	24		1215 Vdc	
Dutput adjustable range	2327		1215 Vdc	
Continuous current	3.5 A @ 50°C	(3)	6 A @ 50°C (3)	
Overload limit	6 A per		9 A per >30 s	
	with Uout >L		with Uout >Un x 0.9 (4)	
Short circuit peak current	10 A per 50 ms	(4)	10 A per 50 ms (4)	
Load regulation	< .		< 1%	
Ripple @ nominal ratings	≤ 70		≤ 30 mVpp	
Hold up time @ In (Uin 120 / 230 Vac)	>20 ms /		>15 ms / >60 ms	
Overload / short circuit protections	hiccup at the overload limit with auto reset / over temperature protection "DC OK" green LED / "DC OK" alarm contact/ "Overload" red LED			
Status display Alarm contact threshold	21.6		10.8 Vdc	1
Parallel connection	21.0 poss		possible	
	possible with external ORing	factory provided with internal		
Redundant parallel connection	diode	ORing diode	possible with ex	ternal ORing diode
GENERAL TECHNICAL DATA				
Efficiency (Uin 120 / 230 Vac)	>85% /	/ >89%	>83% / >87%	
Dissipated power (Uin 120 / 230 Vac)	15 W/		17 W / 13 W	
Derating temperature range		20+60°C, with derating over 50°		(3)
nput/output isolation			s SELV output	(-)
nput/ground isolation		1.5 KVa	c / 60 s	
Dutput/ground isolation		0.5 KVa	c / 60 s	
Standard/approvals		EN50178, EN61558, EN6095	50, IEC950, UL508, UL60950	
EMC Standards	EN61000-6-2, EN61000-6	6-4, EN61000-4-2, EN61000-4-3,	EN61000-4-4, EN61000-4-5, EN	61000-4-6, EN61000-4-11
MTBF @ 25°C @ nominal ratings		500'000 h acc. to SN 29500 / >15		
Overvoltage category/Pollution degree		II	-	
Protection degree		IP 20 IEC 52	-)	
Connection terminal		2.5 mm ² plugg	21	
Housing material		alum		
Approx. weight		400 g (1		
Mounting information		vertical on rail, allow 10 mm spac	ing between adjacent components	3
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB,	PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32		_	_	

24



NEW

Single-phase switching power supply 120-230 Vac output power 96...144 W

- \bullet Single-phase input 90...264 Vac and DC 100...370 Vdc
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- Compact dimensions
- Suitable for applications in SELV and PELV circuits

NOTES

The depth dimension includes the terminal blocks and the DIN clamp.

(1) Not available

- (2) With 100...127 Vdc input voltage, constant output power and Ta>45°C, the output current must be derated by 25%
- (3) Over 45°C (113°F) apply derating: CSF5-CSF5P: -0.1 A/°C; B version: -0.13 A/°C; D version: -0.04 A/°C
- (4) Overload and short circuit current depends on the total line resistance.





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BLOCK DIAGRAM

Item available till sell-out, will be replaced by **CSF120** series...

VERSIONS	Cod. XCSF5	Cod. XCSF5P	Cod. XCSF5B	Cod. XCSF5D		
Output 24 Vdc 6 A	CSF5					
Output 24 Vdc 6 A redundant version		CSF5P				
Dutput 1215 Vdc 8 A			CSF5B			
Dutput 48 Vdc 2.5 A				CSF5D		
INPUT TECHNICAL DATA						
nput rated voltage		120–230 Vac (range 9026	4 Vac / 100370 Vdc) (2)			
Frequency		476	3 Hz			
Current @ nominal lout (Uin 120 /230 Vac)		1.8 A / 1.	A ± 10%			
Inrush peak current		< 21	A			
Power factor		> 0	.7			
Internal protection fuse		T 3.15 A re	placeable			
External protection on AC line		circuit breaker: 4 A - C ch	aracteristic - fuse: T 4 A			
OUTPUT TECHNICAL DATA						
Output rated voltage	24	Vdc	1215 Vdc	48 Vdc		
Output adjustable range	2327	7.5 Vdc	1215 Vdc	4555 Vdc		
Continuous current	6 A @ 4	5°C (3)	8 A @ 45°C (3)	2.5 A @ 45°C (3)		
Overload limit	10 A	(4)	14 A (4)	4 A (4)		
Short circuit peak current	_	_	_			
Load regulation	< 1	1%	< 1%	< 1%		
Ripple @ nominal ratings	≤ 40	≤ 40 mVpp		≤ 50 mVpp		
Hold up time @ In (Uin 120 / 230 Vac)	>10 ms /	>10 ms / >20 ms		>10 ms / >20 ms		
Overload / short circuit protections	h	hiccup at the overload limit with auto reset / over temperature protection				
Status display		"DC OK" green LED / "	DC OK" alarm contact			
Alarm contact threshold	-	-	-	-		
Parallel connection	pos	possible		possible		
Redundant parallel connection	possible with external ORing diode	factory provided with internal ORing diode	possible with external ORing diode			
GENERAL TECHNICAL DATA						
Efficiency (Uin 120 / 230 Vac)	>87%	/ >91%	>86% / >90%	>86% / >90%		
Dissipated power (Uin 120 / 230 Vac)	18 W .	/ 12 W	17 W / 12 W	19 W / 13 W		
Operating temperature range		20+60°C, with derating over 45°	C / over temperature protection (3)		
Input/output isolation		3 KVac / 60 s	SELV output			
Input/ground isolation		1.5 KVa	c / 60 s			
Output/ground isolation		0.5 KVa	c / 60 s			
Standard/approvals		EN50178, EN61558, EN	60950, IEC950, UL508			
EMC Standards	EN61000-6-2, EN61000-6	6-4, EN61000-4-2, EN61000-4-3, E		1000-4-6, EN61000-4-11		
MTBF @ 25°C @ nominal ratings	>	500'000 h acc. to SN 29500 / >15	0'000 h acc. to MIL Std. HDBK 21	7F		
Overvoltage category/Pollution degree		II /				
Protection degree		IP 20 IEC 52	9, EN60529			
Connection terminal		2.5 mm ² plugga	ble screw type			
Housing material		aluminium and	stainless steel			
Approx. weight		515 g (1	8.18 oz)			
Mounting information		vertical on rail, allow 10 mm spaci	ng between adjacent components			
MOUNTING ACCESSORIES						
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB,	PR/3/AS. PR/3/AS/ZB			
Mounting rail type according to IEC60715/G32						



115 (4.53 in)

Single-phase switching power supply 120-230 Vac output power 120 W

- Single-phase input 90...264 Vac and DC 100...370 Vdc
- · Short circuit, overload, over temperature, input and ouput overvoltage protections
- · High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- Failure contact for Uout -10%
- Compact dimensions
- Suitable for applications in SELV and PELV circuits

NOTES

The depth dimension includes the terminal blocks and the DIN clamp.

- (2) With 100...127 Vdc input voltage, constant output power and Ta>45°C, the output current must be derated by 25%
- (3) Over 50°C (122°F) apply a derating -0.1 A/°C, max 60°C (4) Overload and short circuit current depends on the total line

VERSIONS

resistance.



VENJIUNJ	000. 7031 1200	000. X031 12001	000. 7031 1200	000. X031 1200			
Output 24 Vdc 5 A	CSF120C						
Output 24 Vdc 5 A redundant version		CSF120CP					
Output 1215 Vdc 7 A			CSF120B				
Output 48 Vdc 2.5 A				CSF120D			
INPUT TECHNICAL DATA							
Input rated voltage		120-230 Vac (range 9026	64 Vac / 100370 Vdc) (2)				
Frequency		471	63 Hz				
Current @ nominal lout (Uin 120 /230 Vac)		1.9 A / 1.1	1 A ± 10%				
Inrush peak current		< 2	20 A				
Power factor		> 0	0.65				
Internal protection fuse			eplaceable				
External protection on AC line		circuit breaker: 4 A - C c	haracteristic - fuse: T 4 A				
OUTPUT TECHNICAL DATA							
Output rated voltage	24	Vdc	1215 Vdc	48 Vdc			
Output adjustable range		7.5 Vdc	1215 Vdc	4555 Vdc			
Continuous current	5 A @ 50°C	(3)	7 A @ 50°C (3)	2.5 A @ 50°C (3)			
Overload limit		r >30 s	8 A for >30 s	8 A for >30 s			
		Un x 0.9 (4)	with Uout >Un x 0.9 (4) 15 A per 50 ms (4)	with Uout >Un x 0.9 (4			
Short circuit peak current		15 A per 50 ms (4)		7.5 A per 50 ms (4)			
Load regulation		1%	< 1%	< 1%			
Ripple @ nominal ratings		mVpp	$\leq 40 \text{ mVpp}$	\leq 30 mVpp			
Hold up time @ In (Uin 120 / 230 Vac)		/ >72 ms	>24 ms / >80 ms	>16 ms / >81 ms			
Overload / short circuit protections	Г		to reset / over temperature protection				
Status display Alarm contact threshold	.01	.6 Vdc	arm contact/ "Overload" red LED <10.8 Vdc	<43.2 Vdc			
Parallel connection		sible	possible	possible			
	possible with external ORing	factory provided with internal	possible	hoseinie			
Redundant parallel connection	diode	ORing diode	possible with exte	ernal ORing diode			
GENERAL TECHNICAL DATA							
Efficiency (Uin 120 / 230 Vac)		/ >90%	>85% / >89%	>86% / >90%			
Dissipated power (Uin 120 / 230 Vac)		/ 13 W	21 W / 15 W	20 W / 13 W			
Operating temperature range	-	20+60°C, with derating over 50°		(3)			
Input/output isolation			s SELV output				
Input/ground isolation			c / 60 s				
Output/ground isolation		0.5 KVa					
Standard/approvals		EN50178, EN61558, EN60950, IEC950, UL508, UL60950 EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11					
EMC Standards				,			
MTBF @ 25°C @ nominal ratings	>	500'000 h acc. to SN 29500 / >15		/F			
Overvoltage category/Pollution degree			/ 2				
Protection degree		IP 20 IEC 52	-)				
Connection terminal			able screw type				
Housing material	aluminium						

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NEW

Cod. XCSF120C

400 g (14.12 oz)

vertical on rail, allow 10 mm spacing between adjacent components

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

MOUNTING ACCESSORIES Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32

Approx. weight Mounting information



Cod. XCSF120D

(4)

Single-phase switching power supply 120-230 Vac output power 192...240 W

- Single-phase input 120 and 230 Vac
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- \bullet Suitable for applications in SELV and PELV circuits
- High efficiency and low dissipated power

CULUS CONT

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BLOCK DIAGRAM

CE

clamp.(2) Double input selectable with external jumper, DC supply allow only between 300 and 350 Vdc

(3) Over 45°C (113°F) apply derating: CSF10-CSF10P: -0.16 A/°C; B version: -0.27 A/°C; D version: -0.08 A/°C

NOTES The depth dimension includes the terminal blocks and the DIN

(4) Overload and short circuit current depends on the total line resistance.

Item available till sell-out, will be replaced by **CSF240** series...

Short circuit peak current Load regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Overload / short circuit protections Status display Alarm contact threshold Parallel connection Redundant parallel connection GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	24 22.5 10 A @ 20 A < ≤ 60 >20 ms	CSF10P - 230 Vac (range 90132 Vac / 18 476 3.5A / 1.8 A < 35 > 0.6 / 3 T 6.3 A rep circuit breaker: 6 A C chars Vdc 27.5 Vdc 45°C (3) (4) 1% mVpp / >40 ms hiccup at the overload limit with auto	B Hz $x \pm 10\%$ A >0.85 laceable acteristic - fuse: T 6.3 A 1215 Vdc 16 A @ 45°C (3) 17 A (4) - < 1% $\leq 60 \text{ mVpp}$ >20 ms / >40 ms reset / over temperature protection	CSF10D (2) (2) (2) (2) (2) (2) (2) (2) (2) (2)			
Dutput 1215 Vdc 16 A Dutput 48 Vdc 5 A INPUT TECHNICAL DATA nput rated voltage Frequency Current @ nominal lout (Uin 120 /230 Vac) nrush peak current Power factor nternal protection fuse External protection on AC line OUTPUT TECHNICAL DATA Dutput ated voltage Dutput ated voltage Output ated voltage Dutput ate over rent Load regulation Ripple @ nominal ratings Iold up time @ In (Uin 120 / 230 Vac) Overload / short circuit protections Status display Alarm contact threshold Parallel connection Redundant parallel connection Poss GENERAL TECHNICAL DATA Dissipated pow	24 22.5 10 A @ 20 A < ≤ 60 >20 ms	- 230 Vac (range 90132 Vac / 18 4760 3.5A / 1.8 A < 35 > 0.6 / 3 T 6.3 A rep circuit breaker: 6 A C char Vdc 27.5 Vdc 45°C (3) (4) 1% mVpp / >40 ms hiccup at the overload limit with auto	5264 Vac / 300350 Vdc) 8 Hz $x \pm 10\%$ A >0.85 laceable acteristic - fuse: T 6.3 A 1215 Vdc 16 A @ 45°C (3) 17 A (4) < 1% $\leq 60 \text{ mVpp}$ >20 ms / >40 ms reset / over temperature protection	(2) 48 Vdc 4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
Dutput 48 Vdc 5 A INPUT TECHNICAL DATA nput rated voltage requency Durrent @ nominal lout (Uin 120 /230 Vac) nrush peak current Yower factor nternal protection fuse External protection on AC line OUTPUT TECHNICAL DATA Dutput ated voltage Dutput adjustable range Continuous current Vverload limit Short circuit peak current Load regulation Ripple @ nominal ratings Iold up time @ In (Uin 120 / 230 Vac) Vverload / short circuit protections Status display Narm contact threshold Parallel connection Redundant parallel connection POSS GENERAL TECHNICAL DATA Dissipated power (Uin 120 / 230 Vac)	24 22.5 10 A @ 20 A < ≤ 60 >20 ms	4763 3.5A / 1.8 A < 35 > 0.6 / 3 T 6.3 A rep circuit breaker: 6 A C char Vdc 27.5 Vdc 45°C (3) (4) - 1% mVpp / >40 ms hiccup at the overload limit with auto	5264 Vac / 300350 Vdc) 8 Hz $x \pm 10\%$ A >0.85 laceable acteristic - fuse: T 6.3 A 1215 Vdc 16 A @ 45°C (3) 17 A (4) < 1% $\leq 60 \text{ mVpp}$ >20 ms / >40 ms reset / over temperature protection	(2) 48 Vdc 4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
INPUT TECHNICAL DATA nput rated voltage rrequency Current @ nominal lout (Uin 120 /230 Vac) nrush peak current Power factor nternal protection fuse External protection on AC line OUTPUT TECHNICAL DATA Dutput rated voltage Dutput rated voltage Dutput adjustable range Continuous current Dverload limit Short circuit peak current .oad regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Dverload / short circuit protections Status display Varm contact threshold Parallel connection Poss GENERAL TECHNICAL DATA Dissipated power (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	24 22.5 10 A @ 20 A < ≤ 60 >20 ms	4763 3.5A / 1.8 A < 35 > 0.6 / 3 T 6.3 A rep circuit breaker: 6 A C char Vdc 27.5 Vdc 45°C (3) (4) - 1% mVpp / >40 ms hiccup at the overload limit with auto	B Hz $x \pm 10\%$ A >0.85 laceable acteristic - fuse: T 6.3 A 1215 Vdc 16 A @ 45°C (3) 17 A (4) - < 1% $\leq 60 \text{ mVpp}$ >20 ms / >40 ms reset / over temperature protection	(2) 48 Vdc 4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
nput rated voltage Frequency Current @ nominal lout (Uin 120 /230 Vac) nrush peak current Power factor nternal protection fuse External protection on AC line OUTPUT TECHNICAL DATA Dutput rated voltage Dutput adjustable range Continuous current Dverload limit Short circuit peak current Load regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Dverload / short circuit protections Status display Alarm contact threshold Parallel connection Redundant parallel connection Poss Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	24 22.5 10 A @ 20 A < ≤ 60 >20 ms	4763 3.5A / 1.8 A < 35 > 0.6 / 3 T 6.3 A rep circuit breaker: 6 A C char Vdc 27.5 Vdc 45°C (3) (4) - 1% mVpp / >40 ms hiccup at the overload limit with auto	B Hz $x \pm 10\%$ A >0.85 laceable acteristic - fuse: T 6.3 A 1215 Vdc 16 A @ 45°C (3) 17 A (4) - < 1% $\leq 60 \text{ mVpp}$ >20 ms / >40 ms reset / over temperature protection	48 Vdc 4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
Frequency Current @ nominal lout (Uin 120 /230 Vac) nrush peak current Power factor nternal protection fuse External protection on AC line OUTPUT TECHNICAL DATA Dutput rated voltage Dutput adjustable range Continuous current Dverload limit Short circuit peak current .oad regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Dverload / short circuit protections Status display Varm contact threshold Parallel connection Poss GENERAL TECHNICAL DATA Dissipated power (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	24 22.5 10 A @ 20 A < ≤ 60 >20 ms	4763 3.5A / 1.8 A < 35 > 0.6 / 3 T 6.3 A rep circuit breaker: 6 A C char Vdc 27.5 Vdc 45°C (3) (4) - 1% mVpp / >40 ms hiccup at the overload limit with auto	B Hz $x \pm 10\%$ A >0.85 laceable acteristic - fuse: T 6.3 A 1215 Vdc 16 A @ 45°C (3) 17 A (4) - < 1% $\leq 60 \text{ mVpp}$ >20 ms / >40 ms reset / over temperature protection	48 Vdc 4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
Current @ nominal lout (Uin 120 /230 Vac) nrush peak current Power factor nternal protection fuse External protection on AC line OUTPUT TECHNICAL DATA Dutput rated voltage Dutput adjustable range Continuous current Duerload limit Short circuit peak current Load regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Dverload / short circuit protections Status display Alarm contact threshold Parallel connection Redundant parallel connection POSS GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	22.5 10 A @ 20 A < < < <b< td=""><td>3.5A / 1.8 A < 35 > 0.6 / 3 T 6.3 A rep circuit breaker: 6 A C chara Vdc 27.5 Vdc 45°C (3) (4) </td><td>A \pm 10% A >0.85 laceable acteristic - fuse: T 6.3 A 1215 Vdc 16 A @ 45°C (3) 17 A (4) </td><td>4555 Vdc 5 A @ 45°C (3) 5.5 A (4) </td></b<>	3.5A / 1.8 A < 35 > 0.6 / 3 T 6.3 A rep circuit breaker: 6 A C chara Vdc 27.5 Vdc 45°C (3) (4) 	A \pm 10% A >0.85 laceable acteristic - fuse: T 6.3 A 1215 Vdc 16 A @ 45°C (3) 17 A (4) 	4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
nrush peak current Power factor Internal protection fuse External protection on AC line OUTPUT TECHNICAL DATA Dutput rated voltage Dutput adjustable range Continuous current Dverload limit Short circuit peak current Load regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Dverload / short circuit protections Status display Valarm contact threshold Parallel connection	22.5 10 A @ 20 A < < < 	< 35 > 0.6 / : T 6.3 A rep circuit breaker: 6 A C char: Vdc 27.5 Vdc 45°C (3) (4) - 1% mVpp / >40 ms hiccup at the overload limit with auto	A >0.85 aceable acteristic - fuse: T 6.3 A 1215 Vdc 16 A @ 45°C (3) 17 A (4) < 1% $\leq 60 \text{ mVpp}$ > 20 ms / > 40 ms reset / over temperature protection	4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
Power factor Internal protection fuse External protection on AC line OUTPUT TECHNICAL DATA Dutput rated voltage Dutput adjustable range Continuous current Dverload limit Short circuit peak current Load regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Dverload / short circuit protections Status display Narm contact threshold Parallel connection Redundant parallel connection GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	22.5 10 A @ 20 A < < < 	 > 0.6 / : T 6.3 A rep circuit breaker: 6 A C chars Vdc 27.5 Vdc 45°C (3) (4) - 1% mVpp />40 ms hiccup at the overload limit with auto 	>0.85 laceable acteristic - fuse: T 6.3 A 1215 Vdc 16 A @ 45°C (3) 17 A (4) 	4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
nternal protection fuse External protection on AC line OUTPUT TECHNICAL DATA Dutput rated voltage Dutput adjustable range Continuous current Diverload limit Short circuit peak current Load regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Diverload / short circuit protections Status display Narm contact threshold Parallel connection	22.5 10 A @ 20 A < < < 	T 6.3 A rep circuit breaker: 6 A C char Vdc 27.5 Vdc 45°C (3) (4) — 1% mVpp / >40 ms hiccup at the overload limit with auto	laceable acteristic - fuse: T 6.3 A 1215 Vdc 16 A @ 45°C (3) 17 A (4) 	4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
External protection on AC line OUTPUT TECHNICAL DATA Dutput rated voltage Dutput adjustable range Continuous current Diverload limit Short circuit peak current .oad regulation Ripple @ nominal ratings told up time @ In (Uin 120 / 230 Vac) Diverload / short circuit protections Status display Alarm contact threshold Parallel connection Bedundant parallel connection Consipated power (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	22.5 10 A @ 20 A < < < 	circuit breaker: 6 A C char Vdc 27.5 Vdc 45°C (3) (4) 1% mVpp / >40 ms hiccup at the overload limit with auto	acteristic - fuse: T 6.3 A 1215 Vdc 1215 Vdc 16 A @ 45° C (3) 17 A (4) 	4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
OUTPUT TECHNICAL DATA Output rated voltage Output adjustable range Continuous current Overload limit Short circuit peak current Load regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Overload / short circuit protections Status display Alarm contact threshold Parallel connection Bross Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	22.5 10 A @ 20 A < < < 	Vdc 27.5 Vdc 45°C (3) (4) 	1215 Vdc 1215 Vdc 16 A @ 45° C (3) 17 A (4) < 1%	4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
Dutput rated voltage Dutput adjustable range Continuous current Dverload limit Short circuit peak current Load regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Overload / short circuit protections Status display Alarm contact threshold Parallel connection Bedundant parallel connection Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	22.5 10 A @ 20 A < < < 	27.5 Vdc 45°C (3) (4) 	1215 Vdc 16 A @ 45°C (3) 17 A (4) 	4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
Dutput adjustable range Continuous current Diverload limit Short circuit peak current .oad regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Diverload / short circuit protections Status display Alarm contact threshold Parallel connection Redundant parallel connection Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	22.5 10 A @ 20 A < < < 	27.5 Vdc 45°C (3) (4) 	1215 Vdc 16 A @ 45°C (3) 17 A (4) 	4555 Vdc 5 A @ 45°C (3) 5.5 A (4) 			
Continuous current Diverload limit Short circuit peak current Load regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Diverload / short circuit protections Status display Alarm contact threshold Parallel connection	10 A @ 20 A < ≤ 60 >20 ms	45°C (3) (4) 	16 A @ 45°C (3) 17 A (4) < 1% ≤ 60 mVpp >20 ms / >40 ms reset / over temperature protection	5 A @ 45°C (3) 5.5 A (4) 			
Overload limit Short circuit peak current Load regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Overload / short circuit protections Status display Alarm contact threshold Parallel connection Poss GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	20 A - ≤ 60 >20 ms	(4) 	17 A (4) < 1% ≤ 60 mVpp >20 ms / >40 ms reset / over temperature protectio	5.5 A (4) 			
Load regulation Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Overload / short circuit protections Status display Alarm contact threshold Parallel connection Redundant parallel connection	< ≤ 60 >20 ms		<pre></pre>	< 1% ≤ 60 mVpp >20 ms / >40 ms			
GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	≤ 60 >20 ms	mVpp / >40 ms niccup at the overload limit with auto	≤ 60 mVpp >20 ms / >40 ms reset / over temperature protectio	≤ 60 mVpp >20 ms / >40 ms			
Ripple @ nominal ratings Hold up time @ In (Uin 120 / 230 Vac) Overload / short circuit protections Status display Alarm contact threshold Parallel connection Redundant parallel connection GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	≤ 60 >20 ms	mVpp / >40 ms niccup at the overload limit with auto	≤ 60 mVpp >20 ms / >40 ms reset / over temperature protectio	≤ 60 mVpp >20 ms / >40 ms			
Hold up time @ In (Uin 120 / 230 Vac) Overload / short circuit protections Status display Alarm contact threshold Parallel connection Redundant parallel connection GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	>20 ms	/ >40 ms hiccup at the overload limit with auto	>20 ms / >40 ms reset / over temperature protection	>20 ms / >40 ms			
Overload / short circuit protections Status display Alarm contact threshold Parallel connection Redundant parallel connection GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)		niccup at the overload limit with auto	reset / over temperature protectic				
Status display Alarm contact threshold Parallel connection Redundant parallel connection GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)		niccup at the overload limit with auto	reset / over temperature protection	n			
Alarm contact threshold Parallel connection Redundant parallel connection GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)		"DO 01/"		hiccup at the overload limit with auto reset / over temperature protection			
Parallel connection poss Redundant parallel connection poss GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)		"DC OK" green LED / "DC OK" alarm contact					
Redundant parallel connection poss GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)		-		-			
GENERAL TECHNICAL DATA Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	possible possible		possible				
Efficiency (Uin 120 / 230 Vac) Dissipated power (Uin 120 / 230 Vac)	possible with external ORing factory provided with internal diode ORing diode possible with external ORing diode			ernal ORing diode			
Dissipated power (Uin 120 / 230 Vac)							
		/ >90%	>87% / >90%	>87% / >90%			
		/ 27 W	35 W / 27 W	36 W / 27 W			
Dperating temperature range	-20+60°C, with derating over 50°C / over temperature protection (3)						
nput/output isolation	3 KVac / 60 s SELV output						
nput/ground isolation	1.5 KVac / 60 s						
Dutput/ground isolation	0.5 KVac / 60 s						
Standard/approvals	EN50178, EN61558, EN60950, IEC950, UL508						
EMC Standards	EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11						
MTBF @ 25°C @ nominal ratings	>	500'000 h acc. to SN 29500 / >150		7F			
Overvoltage category/Pollution degree	II / 2						
Protection degree	IP 20 IEC 529, EN60529						
Connection terminal	2.5 mm ² pluggable screw type aluminium and stainless steel						
Housing material							
Approx. weight		920 g (32					
Mounting information		vertical on rail, allow 10 mm spacin	y between adjacent components				
MOUNTING ACCESSORIES							
Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB						

Single-phase switching power supply 120-230 Vac output power 240 W

- Single-phase input 120 and 230 Vac
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- Failure contact for Uout -10%
- Compact dimensions
- Suitable for applications in SELV and PELV circuits

NOTES

The depth dimension includes the terminal blocks and the DIN clamp.

- (2) Double input selectable with external jumper, DC supply allow only between 300 and 350 Vdc
- (3) Over 50°C (122°F) apply a derating: C version, CP: -0.25 A/°C; B version: -0.4 A/°C; D version: -0.13 A/°C.
- (4) Overload and short circuit current depends on the total line resistance.



BLOCK DIAGRAM

VERSIONS	Cod. XCSF240C	Cod. XCSF240CP	Cod. XCSF240B	Cod. XCSF240D	
Dutput 24 Vdc 10 A	CSF240C				
Dutput 24 Vdc 10 A redundant version	0012100	CSF240CP			
Dutput 1215 Vdc 16 A			CSF240B		
Dutput 48 Vdc 5 A			0012105	CSF240D	
INPUT TECHNICAL DATA					
nput rated voltage	120 -	230 Vac (range 90132 Vac / 18	85264 Vac / 300350 Vdc)	(2)	
requency		476	63 Hz		
Current @ nominal lout (Uin 120 /230 Vac)		3.5 A / 1.8	3 A ± 10%		
nrush peak current		< 3	5 A		
Power factor		> ().6		
nternal protection fuse		T 6.3 A re	placeable		
External protection on AC line		circuit breaker: 6 A C cha	racteristic - fuse: T 6.3 A		
OUTPUT TECHNICAL DATA					
Dutput rated voltage	24	/dc	1215 Vdc	48 Vdc	
Output adjustable range	2327	.5 Vdc	1215 Vdc	4555 Vdc	
Continuous current	10 A @ 50°C	(3)	16 A @ 50°C (3)	5 A @ 50°C (3	
Overload limit	15 A fo	->30 s	14 A for >30 s	7.5 A for >30 s	
	with Uout >L	ln x 0.9 (4)	with Uout >Un x 0.9 (4)	with Uout >Un x 0.9 (4	
Short circuit peak current	>25 A for 400 ms (4)		>25 A for 400 ms (4)	>25 A for 400 ms (4)	
Load regulation	< 1%		< 1%	< 1%	
Ripple @ nominal ratings	≤ 50 mVpp		≤ 50 mVpp	≤ 50 mVpp	
Hold up time @ In (Uin 120 / 230 Vac)	>30 ms / >60 ms		>30 ms / >60 ms	>30 ms / >60 ms	
Overload / short circuit protections	hiccup at the overload limit with auto reset / over temperature protection				
Status display	"DC OK" green LED / "DC OK" alarm contact/ "Overload" red LED				
Alarm contact threshold	21.6	Vdc	10.8 Vdc	43.2 Vdc	
Parallel connection	poss		possible	possible	
Redundant parallel connection	possible with external ORing diode factory provided with internal ORing diode		possible with external ORing diode		
GENERAL TECHNICAL DATA		, i i i i i i i i i i i i i i i i i i i			
Efficiency (Uin 120 / 230 Vac)	>88% /	>90%	>87% / >90%	>88% / >90%	
Dissipated power (Uin 120 / 230 Vac)	32 W /		35 W / 27 W	32 W / 27 W	
Dperating temperature range	-20+60°C, with derating over 50°C / over temperature protection (3)			(3)	
nput/output isolation	3 KVac / 60 s SELV output				
nput/ground isolation	1.5 KVac / 60 s				
Dutput/ground isolation	0.5 KVac / 60 s				
Standard/approvals	EN50178, EN61558, EN60950, IEC950, UL508, UL60950				
EMC Standards	EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11				
MTBF @ 25°C @ nominal ratings	>500'000 h acc. to SN 29500 / >150'000 h acc. to MIL Std. HDBK 217F				
Overvoltage category/Pollution degree		II /	/ 2		
Protection degree	IP 20 IEC 529, EN60529				
Connection terminal	2.5 mm ² pluggable screw type				
Housing material		alumi	nium		
Approx. weight		920 g (3			
Mounting information		vertical on rail, allow 10 mm spaci	ing between adjacent components		
MOUNTING ACCESSORIES					
Nounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB,	PR/3/AS, PR/3/AS/ZB		
Mounting rail type according to IEC60715/G32			_		



→ cabur

NEW

Single-phase switching power supply 120-230 Vac output power 500 W

- Single-phase input 120 and 230 Vac
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- Compact dimensions
- Suitable for applications in SELV and PELV circuits
- Failure contact for Uout -10%

The depth dimension includes the DIN rail clamp.

(2) Double input selectable with external jumper, DC supply allow only between 300 and 350 Vdc

NOTES

- (3) Over 50°C (122°F) apply a derating: C version: -0.5 A/°C; D version: -0.25 A/°C.
- (4) Overload and short circuit current depends on the total line resistance.
- (5) "Cool Power" version with threshold alarm and "Overload" LED available from October



NEW

cabur



BLOCK DIAGRAM

CE



VERSIONS	Cod. XCSF500C Cod. XCSF500		
Output 24 Vdc 20 A	-		
Dutput 24 Vdc 20 A redundant version	CSF500C		
Dutput 1215 Vdc 40 A		-	
utput 48 Vdc 10 A		CSF500D	
INPUT TECHNICAL DATA			
nput rated voltage	120–230 Vac (range 90132 Vac / 185264 V	/ac / 300350 Vdc) (2)	
requency	4763 Hz		
urrent @ nominal lout (Uin 120 /230 Vac)	4.1 A / 2 A ± 10%		
nrush peak current	< 25 A with electronic limit	er	
Power factor	> 0.75 with PFC		
nternal protection fuse External protection on AC line	circuit breaker: 16 A C characteristic -	fuco: T 15 A	
	CITCUIT DIEdker. TO A C Characteristic -	IUSE. I TO A	
OUTPUT TECHNICAL DATA			
Dutput rated voltage	24 Vdc	48 Vdc	
Dutput adjustable range	2428 Vdc	4555 Vdc	
Continuous current Dverload limit	20 A @ 50°C (3) 30 A for >5 s	10 A @ 50°C (3) 15 A for >5 s	
Jvenoau iimit	with Uout >Un x 0.9 (4)	with Uout >Un x 0.9 (4)	
Short circuit peak current	>50 A for 5 s (4)	>50 A for 5 s (4)	
oad regulation	< 0.5%	< 0.5%	
ipple @ nominal ratings	≤ 50 mVpp	≤ 50 mVpp	
lold up time @ In (Uin 120 / 230 Vac)	>12 ms / >20 ms	>12 ms / >20 ms	
Dverload / short circuit protections	hiccup at the overload limit with auto reset / over temperature protection		
tatus display	"DC OK" green LED / "DC OK" alarm contact/ "Overload" red LED (5)		
Alarm contact threshold	21.6 Vdc (5)	43.2 Vdc (5)	
Parallel connection	possible	possible	
Redundant parallel connection	factory provided with internal ORing diode	factory provided with interna ORing diode	
GENERAL TECHNICAL DATA		, i i i i i i i i i i i i i i i i i i i	
fficiency (Uin 120 / 230 Vac)	>90% / >92%	>90% / >92%	
issipated power (Uin 120 / 230 Vac)	55 W / 43 W	55 W / 43 W	
perating temperature range	-20+60°C, with derating over 50°C / over temperature protection (3)		
nput/output isolation	3 KVac / 60 s SELV output		
nput/ground isolation	1.5 KVac / 60 s		
Dutput/ground isolation	0.5 KVac / 60 s		
Standard/approvals	EN50178, EN61558, EN60950, IEC950, UL508		
MC Standards	EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11		
ITBF @ 25°C @ nominal ratings	>500'000 h acc. to SN 29500 / >150'000 h acc. to MIL Std. HDBK 217F		
vervoltage category/Pollution degree			
Connection terminal	IP 20 IEC 529, EN60529		
lousing material	4 and 6 mm ² fixed screw type aluminium		
Approx. weight	auminium 1,3 kg (45.89 oz)		
Aounting information	vertical on rail, allow 20 mm spacing between	adiacent components	
MOUNTING ACCESSORIES			
Nounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, P	R/3/AS/7R	
Aounting rail type according to IEC60715/G32	F N/ 3/ MO, F N/ 3/ MO/ 2D, F N/ 3/ MO, F		



Single-phase switching power supply 120-230 Vac IP65 protection degree

- Single-phase input 90...264 Vac and DC 100...370 Vdc
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- Suitable to be mounted directly on the machinery frame, don't require any protective enclosure

NOTES The depth dimension includes the terminal blocks and the DIN

(1) With 100...127 Vdc input voltage, constant output power and

(2) Overload and short circuit current depends on the total line

Ta>45°C, the output current must be derated by 25%

• IP65 pluggable screw connectors

clamp.

resistance.

• Suitable for applications in SELV and PELV circuits





BLOCK DIAGRAM



VERSIONS	Cod. XCSF565		
Output 24 Vdc 5 A	CSF5-65		
INPUT TECHNICAL DATA			
nput rated voltage	120–230 Vac (range 90264 Vac / 100370 Vdc) (1)		
Frequency	4763 Hz		
Current @ nominal lout (Uin 120 /230 Vac)	1.8 A / 1 A ± 10%		
Inrush peak current	< 20 A		
Power factor	> 0.7		
Internal protection fuse	T 3.15 A replaceable		
External protection on AC line	circuit breaker: 4 A - C characteristic - fuse: T 4 A		
OUTPUT TECHNICAL DATA			
Output rated voltage	24 Vdc		
Output adjustable range	2327.5 Vdc		
Continuous current	5 A @ 60°C		
Overload limit	8 A (2)		
Short circuit peak current	—		
Load regulation	< 1%		
Ripple @ nominal ratings	≤ 50 mVpp		
Hold up time @ In (Uin 120 / 230 Vac)	>10 ms / >20 ms		
Overload / short circuit protections	hiccup at the overload limit with auto reset / over temperature protection		
Status display	"DC OK" green LED / "DC OK" alarm contact		
Alarm contact threshold	_		
Parallel connection	possible		
Redundant parallel connection	possible with external ORing diode		
GENERAL TECHNICAL DATA			
Efficiency (Uin 120 / 230 Vac)	>87% / >90%		
Dissipated power (Uin 120 / 230 Vac)	18 W / 12 W		
Operating temperature range	$-20+60^{\circ}$ C / over temperature protection		
nput/output isolation	3 KVac / 60 s SELV output		
nput/ground isolation	1.5 KVac / 60 s		
Dutput/ground isolation	0.5 KVac / 60 s		
Standard/approvals	EN50178, EN61558, EN60950, IEC950, UL508		
EMC Standards	EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN6100	0-4-11	
MTBF @ 25°C @ nominal ratings	>500'000 h acc. to SN 29500 / >150'000 h acc. to MIL Std. HDBK 217F		
Overvoltage category/Pollution degree	II / 2		
Protection degree	IP 20 IEC 529, EN60529		
Connection terminal	2.5 mm ² IP65 pluggable screw connectors		
Housing material	aluminium		
Approx. weight	1.9 Kg (67.02 oz)		
Mounting information	vertical on rail or panel mounting by means of screws		
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB		
Mounting rail type according to IEC60715/G32	_		

Switching power supply CSP series

EASY POWER

Easy Power series

It includes DIN-rail single-phase switching power supplies for general automation and installation applications. They are the recommended low-cost choice for uses where loads do no require high breakaway starting currents.

Suggested uses

- Applications in civil automation
- General applications in the installation of systems

Main features

• Equipped with 120 - 230 Vac input, they are suitable for use in all single-phase networks.

• Their high efficiency reduces energy consumption and components' operating temperature allowing their use in small panels and under severe ambient conditions.

• Backup power +20% above the rated voltage up to 45°C without exceeding standard temperature limits and ensuring safety and reliability.

• The output voltage may be adjusted and is protected against the input of surges caused by inductive loads on the DC line and is equipped with double electronic protection devices preventing damages to powered equipment in the event of internal faults.

• Short-circuit, overload and thermal protection devices prevent faults in the event of prolonged overloads at high ambient temperatures.

• Their design ensures excellent ventilation to internal components, very small dimensions and IP20 protection against accidental contacts in compliance with IEC529.

• Compared to other products having similar power and costs, they offer higher performances, functions and reliability.









Single-phase switching power supply 120-230 Vac output power 85 W

NEW 3 coby

- Single-phase input 90...264 Vac and DC 100...370 Vdc
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- Suitable in civil automation and general applications in the installation of systems
- Suitable for applications in SELV and PELV circuits





NOTES

The depth dimension includes the terminal blocks and the $\ensuremath{\mathsf{DIN}}$ clamp.

- (2) With 100...127 Vdc input voltage, constant output power and Ta>45°C, the output current must be derated by 25%
- (3) Over 45° C (113°F) apply a derating of -0.05 A/°C (4) Overload and short circuit current depends on the total line
- resistance.



CE

BLOCK DIAGRAM

VERSIONS	Cod. XCSP85C			
Output 24 Vdc 3.5 A	CSP85C			
Output 24 Vdc 3.5 A redundant version		-		
INPUT TECHNICAL DATA				
nput rated voltage	120–230 Vac (range 90264 Vac / 100370 Vdc) (2)			
Frequency	4763 Hz			
Current @ nominal lout (Uin 120 /230 Vac)	$1.3A / 0.7A \pm 10\%$			
Inrush peak current	< 20 Å			
Power factor	> 0.7			
Internal protection fuse		T 2 A replaceable		
External protection on AC line	circuit breaker: 4 A - C characteristic - fuse: T 4 A			
OUTPUT TECHNICAL DATA				
Output rated voltage	24 Vdc			
Output adjustable range	2327.5 Vdc			
Continuous current	3.5 A @ 45°C (3)			
Overload limit	>5 A (4)			
Short circuit peak current				
Load regulation	< 1%			
Ripple @ nominal ratings	≤ 40 mVpp			
Hold up time @ In (Uin 120 / 230 Vac)	>10 ms / >20 ms			
Overload / short circuit protections	hiccup at the overload limit with auto reset / over temperature protection			
Status display		"DC OK" green LED		
Alarm contact threshold		_		
Parallel connection		possible		
Redundant parallel connection		possible with external ORing diode		
GENERAL TECHNICAL DATA				
Efficiency (Uin 120 / 230 Vac)	>86% / >90%			
Dissipated power (Uin 120 / 230 Vac)	12 W / 8 W			
Operating temperature range	-10+50°C, with derating over 45°C / over temperature protection (3)			
Input/output isolation	3 KVac / 60 s SELV output			
Input/ground isolation	1.5 KVac / 60 s			
Dutput/ground isolation	0.5 KVac / 60 s			
Standard/approvals	EN50178, EN61558, EN60950, IEC950, UL508			
EMC Standards	EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11			
MTBF @ 25°C @ nominal ratings	>400'0	00 h acc. to SN 29500 / >100'000 h acc. to MIL Std. HDBK 217F		
Overvoltage category/Pollution degree		II / 2		
Protection degree	IP 20 IEC 529, EN60529			
Connection terminal		2.5 mm ² pluggable screw type		
Housing material	aluminium and stainless steel			
Approx. weight		515 g (18.18 oz)		
Mounting information	verti	al on rail, allow 10 mm spacing between adjacent components		
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB			
Mounting rail type according to IEC60715/G32		_		

Single-phase switching power supply 120-230 Vac output power 120 W

- Single-phase input 90...264 Vac and DC 100...370 Vdc
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- Suitable in civil automation and general applications in the installation of systems
- Suitable for applications in SELV and PELV circuits





NOTES

The depth dimension includes the terminal blocks and the DIN clamp.

- (2) With 100...127 Vdc input voltage, constant output power and Ta>45°C, the output current must be derated by 25%
- (3) Over 45° C (113°F) apply a derating of -0.083 A/°C (4) Overload and short circuit current depends on the total line
- (4) Overload and short circuit current depends on the total line resistance.



CE

BLOCK DIAGRAM

VERSIONS	Cod. XCSP120C		
Dutput 24 Vdc 5 A	CSP120C		
Output 24 Vdc 5 A redundant version		-	
INPUT TECHNICAL DATA			
nput rated voltage		120-230 Vac (range 90264 Vac / 100370 Vdc) (2)	
Frequency	4763 Hz		
Current @ nominal lout (Uin 120 /230 Vac)	$1.8 \text{ A} / 1 \text{ A} \pm 10\%$		
Inrush peak current	< 20 A		
Power factor	> 0.7		
Internal protection fuse		T 3.15 A replaceable	
External protection on AC line		circuit breaker: 4 A - C characteristic - fuse: T 4 A	
OUTPUT TECHNICAL DATA			
Output rated voltage	24 Vdc		
Output adjustable range	2327.5 Vdc		
Continuous current	5 A @ 45°C (3)		
Overload limit	6 A (4)		
Short circuit peak current			
Load regulation	< 1%		
Ripple @ nominal ratings	≤ 40 mVpp		
Hold up time @ In (Uin 120 / 230 Vac)	>10 ms / >20 ms		
Overload / short circuit protections		at the overload limit with auto reset / over temperature protection	
Status display		"DC OK" green LED	
Alarm contact threshold			
Parallel connection		possible	
Redundant parallel connection		possible with external ORing diode	
GENERAL TECHNICAL DATA			
Efficiency (Uin 120 / 230 Vac)		>87% / >91%	
Dissipated power (Uin 120 / 230 Vac)	18 W / 12 W		
Operating temperature range	-10+50°C, with derating over 45°C / over temperature protection (3)		
Input/output isolation	3 KVac / 60 s SELV output		
Input/ground isolation	1.5 KVac / 60 s		
Dutput/ground isolation	0.5 KVac / 60 s		
Standard/approvals	EN50178. EN61558. EN60950. IEC950. UL508		
EMC Standards	EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11		
MTBF @ 25°C @ nominal ratings	>400'000 h acc. to SN 29500 / >100'000 h acc. to MIL Std. HDBK 217F		
Overvoltage category/Pollution degree	>100 0	II / 2	
Protection degree	IP 20 IEC 529, EN60529		
Connection terminal	2.5 mm² pluqqable screw type		
Housing material	aluminium and stainless steel		
Approx. weight	515 g (18.18 oz)		
Mounting information	verti	cal on rail, allow 10 mm spacing between adjacent components	
MOUNTING ACCESSORIES	Veru		
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32		—	

→ cabur

Single-phase switching power supply 120-230 Vac output power 240 W

- Single-phase input 120 and 230 Vac
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- Suitable in civil automation and general applications in the installation of systems
- Suitable for applications in SELV and PELV circuits





NOTES

The depth dimension includes the terminal blocks and the DIN clamp.

- (2) Double input selectable with external jumper, DC supply allow only between 300 and 350 Vdc
- (3) Over 45°C (113°F) apply a derating of -0.083 A/°C
 (4) Overload and short circuit current depends on the total line resistance.



BLOCK DIAGRAM

CE

120 Vac selection terminals

VERSIONS	Cod. XCSP240C		
Output 24 Vdc 10 A	CSP240C		
Output 24 Vdc 10 A redundant version	-		
INPUT TECHNICAL DATA			
Input rated voltage	120–230 Vac (range 901	132 Vac / 185264 Vac / 300350 Vdc) (2)	
Frequency		4763 Hz	
Current @ nominal lout (Uin 120 /230 Vac)	3	3.5A / 1.8 A ± 10%	
Inrush peak current		< 35 A	
Power factor	> 0.6 / >0.85		
Internal protection fuse		T 6.3 A replaceable	
External protection on AC line	circuit breaker: 6 A C characteristic - fuse: T 6.3 A		
OUTPUT TECHNICAL DATA			
Output rated voltage	24 Vdc		
Output adjustable range	2327.5 Vdc		
Continuous current	10 A @ 45°C (3)		
Overload limit	>14 A (4)		
Short circuit peak current	-		
Load regulation	< 1%		
Ripple @ nominal ratings	$\leq 60 \text{ mVpp}$		
Hold up time @ In (Uin 120 / 230 Vac)	>20 ms / >40 ms		
Overload / short circuit protections		t with auto reset / over temperature protection	
Status display		"DC OK" green LED	
Alarm contact threshold		—	
Parallel connection		possible	
Redundant parallel connection	possible	e with external ORing diode	
GENERAL TECHNICAL DATA			
Efficiency (Uin 120 / 230 Vac)		>87% / >90%	
Dissipated power (Uin 120 / 230 Vac)	35 W / 27 W -10+50°C, with derating over 45°C / over temperature protection (3)		
Operating temperature range			
Input/output isolation	3 KVac / 60 s SELV output		
Input/ground isolation	1.5 KVac / 60 s		
Output/ground isolation	0.5 KVac / 60 s		
Standard/approvals	EN50178, EN61558, EN60950, IEC950, UL508		
EMC Standards	EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11		
MTBF @ 25°C @ nominal ratings	>400'000 h acc. to SN 295	500 / >100'000 h acc. to MIL Std. HDBK 217F	
Overvoltage category/Pollution degree		II / 2	
Protection degree	IP 20 IEC 529, EN60529		
Connection terminal	2.5 mm ² pluggable screw type		
Housing material	alumi	inium and stainless steel	
Approx. weight		920 g (32.48 oz)	
Mounting information	vertical on rail, allow 10	mm spacing between adjacent components	
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3	3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32		-	

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Switching power supply CSW series

UNIVERSAL POWER

Universal Power Series

It includes DIN-rail single/two-phase switching power supplies with 185...550 Vac universal input for applications in industrial automation and process control. The input circuit's technology protects them against surges caused by faults in three-phase networks with neutral, increasing the application's reliability.

Suggested uses

- In single or three-phase systems requiring great flexibility
- Applications in industrial automation and process control
- Heavy duty uses
- Applications in civil automation

Main features

- The wide-range input 185...550 Vac may be supplied single-phase 230...240 Vac, two-phase 208 Vac and two-phase 400...500 Vac ensuring excellent adaptability to AC networks and enabling to get rid of the isolating transformer.
- The two-phase input enables to reduce dimensions, wiring, installation costs and space inside the panel.
- They enable to get rid of the transformer for adapting to power voltages.
- Versions with DC OK alarm contact.
- Their high efficiency reduces energy consumption and components' operating temperature allowing their use in small panels and under severe ambient conditions.
- Great backup power allowing to supply at least + 30% above the rated voltage for 5 seconds, up to 45°C without exceeding standard temperature limits and ensuring safety and reliability.
- The output voltage may be adjusted and is protected against the input of surges on the DC line and is equipped with double electronic protection devices disconnecting output in the event of internal faults.
- Dimensioned short-circuit and overload protection supplying breakaway starting currents 150% above the rated value required by heavy loads; thermal protection prevents failures in the event of prolonged overloads at high ambient temperatures.
- Their design ensures excellent ventilation to internal components, very small dimensions and IP20
 protection against accidental contacts in compliance with IEC529.
- Thanks to their high efficiency and excellent ventilation, they are the smallest devices available on the market.

Greater reliability

Compared to single-phase power supplies, this Series is more reliable in industrial applications. The input stage uses components with 900 V operating voltage, which are more resistant to voltage peaks in industrial power lines compared to components used in single-phase supplies, whose operating voltage is 550V in high-quality power supplies, but often 400...450 V in low-cost products.

Being able to work from 185 to 550 Vac, these power supplies are immune to power failures; at 230 Vac input (L1-N), when another device connected to L2-N goes short, the neutral rises up to approx. 400 Vac and the input is supplied phase/phase until the protection is activated, which takes place - at best -in 300 ms; this is one of the most common causes of damages to 230-Vac single-phase power supplies in industrial applications.

Another example of faults in 230-Vac single-phase devices powered between phase-neutral is due to the disconnection or accidental interruption of the panel's neutral from the system's neutral: failing to return to the neutral point, the neutral rises up to phase voltage applying approx. 400 Vac to single-phase loads, inevitably damaging the system.









Typical application with three-phase network and neutral. The latter is used to obtain a 230-Vac voltage in order to supply power to loads (in the example, a simple bulb) and power supplies.



A simple short-circuit on the load causes a rise in the neutral's potential, all the devices connected to it will be powered between two phases, i.e. with a value of approx. 340...400 Vac instead of 230 Vac.

1 or 2-phase switching power supply 230-400-500 Vac output power 120 W

- Both single-phase and two-phase input 185...550 Vac
- High reliability and immunity against over voltage due to failures on AC line
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- High efficiency and low dissipated power
- Suitable for applications in SELV and PELV circuits





NOTES

The depth dimension includes the terminal blocks and the DIN clamp.

- Version available upon request; for information call our sales department, local agent or representative
- (2) 550 Vdc max for UL508
- (3) Over 50°C (122°F) apply a derating of about 3 W/°C
- (4) Overload and short circuit current depends on the total line resistance.



CE

BLOCK DIAGRAM

VERSIONS	Cod. XCSW120C	Cod. XCSW120B		
Output 24 Vdc 5 A	CSW120C			
Output 24 Vdc 5 A redundant version		-		
Output 1215 Vdc 7 A		CSW120B		
Output 48 Vdc 2.5 A		-		
INPUT TECHNICAL DATA				
Input rated voltage	230-4	00-500 Vac (range 185550 Vac / 270770 Vdc) (2)		
Frequency	200 -	4763 Hz		
Current @ lout max. (Uin 230 / 400 Vac)		1.1 A / 0.55 A		
Inrush peak current		< 20 A		
Power factor		> 0.65		
Internal protection fuse		-		
External protection on AC line	circ	uit breaker: 2 X 6 A C characteristic - fuse: 2 X T 3.15 A		
Output rated voltage	24 Vdc	1215 Vdc		
Output adjustable range	2427.5 Vdc	1215 Vdc		
Continuous current	5 A @ 50°C (3)	8 A @ 12 Vdc / 7 A @ 15 Vdc		
Overload limit	7.5 A for >5 s	8.87.7 A for >5 s		
	with Uout >Un x 0.9 (4)	with Uout >Un x 0.9 (4)		
Short circuit peak current	15 A for 0.5 s (4)	> 15 A for 0.5 s (4)		
Load regulation	< 1%	<1%		
Ripple @ nominal ratings	≤ 50 mVpp	< 50 mVpp		
Hold up time (Uin 230 / 400 Vac)	>20 ms / >200 ms	>20 ms / >200 ms		
Overload / short circuit protections		hiccup at the overload limit with auto reset / over temperature protection		
Status display	noodp at	"DC OK" areen LED		
Alarm contact threshold	-	_		
Parallel connection	possible	possible		
	possible with external ORing	possible with external ORing		
Redundant parallel connection	diode	diode		
GENERAL TECHNICAL DATA				
Efficiency (Uin 230 / 400 Vac)	>86% / >88%	>84% / >86%		
Dissipated power (Uin 230 / 400 Vac)	20 W / 16 W	20 W / 17 W		
Operating temperature range	-20+60	$-20+60^{\circ}$ C, with derating over 50°C / over temperature protection (3)		
Input/output isolation		3 KVac / 60 s SELV output		
Input/ground isolation		2 KVac / 60 s		
Output/ground isolation		0.5 KVac / 60 s		
Standard/approvals		EN50178, EN61558, EN60950, IEC950, UL508		
EMC Standards	EN61000-6-2, EN61000-6-4, EN6	1000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN6100	0-4-11	
MTBF @ 25°C @ nominal ratings	>500'000	h acc. to SN 29500 / >150'000 h acc. to MIL Std. HDBK 217F		
Overvoltage category/Pollution degree		II / 2		
Protection degree		IP 20 IEC 529, EN60529		
Connection terminal		2.5 mm ² pluggable screw type		
Housing material		aluminium and stainless steel		
Approx. weight		600 g (21.18 oz)		
Mounting information	vertical	on rail, allow 10 mm spacing between adjacent components		
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB		
Mounting rail type according to IEC60715/G32		_		


1 or 2-phase switching power supply 230-400-500 Vac output power 240 W

- Both single-phase and two-phase input 185...550 Vac
- High reliability and immunity against over voltage due to failures on AC line
 Short circuit, overload, over temperature, input and ouput overvoltage
- protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- High efficiency and low dissipated power
- Suitable for applications in SELV and PELV circuits





NOTES

The depth dimension includes the terminal blocks and the DIN clamp.

 Version available upon request; for information call our sales department, local agent or representative

- (2) 550 Vdc max for UL508
- (3) Over 50°C (122°F) apply a derating of about 3 W/°C
- (4) Overload and short circuit current depends on the total line resistance.



CE

BLOCK DIAGRAM

VERSIONS	Cod. XCSW240C		Cod. XCSW240B	Cod. XCSW240D		
Dutput 24 Vdc 10 A	CSW240C					
Dutput 24 Vdc 10 A redundant version		-				
Dutput 1215 Vdc 1615 A			XCSW240B (1)			
Dutput 48 Vdc 5 A				XCSW240D (1)		
INPUT TECHNICAL DATA						
nput rated voltage	230-	/00-500 Vac (range 185	.550 Vac / 270770 Vdc) (2)			
Frequency	230-	6 476				
Current @ lout max. (Uin 230 / 400 Vac)		2 A /				
nrush peak current		< 20				
Power factor		> 0.				
nternal protection fuse		2 U.				
External protection on AC line	ci	rcuit breaker: 2 Χ 6 Δ C chai	racteristic - fuse: 2 X T 6.3 A			
OUTPUT TECHNICAL DATA						
				40.141		
Output rated voltage	24 Vdc		1215 Vdc	48 Vdc		
Output adjustable range	2427.5 Vdc		1215 Vdc	4555 Vdc		
Continuous current	10 A @ 50°C (3)		16 A @ 12 Vdc / 15 A @ 15 Vdc	5 A @ 50°C (3)		
Overload limit	15 A for >5 s		2018 A for >5 s	6 A for >5 s		
	with Uout >Un x 0.9 (4)		with Uout >Un x 0.9 (4)	with Uout >Un x 0.9 (4)		
Short circuit peak current	20 A for 0.5 s (4)		20 A for 0.5 s (4)	20 A for 0.5 s (4)		
Load regulation	< 1%		< 1%	< 1%		
Ripple @ nominal ratings	≤ 80 mVpp		≤ 80 mVpp	≤ 80 mVpp		
Hold up time (Uin 230 / 400 Vac)	>20 ms / >120 ms		>20 ms / >120 ms	>20 ms / >120 ms		
Overload / short circuit protections	niccup a		reset / over temperature protection	n		
Status display		"DC OK" green LED / "	DC UK" alarm contact			
Alarm contact threshold			-	-		
Parallel connection	possible		possible	possible		
Redundant parallel connection	possible with external ORing diode		possible with external ORing diode	possible with external ORing diode		
GENERAL TECHNICAL DATA						
Efficiency (Uin 230 / 400 Vac)	>88% / >90%		>87% / >89%	>88% / >90%		
Dissipated power (Uin 230 / 400 Vac)	33 W / 27 W		34 W / 28 W	33 W / 27 W		
Dperating temperature range	-20+6	0°C, with derating over 50°C	C / over temperature protection	(3)		
nput/output isolation		3 KVac / 60 s	SELV output			
nput/ground isolation		2 KVac	/ 60 s			
Dutput/ground isolation		0.5 KVac	c / 60 s			
Standard/approvals		EN50178, EN61558, EN60950, IEC950, UL508				
EMC Standards	EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11					
MTBF @ 25°C @ nominal ratings	>500'000 h acc. to SN 29500 / >150'000 h acc. to MIL Std. HDBK 217F					
Overvoltage category/Pollution degree	II / 2					
Protection degree	IP 20 IEC 529, EN60529					
Connection terminal		2.5 mm ² plugga				
Housing material		aluminium and				
Approx. weight		1 Kg (35.3 oz)				
Mounting information	vertica	I on rail, allow 10 mm spaci	ng between adjacent components			
MOUNTING ACCESSORIES						
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB,	PR/3/AS, PR/3/AS/ZB			
Mounting rail type according to IEC60715/G32		-	-			

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Switching power supply GSB and GSG series

TRIPLE POWER

Triple Power series

It includes 400...500 Vac single-phase and three-phase switching power supplies for applications in industrial automation.

They can supply + 50% breakaway starting current above the rated voltage for 5 seconds, keeping output voltage constant and ensuring power supply to the system. They are equipped with an alarm contact controlled by a voltage threshold switching over when the voltage drops 90% below the rated value. Thanks to these features and to the numerous international certifications, this series of power supplies allows engineers to meet with all the requirements of the new EN 60204-1 Machinery Directive.

Suggested uses

- Applications in machinery automation requiring high levels of reliability in terms of control and safety voltage
- In applications requiring selectivity of surge protection devices on DC lines
- Applications in industrial automation
- Heavy duty uses

Main features

- Equipped with 340...550 Vac / 507...770 Vdc, they are suitable for use on all power lines.
- Their high efficiency reduces energy consumption and components' operating temperature allowing their use in small panels and under severe ambient conditions.
- Great backup power allowing to supply at least + 50% above the rated voltage for 5 seconds, keeping output voltage constant up to 45°C without exceeding standard temperature limits and ensuring safety and reliability.
- The output voltage may be adjusted and is protected against the input of surges on the DC line and is equipped with double electronic protection devices preventing damages to powered components in the event of internal faults.
- Dimensioned short-circuit and overload protection supplying breakaway starting currents 150% above the rated value required by heavy loads.
- Thermal protection prevents faults in the event of prolonged overloads at high ambient temperatures.
- Their design ensures excellent ventilation to internal components, very small dimensions and IP20 protection against accidental contacts in compliance with IEC529.









2-phase switching power supply 400-500 Vac output power 85 W



- Two-phase input 340...550 Vac
- It saves cabling costs and line protection costs • Short circuit, overload, over temperature, input and ouput
- overvoltage protections High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- High efficiency and low dissipated power
- Suitable for applications in SELV and PELV circuits

NOTES

The depth dimension includes the terminal blocks and the DIN clamp.

- (2) 550 Vdc max for UL508
- (3) Over 50°C (122°F) apply a derating of about 2 W/°C
- (4) Overload and short circuit current depends on the total line resistance.



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BLOCK DIAGRAM

CE



VERSIONS	Cod. XCSB85C				
Output 24 Vdc 3.5 A	CSB85C				
Output 24 Vdc 3.5 A redundant version		_			
Output 1215 Vdc 7 A			-		
Output 48 Vdc 1.75 A				_	
INPUT TECHNICAL DATA					
Input rated voltage		400–500 Vac (rang	e 340550 Vac) (2)		
Frequency		47	63 Hz		
Current @ lout max. (Uin 400 / 500 Vac)		0.5 A	/ 0.45 A		
Inrush peak current		<	50 A		
Power factor		>	0.65		
Internal protection fuse			_		
External protection on AC line		circuit breaker: 2 X 6 A C ch	aracteristic - fuse: 2 X T 6.3 A	l.	
OUTPUT TECHNICAL DATA					
Output rated voltage	24 Vdc				
Output adjustable range	2427.5 Vdc				
Continuous current	3.5 A @ 50°C (3)				
Overload limit	6 A for >5 s with Uout >Un x 0.9 (4)				
Short circuit peak current	15 A for 0.4 s (4)				
Load regulation	< 1%				
Ripple @ nominal ratings	≤ 60 mVpp				
Hold up time (Uin 400 / 500 Vac)	>50 ms / >60 ms				
Overload / short circuit protections	hiccup at the overload limit with auto reset / over temperature protection				
Status display		"DC OK"	green LED		
Alarm contact threshold	-				
Parallel connection	possible				
Redundant parallel connection	possible with external ORing diode				
GENERAL TECHNICAL DATA					
Efficiency (Uin 400 / 500 Vac)	>88% / >90%				
Dissipated power (Uin 400 / 500 Vac)	12 W / 9 W				
Operating temperature range	-20+	60°C, with derating over 50	°C / over temperature protecti	on (3)	
Input/output isolation		3 KVac / 60	s SELV output		
Input/ground isolation		2 KVa	c / 60 s		
Output/ground isolation		0.5 KV	ac / 60 s		
Standard/approvals			N60950, IEC950, UL508		
EMC Standards	EN61000-6-2, EN61000-6-4, El				
MTBF @ 25°C @ nominal ratings	>500'0		50'000 h acc. to MIL Std. HDE	3K 217F	
Overvoltage category/Pollution degree			/ 2		
Protection degree	IP 20 IEC 529, EN60529				
Connection terminal	2.5 mm ² pluggable screw type				
Housing material			iinium		
Approx. weight	600 g (21.18 oz)				
Mounting information	vertical on rail, allow 10 mm spacing between adjacent components				
MOUNTING ACCESSORIES					
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZE	, PR/3/AS, PR/3/AS/ZB		
Mounting rail type according to IEC60715/G32			-		

🔈 cabur

2-phase switching power supply 400-500 Vac output power 150 W

• Two-phase input 340...550 Vac

clamp.

(2) 550 Vdc max for UL508

resistance.

- · It saves cabling costs and line protection costs
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads

NOTES The depth dimension includes the terminal blocks and the DIN

(3) Over 50°C (122°F) apply a derating of about 3.75 W/°C

(4) Overload and short circuit current depends on the total line

- High efficiency and low dissipated power
- Suitable for applications in SELV and PELV circuits





BLOCK DIAGRAM

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PWM

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VERSIONS	Cod. XCSB150C			
Output 24 Vdc 5 A	CSB150C			
Output 24 Vdc 5 A redundant version		—		
Output 1215 Vdc 87 A				
Output 48 Vdc 3 A			-	
INPUT TECHNICAL DATA				
Input rated voltage		400–500 Vac (range 340550 Vac) (2)		
Frequency		4763 Hz		
Current @ lout max. (Uin 400 / 500 Vac)		0.7 A / 0.55 A		
Inrush peak current		< 50 A		
Power factor		> 0.65		
Internal protection fuse		—		
External protection on AC line		circuit breaker: 2 X 6 A C characteristic - fuse: 2 X T 6.3 A		
OUTPUT TECHNICAL DATA				
Output rated voltage	24 Vdc			
Output adjustable range	2427.5 Vdc			
Continuous current	6 A @ 50°C (3)			
Overload limit	9 A for >5 s			
	with Uout >Un x 0.9 (4)			
Short circuit peak current	20 A for 0.4 s (4)			
Load regulation	< 1%			
Ripple @ nominal ratings	≤ 60 mVpp			
Hold up time (Uin 400 / 500 Vac)	>50 ms / >60 ms			
Overload / short circuit protections	hiccup at the overload limit with auto reset / over temperature protection			
Status display		"DC OK" green LED		
Alarm contact threshold	-			
Parallel connection	possible			
Redundant parallel connection	possible with external ORing diode			
GENERAL TECHNICAL DATA				
Efficiency (Uin 400 / 500 Vac)	>90% / >91%			
Dissipated power (Uin 400 / 500 Vac)	17 W / 15 W			
Operating temperature range	-2	20+60°C, with derating over 50°C / over temperature protection (3)		
Input/output isolation		3 KVac / 60 s SELV output		
Input/ground isolation		2 KVac / 60 s		
Output/ground isolation	0.5 KVac / 60 s			
Standard/approvals	EN50178, EN61558, EN60950, IEC950, UL508			
EMC Standards	EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11			
MTBF @ 25°C @ nominal ratings	>500'000 h acc. to SN 29500 / >150'000 h acc. to MIL Std. HDBK 217F			
Overvoltage category/Pollution degree	II / 2			
Protection degree		IP 20 IEC 529, EN60529		
Connection terminal	2.5 mm ² pluggable screw type			
Housing material	aluminium			
Approx. weight	600 g (21.18 oz)			
Mounting information	vertical on rail, allow 10 mm spacing between adjacent components			
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB		
Mounting roll tune according to IECC071E/COO				

Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32

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3-phase switching power supply 400-500 Vac output power 240 W

- Three-phase input 340...550 Vac or two-phase with derating
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- High efficiency and low dissipated power
- Suitable for applications in SELV and PELV circuits



130 (5.12 in) 90 (3.55 in) (3.55 in)

BLOCK DIAGRAM

CE

The depth dimension includes the DIN rail clamp.

- (2) 550 Vdc max for UL508
- (3) Over 50°C (122°F) apply a derating of about 3.75 W/°C
- (4) Overload and short circuit current depends on the total line resistance.

NOTES

Items sold until sell-out, will be replaced by **CSG240** series...

CSG10			
	_		
		_	
			_
		1	1
	400–500 Vac (range 340	550 Vac / 507 770 Vdc) (2)	
		•••	
	CIICUIL DIEAKEL. 5 X 0 A C CI	alacteristic - luse. 5 x 1 1.5 A	
_			
hiccup at the overlo			emperature protection
	"DC OK"	green LED	
-			
possible			
possible with external ORing diode			
>90% / >90%			
27 W / 27 W			
-20	+60°C, with derating over 50	°C / over temperature protection	(3)
		and the second sec	
EN61000-6-2 EN61000-6-4			EN61000-4-6. EN61000-4-11
	oraoar off rail, allow TO HIIT spa		
		DD/0/AC DD/0/AC/70	
	PR/3/AC, PR/3/AC/ZE	, PR/3/A5, PR/3/A5/2B	
	possible possible with external ORing diode >90% / >90% 27 W / 27 W -20 EN61000-6-2, EN61000-6 >50	47 0.6 A 47 0.6 A 4 24 Vdc 2428 Vdc 10 A @ 50°C (3) >20 A < 1% ≤ 50 mVpp >10 ms / >20 ms hiccup at the overload limit with auto reset / manua "DC OK" possible possible with external ORing diode >90% / >90% 27 W / 27 W -20+60°C, with derating over 50 3 KVac / 60 2 KVa 0.5 KW EN50178, EN61558, E EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, >500'000 h acc. to SN 29500 / >1 II IP 20 IEC 5 4 and 6 mm ² alun 1 Kg (3 vertical on rail, allow 10 mm space	2428 Vdc 10 A @ 50°C (3) >20 A < 1% ≤ 50 mVpp >10 ms / >20 ms hiccup at the overload limit with auto reset / manual reset / constant power / over te "DC OK" green LED possible possible possible with external ORing diode >90% / >90%

3-phase switching power supply 400-500 Vac output power 240 W



◆ cabur

- Three-phase input 340...550 Vac or two-phase with derating
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- High efficiency and low dissipated power
- Suitable for applications in SELV and PELV circuits





BLOCK DIAGRAM

CE

The depth dimension includes the DIN rail clamp.

- (2) 550 Vdc max for UL508
- (3) Over 50°C (122°F) apply a derating of about 6 W/°C
- (4) Overload and short circuit current depends on the total line resistance.

NOTES



VERSIONS	Cod. XCSG240C				
output 24 Vdc 10 A	CSG240C				
Output 24 Vdc 10 A redundant version		-			
Output 1215 Vdc 20 A			-		
Dutput 48 Vdc 5 A			_		
INPUT TECHNICAL DATA					
nput rated voltage	4	00-500 Vac (range 340550 Vac / 50	07770 Vdc) (2)		
requency		4763 Hz			
Current @ lout max. (Uin 400 / 500 Vac)		0.6 A / 0.42 A			
nrush peak current		< 50 A			
Power factor		> 0.7			
Internal protection fuse		_			
External protection on AC line	C	circuit breaker: 3 X 6 A C characteristic ·	- fuse: 3 X T 1.5 A		
OUTPUT TECHNICAL DATA					
Output rated voltage	24 Vdc				
Output adjustable range	2428 Vdc				
Continuous current	10 A @ 50°C (3)				
Overload limit	15 A for >5 s				
	with Uout >Un x 0.9 (4)				
Short circuit peak current	>25 A for 1.5 s (4)				
Load regulation	< 1%				
Ripple @ nominal ratings	≤ 50 mVpp				
Hold up time (Uin 400 / 500 Vac)	>20 ms / >30 ms				
Overload / short circuit protections	hiccup at	hiccup at the overload limit with auto reset / over temperature protection (3)			
Status display		"DC OK" green LED / "DC OK" ala	arm contact		
Alarm contact threshold	-				
Parallel connection	possible				
Redundant parallel connection	possible with external ORing diode				
GENERAL TECHNICAL DATA					
Efficiency (Uin 400 / 500 Vac)	>90% / >90%				
Dissipated power (Uin 400 / 500 Vac)	27 W / 27 W				
Operating temperature range		60°C, with derating over 50°C / over ter	mperature protection (3)		
Input/output isolation		3 KVac / 60 s SELV outp			
nput/ground isolation		2 KVac / 60 s			
Dutput/ground isolation		0.5 KVac / 60 s			
Standard/approvals		EN50178, EN61558, EN60950, IEC	C950, UL508		
EMC Standards	EN61000-6-2, EN61000-6-4, EN	161000-4-2, EN61000-4-3, EN61000-4	4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11		
MTBF @ 25°C @ nominal ratings		00 h acc. to SN 29500 / >150'000 h ac			
Overvoltage category/Pollution degree		II / 2			
Protection degree		IP 20 IEC 529, EN6052	9		
Connection terminal		4 mm ² fixed screw type			
Housing material		aluminium			
Approx. weight		1 Kg (35.3 oz)			
Mounting information	vertic	vertical on rail, allow 10 mm spacing between adjacent components			
MOUNTING ACCESSORIES					
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB, PR/3/AS,	PR/3/AS/ZB		
Mounting rail type according to IEC60715/G32					

cabur

3-phase switching power supply 400-500 Vac output power 500 W

- Three-phase input 340...550 Vac or two-phase with derating
- Short circuit, overload, over temperature, input and ouput
 overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- High efficiency and low dissipated power

The depth dimension includes the DIN rail clamp.

department, local agent or representative

• Suitable for applications in SELV and PELV circuits



CE

BLOCK DIAGRAM

127 (5 in)

139 (5.48 in)

XCSG500C

Q- A (6

80 (3.15 in)



(2) 550 Vdc max for UL508
(3) Over 50°C (122°F) apply a derating of about 6 W/°C
(4) Overload and short circuit current depends on the total line

NOTES

(1) Version available upon request; for information call our sales

- (a) Overload and short circuit current depends on the total inner resistance.
- (5) "Triple Power" version with threshold alarm and "Overload" LED available from October

VERSIONS	Cod. XCSG500C			Cod. XCSG500D	
Output 24 Vdc 20 A	CSG500C				
utput 24 Vdc 20 A redundant version		-			
utput 1215 Vdc 40 A			—		
output 48 Vdc 10 A				CSG500D (1)	
INPUT TECHNICAL DATA					
nput rated voltage		400–500 Vac (range 340…550 V	ac / 507770 Vdc) (2)		
requency		4763 H			
Current @ lout max. (Uin 400 / 500 Vac)		1 A / 0.6 /			
nrush peak current		< 35 A			
Power factor		> 0.75 with I	PFC		
nternal protection fuse		_			
xternal protection on AC line	C	ircuit breaker: 3 X 10 A C characte	eristic - fuse: 3 X T 3.15 A		
OUTPUT TECHNICAL DATA					
Dutput rated voltage	24 Vdc			48 Vdc	
Dutput adjustable range	2428 Vdc			4555 Vdc	
Continuous current	20 A @ 50°C (3)			10 A @ 50°C (3)	
Dverload limit	>30 A for >5 s			>15 A for >5 s	
	with Uout >Un x 0.9 (4)			with Uout >Un x 0.9 (4)	
Short circuit peak current	>50 A for 5 s (4)			>50 A for 5 s (4)	
oad regulation	< 0.5%			< 0.5%	
lipple @ nominal ratings	≤ 50 mVpp			≤ 50 mVpp	
lold up time (Uin 400 / 500 Vac)	>12 ms / >20 ms			>15 ms / >30 ms	
Dverload / short circuit protections	hiccup at the overload limit with auto reset / over temperature protection				
Status display	"DC C	K" green LED / "DC OK" alarm cor	ntact/ "Overload" red LED	(5)	
Alarm contact threshold	<21.6 Vdc			<43.2 Vdc	
Parallel connection	possible			possible	
Redundant parallel connection	possible with external ORing diode			possible with external ORin diode	
GENERAL TECHNICAL DATA					
Efficiency (Uin 400 / 500 Vac)	>93% / >94%			>93% / >94%	
Dissipated power (Uin 400 / 500 Vac)	36 W / 30 W			36 W / 30 W	
Derating temperature range		-60°C, with derating over 50°C / o	ver temperature protection		
nput/output isolation		3 KVac / 60 s SEL		1-7	
nput/ground isolation		2 KVac / 60			
Dutput/ground isolation		0.5 KVac / 6	0 s		
Standard/approvals		EN50178, EN61558, EN609	50, IEC950, UL508		
MC Standards	EN61000-6-2, EN61000-6-4, E	N61000-4-2, EN61000-4-3, EN6	000-4-4, EN61000-4-5, EN	l61000-4-6, EN61000-4-11	
ATBF @ 25°C @ nominal ratings		00 h acc. to SN 29500 / >150'00			
Dvervoltage category/Pollution degree		II / 2			
Protection degree	IP 20 IEC 529, EN60529				
Connection terminal		4 and 6 mm ² fixed screw type			
lousing material		aluminium			
Approx. weight	1.3 Kg (45.89 oz)				
Nounting information	vertical on rail, allow 10 mm spacing between adjacent components				
MOUNTING ACCESSORIES					
Nounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB, PR/	3/AS, PR/3/AS/ZB		
Nounting rail type according to IEC60715/G32			,		

cabur

3-phase switching power supply 400-500 Vac output power 720 W

- Three-phase input 340...550 Vac or two-phase with derating
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- High efficiency and low dissipated power

The depth dimension includes the DIN rail clamp.

Suitable for applications in SELV and PELV circuits

NOTES

(1) Version available upon request; for information call our sales



CE

BLOCK DIAGRAM





•> cabur

3-phase switching power supply 400-500 Vac output power 960 W

- Three-phase input 340...550 Vac or two-phase with derating
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- High efficiency and low dissipated power
- Suitable for applications in SELV and PELV circuits





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BLOCK DIAGRAM

The depth dimension includes the DIN rail clamp.

- (1) To be replaced by model XCSG960C
- (2) 550 Vdc max for UL508
- (3) Over 50°C (122°F) apply a derating of about 24 W/°C
- (4) Overload and short circuit current depends on the total line resistance.

NOTES



VERSIONS	Cod. XCSG42				
Dutput 24 Vdc 40 A	CSG42 (1)				
Output 24 Vdc 40 A redundant version		-			
utput 1215 Vdc 80 A			-		
utput 48 Vdc 20 A			_		
INPUT TECHNICAL DATA					
put rated voltage	400–500 Vac (range 340550 Vac / 507770 Vdc) (2)				
requency		4763 Hz			
urrent @ lout max. (Uin 400 / 500 Vac)		2,2 A / 1.1 A			
rush peak current		< 20 A			
ower factor		> 0.65			
nternal protection fuse		—			
xternal protection on AC line		circuit breaker: 3 X 10 A C characteristic - f	fuse: 3 X T 6.3 A		
OUTPUT TECHNICAL DATA					
Dutput rated voltage	24 Vdc				
Dutput adjustable range	2428 Vdc				
Continuous current	40 A @ 50°C (3)				
Dverload limit	>45 A				
Short circuit peak current	_				
_oad regulation	< 1%				
Ripple @ nominal ratings	≤ 250 mVpp				
lold up time (Uin 400 / 500 Vac)	>10 ms / >15 ms				
Dverload / short circuit protections	hiccup at the	overload limit with auto reset / manual reset	t / over temperature protection		
Status display		"DC OK" green LED			
Alarm contact threshold	-				
Parallel connection	possible				
Redundant parallel connection	possible with external ORing diode				
GENERAL TECHNICAL DATA					
fficiency (Uin 400 / 500 Vac)	>91% / >91%				
Dissipated power (Uin 400 / 500 Vac)	95 W / 95 W				
perating temperature range	-20	+60°C, with derating over 50°C / over temp	erature protection (3)		
nput/output isolation		3 KVac / 60 s SELV output			
nput/ground isolation		2 KVac / 60 s			
Dutput/ground isolation		0.5 KVac / 60 s			
tandard/approvals		EN50178, EN61558, EN60950, IEC95	50, UL508		
MC Standards	EN61000-6-2, EN61000-6-4, E	N61000-4-2, EN61000-4-3, EN61000-4-4	4, EN61000-4-5, EN61000-4-6, EN61000-4-11		
ITBF @ 25°C @ nominal ratings	>500'0	000 h acc. to SN 29500 / >150'000 h acc.	to MIL Std. HDBK 217F		
Vervoltage category/Pollution degree		II / 2			
Protection degree		IP 20 IEC529, EN60529			
Connection terminal	4 and 6 mm ² screw type				
lousing material	aluminium				
Approx. weight	2.2 Kg (77.60 oz)				
Nounting information	verti	cal on rail, allow 10 mm spacing between a	adjacent components		
MOUNTING ACCESSORIES					
Nounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR	R/3/AS/ZB		
Nounting rail type according to IEC60715/G32					



3-phase switching power supply 400-500 Vac output power 960 W

- Three-phase input 340...550 Vac or two-phase with derating
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- High efficiency and low dissipated power
- Suitable for applications in SELV and PELV circuits

NOTES

The depth dimension includes the DIN rail clamp.

- (1) Available from June 2009
- (2) 550 Vdc max for UL508
- (3) Over 50°C (122°F) apply a derating of about 18 W/°C
- (4) Overload and short circuit current depends on the total line resistance.



BLOCK DIAGRAM



VERSIONS	Cod. XCSG960C			Cod. XCSG960D	
Dutput 24 Vdc 40 A	CSG960C (1)				
utput 24 Vdc 40 A redundant version		_			
utput 1215 Vdc 80 A			-		
utput 48 Vdc 20 A				CSG960D (1)	
INPUT TECHNICAL DATA					
put rated voltage		100–500 Vac (range 340	550 Vac / 507770 Vdc) (2)		
requency		(0	.63 Hz		
urrent @ lout max. (Uin 400 / 500 Vac)			/ 1.1 A		
rrush peak current		<	20 A		
'ower factor			0.65		
nternal protection fuse			<u> </u>		
external protection on AC line	(ircuit breaker: 3 X 10 A C c	haracteristic - fuse: 3 X T 6.3 A		
OUTPUT TECHNICAL DATA					
Dutput rated voltage	24 Vdc			48 Vdc	
Dutput adjustable range	2428 Vdc			4555 Vdc	
Continuous current	40 A @ 50°C (3)			20 A @ 50°C (3)	
Dverload limit	60 A for >5 s			30 A for >5 s	
	with Uout >Un x 0.9 (4)			with Uout >Un x 0.9 (4)	
Short circuit peak current	>80 A for 5 s (4)			>80 A for 5 s (4)	
oad regulation	< 1%			< 1%	
ipple @ nominal ratings	≤ 250 mVpp			≤ 250 mVpp	
old up time (Uin 400 / 500 Vac)	>10 ms / >15 ms			>10 ms / >15 ms	
Dverload / short circuit protections	hiccup at the overload limit with auto reset / over temperature protection				
Status display	"DC	"DC OK" green LED / "DC OK" alarm contact/ "Overload" red LED			
larm contact threshold	<21.6 Vdc			<43.2 Vdc	
arallel connection	possible			possible	
Redundant parallel connection	possible with external ORing diode			possible with external ORin diode	
GENERAL TECHNICAL DATA					
fficiency (Uin 400 / 500 Vac)	>91% / >91%			>91% / >91%	
Dissipated power (Uin 400 / 500 Vac)	95 W / 95 W			95 W / 95 W	
Operating temperature range	-20+	60°C, with derating over 50	°C / over temperature protection	(3)	
nput/output isolation		3 KVac / 60	s SELV output		
nput/ground isolation		2 KVa	.c / 60 s		
output/ground isolation		0.5 KV	ac / 60 s		
Standard/approvals		EN50178, EN61558, E	N60950, IEC950, UL508		
MC Standards	EN61000-6-2, EN61000-6-4, E	N61000-4-2, EN61000-4-3	, EN61000-4-4, EN61000-4-5, EN6	61000-4-6, EN61000-4-11	
ITBF @ 25°C @ nominal ratings	>500'0	00 h acc. to SN 29500 / >1	50'000 h acc. to MIL Std. HDBK 21	7F	
Dvervoltage category/Pollution degree		I	/ 2		
rotection degree	IP 20 IEC 529, EN60529				
Connection terminal	4 and 6 mm ² fixed screw type				
lousing material			ninium		
pprox. weight			70.55 oz)		
Nounting information	vertio	al on rail, allow 10 mm spa	cing between adjacent components		
MOUNTING ACCESSORIES					
Nounting rail type according to IEC60715/TH35-7.5		PR/3/AC. PR/3/AC/ZF	8, PR/3/AS, PR/3/AS/ZB		
Nounting rail type according to IEC60715/G32					

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3-phase switching power supply 400-500 Vac output power 2400 W

- Three-phase input 340...550 Vac or two-phase with derating
- Short circuit, overload, over temperature, input and ouput overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- High efficiency and low dissipated power
- Suitable for applications in SELV and PELV circuits

NOTES

The depth dimension includes the DIN rail clamp.

- (2) 550 Vdc max for UL508
- (3) Over 50°C (122°F) apply a derating of about 40 W/°C.
- (4) Overload and short circuit current depends on the total line resistance.



BLOCK DIAGRAM



VERSIONS	Cod. XCSG2400C			Cod. XCSG2400D
output 24 Vdc 100 A	CSG2400C			
utput 24 Vdc 100 A redundant version		—		
utput 1215 Vdc 200 A			—	
utput 48 Vdc 50 A				CSG2400D
INPUT TECHNICAL DATA				
iput rated voltage		400-500 Vac (range 3405	50 Vac / 507770 Vdc) (2)	
requency			53 Hz	
urrent @ lout max. (Uin 400 / 500 Vac)			(5A	
rush peak current		< 1	• · ·	
ower factor		> (
nternal protection fuse			_	
xternal protection on AC line		circuit breaker: 3 X 20 A C ch	aracteristic - fuse: 3 X T 15 A	
OUTPUT TECHNICAL DATA				
Dutput rated voltage	24 Vdc			48 Vdc
Dutput adjustable range	24 VUC 2428 Vdc			4555 Vdc
Continuous current	2428 vuc 100 A @ 45°C (3)			50 A @ 45°C (3)
Iverload limit	110 A (4)			55 A (4)
Short circuit peak current	>150 A for 2 s (4)			>75 A for 2 s (4)
oad regulation	< 1%			<1%
ipple @ nominal ratings	≤ 300 mVpp			≤ 300 mVpp
lold up time (Uin 400 / 500 Vac)	>10 ms / >15 ms			>10 ms / >15 ms
verload / short circuit protections		the overload limit with auto reset	manual reset / over temperature	
itatus display	niccup at	"DC OK" (protection
Jarm contact threshold	_	DOOR		
arallel connection	possible			possible
	possible with external ORing			possible with external ORin
Redundant parallel connection	diode			diode
GENERAL TECHNICAL DATA				0.000
fficiency (Uin 400 / 500 Vac)	>92% / >92%			> 93% / >93%
lissipated power (Uin 400 / 500 Vac)	210 W / 210 W			200 W / 200 W
perating temperature range		0+60°C, with derating over 50°	C / over temperature protection	(3)
put/output isolation	-		s SELV output	(0)
put/ground isolation			2 / 60 s	
utput/ground isolation		0.5 KVa	c / 60 s	
tandard/approvals		EN50178, EN61558, EN	160950, IEC950, UL508	
MC Standards	EN61000-6-2, EN61000-6	-4, EN61000-4-2, EN61000-4-3,		61000-4-6. EN61000-4-11
ITBF @ 25°C @ nominal ratings		00'000 h acc. to SN 29500 / >15		
vervoltage category/Pollution degree		Ш		
rotection degree	II / 2 IP 20 IEC529, EN60529			
onnection terminal			² screw type	
ousing material		alum	21	
pprox. weight			2Kg	
Nounting information		vertical on rail, allow 20 mm spac	5	
MOUNTING ACCESSORIES			5 · · · ·	
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB		
founting rail type according to IEC60715/TG32		FN/3/AU, FN/3/AU/2D,	F N/ 3/ M3, F N/ 3/ M3/ LD	

DC/DC Insulated converters output power 120 W



- Short circuit, overload, over temperature protection
- Compact design



NOTES

The depth dimension includes the terminal blocks and the $\ensuremath{\mathsf{DIN}}$ clamp.

- (1) Inrush current is measured with input supplied by a battery; the current peak vary depending on the internal impedance of the current source and depending on cables and connections resistance.
- (2) Over 50°C (122°F) apply a derating -3 W/°C, max 60°C

(3) According to EN60950 insulation tests on input side must be made only with DC instruments.



VERSIONS	Cod. XCSA120BC	Cod. XCSA120CB	Cod. XCSA120CC	Cod. XCSA120DC	
12 Vdc / 24 Vdc 5 A	CSA120BC				
24 Vdc / 12 Vdc 7 A		CSA120CB			
24 Vdc / 24 Vdc 5 A			CSA120CC		
18 Vdc / 24 Vdc 5 A				CSA120DC	
INPUT TECHNICAL DATA				-	
nput rated voltage	12 Vdc (range 10.518 Vdc)	24 Vdc (range 1836 Vdc)	24 Vdc (range 1836 Vdc)	48 Vdc (range 3672 Vd	
Current @ lout max.	12 A ±10%	5.1 A ±10%	5.8 A ±10%	2.8 A ±10%	
nrush peak current	< 60A / < 2ms (1)	< 100A / < 2ms (1)	< 90A /< 2ms (1)	< 120A / < 2ms (1)	
tandby power	<1.5 W @ 12 Vdc	<1 W @ 24 Vdc	<1.5 W @ 24 Vdc	<2 W @ 48 Vdc	
nternal protection fuse	T 20 A replaceable	T 10 A re	placeable	T 5 A replaceable	
External protection on AC line	≥25 A C characteristic	≥13 A C cl	haracteristic	≥6 A C characteristic	
Overvoltage input protection circuit	Passive varistor and active shutdown at 19 Vdc	Passive varistor and ac	tive shutdown at 38 Vdc	Passive varistor and active shutdown at 76 Vdc	
OUTPUT TECHNICAL DATA					
Dutput rated voltage	24 Vdc	1215 Vdc	24 Vdc	24 Vdc	
Dutput adjustable range	22.527.5 Vdc	1215 Vdc	22.527.5 Vdc	22.527.5 Vdc	
Continuous current	5 A @ 50°C (2)	7 A @ 50°C (2)	5 A @ 50°C (2)	5 A @ 50°C (2)	
Dverload limit	6.5 A	9.1 A	6.5 A	6.5 A	
Short circuit peak current	12 A for 300 ms	15 A for 300 ms	12 A for 300 ms	13 A for 300 ms	
oad regulation		<0	.5%		
tipple @ nominal ratings	≤ 100	mVpp	≤ 150 mVpp	≤ 200 mVpp	
lold up time @ In	>1 ms	>2	ms	>4.5 ms	
Overload / short circuit protections	h		o reset / over temperature protectio	n	
Status display		"DC OK"	green LED		
Alarm contact threshold		-	_		
Parallel connection		pos	sible		
Redundant parallel connection		possible with ext	ernal ORing diode		
GENERAL TECHNICAL DATA					
Efficiency (Uin 110 Vdc)	> 83%	>87%	>87%	>90%	
Dissipated power (Uin 110 Vdc)	<25 W	<16 W	<18 W	<13 W	
Derating temperature range		-20+60°C, with de	rating over 50°C (2)		
nput/output isolation		2.1 kVdc / 60s			
nput/ground isolation		1.41 kVdc / 60s	(3)		
Dutput/ground isolation		0.75 kVdc / 60s	(3)		
Standard/approvals			EN60950		
EMC Standards	EN61000-6-2, EN61000-6	6-4, EN61000-4-2, EN61000-4-3,	EN61000-4-4, EN61000-5-5, EN6	1000-4-6, EN61000-4-11	
MTBF @ 25°C @ nominal ratings	>5	500'000 h acc. to SN 29500 / >15	50'000 h acc. to MIL Std. HDBK 21	7F	
Overvoltage category/Pollution degree	II / 2				
Protection degree	IP 20 IEC 529, EN60529				
Connection terminal	2.5 mm ² pluggable screw type				
lousing material		alum	inium		
Approx. weight	550 g (19.40 oz)				
Nounting information	vertical on rail, allow 10 mm spacing between adjacent components				
MOUNTING ACCESSORIES					
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB	, PR/3/AS, PR/3/AS/ZB		
Mounting rail type according to IEC60715/G32			,,		

•> cabur

DC/DC Insulated converters output power 240 W



- DC wide range input
- Short circuit, overload, over temperature protection
- Already preset with internal ORing diode for redundant
- connection
- Compact design



BLOCK DIAGRAM

The depth dimension includes the terminal blocks and the DIN clamp. (1) Inrush current is measured with input supplied by a battery;

NOTES

- the current peak vary depending on the internal impedance of the current source and depending on cables and connections resistance.
- (2) Over 50°C (122°F) apply a derating -6 W/°C, max 60°C
- (3) According to EN60950 insulation tests on input side must be made only with DC instruments.



VERSIONS	Cod. XCSA240FC				
110 Vdc / 24 Vdc 10 A	_				
110 Vdc / 24 Vdc 10 A ridondante	CSA240FC				
INPUT TECHNICAL DATA					
nput rated voltage	110 Vdc (range 90130 Vdc)				
Current @ lout max.	2.4 A ±10%				
nrush peak current	< 150A / < 2ms (1)				
Standby power	<3.4 W @ 110 Vdc				
nternal protection fuse	T 5 A replaceable				
External protection on AC line	≥6 A C characteristic				
Overvoltage input protection circuit	Passive varistor and active shutdown at 136 Vdc				
OUTPUT TECHNICAL DATA		· · ·			
Dutput rated voltage	24 Vdc				
Dutput adjustable range	22.727 Vdc				
Continuous current	10 A @ 50°C (2)				
Overload limit	15 A				
Short circuit peak current	21 A for 300 ms				
_oad regulation	<1.5%				
Ripple @ nominal ratings	≤ 100 mVpp				
Hold up time @ In (Uin 110 Vdc)	>4 ms				
Dverload / short circuit protections	hiccup at the overload limit with aut	o reset / over temperature protection			
Status display		arm contact / "Overload" red LED			
Alarm contact threshold		_			
Parallel connection	DOS	sible			
	factory provided with internal				
Redundant parallel connection	ORing diode				
GENERAL TECHNICAL DATA					
Efficiency (Uin 110 Vdc)	>89%				
Dissipated power (Uin 110 Vdc)	<28 W				
Operating temperature range	,	rating over 50°C (2)			
nput/output isolation	2.1 kVdc / 60s				
nput/ground isolation	1.41 kVdc / 60s				
Dutput/ground isolation	0.75 kVdc / 60s	(3)			
Standard/approvals	1	EN60950			
MC Standards		EN61000-4-4, EN61000-5-5, EN61000-4-6, EN61000-4-11			
MTBF @ 25°C @ nominal ratings	>500'000 h acc. to SN 29500 / >150'000 h acc. to MIL Std. HDBK 217F				
Overvoltage category/Pollution degree	II / 2				
Protection degree	IP 20 IEC 529, EN60529				
Connection terminal	2.5 mm ² pluggable screw type				
lousing material	aluminium				
Approx. weight	800 g (28.24 oz)				
Nounting information	vertical on rail, allow 10 mm spacing between adjacent components				
MOUNTING ACCESSORIES					
Nounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB	, PR/3/AS, PR/3/AS/ZB			
Mounting rail type according to IEC60715/G32					



Switching power supply input **24 Vac** output power 72...120 W

Standard input voltage 24 Vac

- Dissipated power less than 10%
- Short circuit, overload, over temperature protection
- Input protection fuse



CE

BLOCK DIAGRAM

The depth dimension includes the terminal blocks and the DIN clamp. (1) Over 25°C (77°F) apply derating: CSE3: -0.5 W/°C; CSE5:

NOTES

-0.85 W/°C; max 60°C

Mounting rail type according to IEC60715/G32



VERSIONS	Cod. XCSE3	Cod. XCSE5	APPLICATIONS
Output 24 Vdc 3 A	CSE3		CSE power supplies are suita
Output 24 Vdc 5 A		CSE5	use in SELV and PELV circuit
			WARNING! In PELV circuits, in
INPUT TECHNICAL DATA			one safety low voltage pole
Input rated voltage	24 Vac (rand	ge 2428 Vac)	nected to the ground, a pole
Frequency		60 Hz	secondary of the transform
Current @ lout max.	4 A	5 A	must not be connected to
Internal protection fuse		eplaceable	at once; the only one pole
External protection on AC line		characteristic - fuse: T 10 A	grounded is normally the n
			of the 24 Vdc output of the
			supply and effectively used a
OUTPUT TECHNICAL DATA			trol voltage. The connection to grou
Output rated voltage	24 Vdc	24 Vdc	one pole of the transform
Output adjustable range	2325 Vdc	2325 Vdc	output together with on
Continuous current	3 A @ 25°C (1)	5 A @ 25°C (1)	of the 24 Vdc of the powe
Overload limit	4 A	5.5 A	ply output damages the
Short circuit peak current	-	_	supply.
Load regulation	<	: 1%	Input and output of the CSE
Ripple @ nominal ratings	< 10	00 mVpp	power supplies are not is
Hold up time @ In	>2	20 ms	Safety isolation function is th
Overload / short circuit protections		to reset / over temperature protection	assigned to the external trans
Status display	"DC OK"	' green LED	which has to comply with EN
Parallel connection	ро	ssible	Std.
Redundant parallel connection	possible with ex	ternal ORing diode	
GENERAL TECHNICAL DATA			
Efficiency	>90%	>90%	
Dissipated power	< 8 W	< 13 W	
Operating temperature range		5°C / over temperature protection (1)	
Input/output isolation	, 0	nsulated	
Input/ground isolation		/ac / 60 s	
Output/ground isolation		/ac / 60 s	
Reference Standards		DIN VDE 0110.1	
EMC Standards		1. EN55022	
MTBF @ 25°C @ nominal ratings		150'000 h acc. to MIL Std. HDBK 217F	
Overvoltage category/Pollution degree	Ι	I / 2	
Protection degree	IP 20 IEC 5	529, EN60529	
Connection terminal	2.5 mm ² fix	ked screw type	
Housing material		netal	
Approx. weight	500 g (17.64 oz)	550 g (19.40 oz)	
Mounting information	vertical on rail, allow 20 mm spa	acing between adjacent components	
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZI	B, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to ECC0715/C22		,,=	

APPI ICATIONS

itable for its. in which is conle of the mer too **b ground** ble to be negative ne power as con-

ound of mer Vac ne pole ver suppower

SE Series isolated. therefore nsformer N60742



Switching power supply input 24 Vac output power 240 W

Standard input voltage 24 Vac

- Dissipated power less than 10%
- Short circuit, overload, over temperature protection
- Input protection fuse



NOTES

The depth dimension includes the terminal blocks and the DIN clamp. (1) Over 45°C (113°F) apply a derating -4 W/°C, max 60°C.

VERSIONS	Cod. XCSE10	APPLICATIONS
Output 24 Vdc 10 A	CSE10	CSE power supplies are suitable fo
		use in SELV and PELV circuits.
		WARNING! In PELV circuits,
INPUT TECHNICAL DATA		which one safety low voltage po
Input rated voltage	24 Vac (range 2130 Vac)	is connected to the ground, a pol
Frequency	5060 Hz	of the secondary of the transfo
Current @ lout max.	12 A	mer too must not be connecte
Internal protection fuse	T 20 A replaceable	to ground at once; the only or
External protection on AC line	circuit breaker: 25 A C characteristic - fuse: T 25 A	pole to be grounded is normal
External protection on Ac line	Circuit Dreaker. 20 A C characteristic - 1036. 1 20 A	the negative of the 24 Vdc output
		of the power supply and effective
		used as control voltage.
OUTPUT TECHNICAL DATA		The connection to ground of
Output rated voltage	24 Vdc	one pole of the transformer Va
Output adjustable range	2226.5 Vdc	output together with one pol
Continuous current	10 A @ 25°C (1)	of the 24 Vdc of the power sup
Overload limit	12 A	ply output damages the power
Short circuit peak current	-	supply.
Load regulation	< 1%	Input and output of the CSE Serie
Ripple @ nominal ratings	< 200 mVpp	power supplies are not isolate
Hold up time @ In	>10 ms	Safety isolation function is the
Overload / short circuit protections	hiccup at the overload limit with auto reset / over temperature protection	refore assigned to the extern
Status display	"DC OK" green LED	transformer which has to comp
Parallel connection	possible	with EN60742 Std.
Redundant parallel connection	possible with external ORing diode	
GENERAL TECHNICAL DATA		
Efficiency (Uin 110 Vdc)	>90%	
Dissipated power (Uin 110 Vdc)	< 26 W	
Operating temperature range	$-10+60^{\circ}$ C, with derating over 45°C / over temperature protection (1)	
Input/output isolation	not insulated	
nput/ground isolation	0.5 KVac / 60 s	
Output/ground isolation	0.5 KVac / 60 s	
Reference Standards	IEC 664-1, DIN VDE 0110.1	
EMC Standards	EN55011. EN55022	
MTBF @ 25°C @ nominal ratings	>500'000 h acc. to SN 29500 / >150'000 h acc. to MIL Std. HDBK 217F	
Overvoltage category/Pollution degree	II / 2	
Protection degree	IP 20 IEC 529, EN60529	
Connection terminal	2.5 mm ² fixed screw type	
Housing material	2.5 mil- inde sciew type metal	
Approx. weight	600 g (21.16 oz)	
Mounting information	vertical on rail, allow 20 mm spacing between adjacent components	
	vertical of rail, allow 20 min spacing between aujacent components	
MOUNTING ACCESSORIES		
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32	—	

BLOCK DIAGRAM

Adjustable linear power supply input 24 Vac

- Adjustable output voltage 1.2...24 Vdc
- Output current 1.5 and 5 A
- Short circuit, overload, over temperature protection





118 (4.60 in)

115 (4.50 in)

NOTES

The depth dimension includes the terminal blocks and the DIN clamp. (1) See "Applications"



VERSIONS	Cod. XCL1R	Cod. XCL5R	
Output 1.2 A	CL1R		
Output 5 A		CL5R	
INPUT TECHNICAL DATA			
Input rated voltage	926 Vac	(see Tab. 1)	
Frequency	50	60 Hz	
Current @ lout max.	2,5 A	6 A	
Internal protection fuse	T 3 A replaceable	T 10 A replaceable	
External protection on AC line	MCB: 4 A C characteristic - fuse T 4 A	MCB: 10 A C characteristic - fusibilie T 10 A	
OUTPUT TECHNICAL DATA			
Output rated voltage	1.224 Vdc	1.224 Vdc	
Dutput adjustable range	(see Tab. 1)	(see Tab. 1)	
Continuous current	1.5 A (see Tab. 2)	5 A (see Tab. 2)	
Overload limit	_	_	
_oad regulation	<	< 1%	
Ripple @ nominal ratings	< 50 mVp	p @ 24 Vac	
lold up time @ In	>20	>20 ms	
Dverload / short circuit protections	constant current, limit current, auto	reset / over temperature protection	
Status display	"DC OK"	green LED	
GENERAL TECHNICAL DATA			
Operating temperature range	-20+45°C / over ten	nperature protection (1)	
nput/output isolation	not in	sulated	
nput/ground isolation	0.5 KVa	ac / 60 s	
Output/ground isolation		ac / 60 s	
Reference Standards		1, DIN VDE	
EMC Standards		EN61000-6-4	
MTBF @ 25°C @ nominal ratings		50'000 h acc. to MIL Std. HDBK 217F	
Overvoltage category/Pollution degree		/ 2	
Protection degree		29, EN60529	
Connection terminal		ed screw type	
Housing material	UL94V-0 plastic material	aluminium	
Approx. weight	120 g (4.23 oz)	350 g (12.35 oz)	
Mounting information	vertical on rail, allow 20 mm space	ing between adjacent components	

PR/DIN/AC, PR/DIN/AS, PR/DIN/AL

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32

INPUT (Vac)	OUTPUT (Vdc)	lout max (A) XCL1R	lout max (A) XCL5R
2427	24	1.5	5
1618	15	1.5	5
1416	12	1.5	5
1214	10	1.5	5
12	9	1.5	5
9	5	1.5	5

	INPUT (Vac)	OUTPUT (Vdc)	lout max (A) XCL1R	lout max (A) XCL5R
	24	24	1.5	5
	24	15	0.8	2.5
	24	12	0.7	2
	24	10	0.5	1.5
	24	9	0.45	1.3
	24	5	0.3	0.8

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

APPLICATIONS

R linear reguated power eries of CABUR is provided ustable output and it can Il those needs related to ling of small loads with dard rated voltage and at mely limited cost. It can nted on the rail in whateion, providing that enough or the free circulation of emains for the cooling; the odel having an IP 00 proegree, its use is intended protected enclosure. Even ower supply is protected r-current it is advisable to the rated values shown in nd 2.

and CL5R give the rated nces if fed by a voltaeen 24 and 27 Vac, as on Tab. 1; with input between 24 and 27 Vac, imum output current for oltages lower than 24 Vdc ted on Tab. 2; to achieve oltage stabilization and low near power supplies must ith an input voltage higher out voltage, while if they are with 24 Vac, and adjusted dc output, when rated curupplied, the ripple increases ge stabilization decreases; input voltages higher than 27 Vac increases power dissipation and increases operating temperature of the component, and might cause thermal protection shut down. The products are preadjusted to Vout 24 Vdc with Vin 26 Vac.



Filtered power supplies without transformer with non regulated output

• DIN rail mounting

- Suitable for rectifying 6 Vac to 20 Vac
- V output = Vac input x 1.41 (-1V)

77 (3.10 in) (0.50 in) 45 (1.80 in)



BLOCK DIAGRAM

NOTES

(2) Version available upon request; for information call our sales department, local agent or representative

(3) They can work with input from min. 6 Vac to 30 Vac max., the non regulated output voltage depends on the load and on the variations of the input voltage supplied by the transformer (4) They are protected from overcurrent by their input fuse (except AR1 model); it is recommended to protect cables of the output line with fuses of value coordinated with the current of the load and cables.

Mounting rail type according to IEC60715/G32



VERSIONS	Cod. XAR1	Cod. XAR2	
Output 1 A	AR1		A recti
Output 2 A (2)		AR2 (2)	ply is r
			and a f
INPUT TECHNICAL DATA			the alt
Input rated voltage	62	20 Vac	tinuou
Frequency	50	.60 Hz	supply
Current @ lout max.	1.2 A @ 20 Vac	2.4 A @ 20 Vac	output
Internal protection fuse	not available	T 3.15 A replaceable	accord
External protection on AC line	MCB: 1 A C characteristic - fuse T 1 A	MCB: 4 A C characteristic - fusibilie T 4 A	by the ±10%
OUTPUT TECHNICAL DATA			The 1
Output voltage (without load)	Uout = (Uin x	1.41) (3)	output
Output voltage (full load)	Uout = (Uin x		calcula
Continuous current	1 A @ 20°C	2 A @ 20°C	Zero le
Overload limit	1 A	3 A	load.
Load regulation		<u> </u>	the m
Ripple @ nominal ratings	≤	10%	your n
Hold up time @ In	>2	0 ms	These
Overload / short circuit protections	not available, inse	rt external fuse (4)	a relia
Status display	"DC OK"	green LED	ble fo
Parallel connection		_	conta
Redundant parallel connection		—	loads
GENERAL TECHNICAL DATA			vely h variati
Operating temperature range	-20+45°	C / max 60°C	mains
Input/output isolation	not in	sulated	might
Input/ground isolation		ac / 60 s	micro
Output/ground isolation		ac / 60 s	log c
Reference Standards		1, DIN VDE	electr
MTBF @ 25°C @ nominal ratings		50'000 h acc. to MIL Std. HDBK 217F	sensit
Overvoltage category/Pollution degree		/ 2	
Protection degree		29, EN60529	
Connection terminal		ed screw type	
Housing material		astic material	
Approx. weight	22 g (0.77 oz)	110 g (3.88 oz)	
Mounting information	vertical on rail, allow 50 mm spa	cing between adjacent components	
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB		

APPLICATIONS

A rectified and filtered power supoly is made with a rectifier bridge and a filter capacitor, that converts he alternating voltage into a coninuous voltage. Since the power supply unit is not regulated, the putput voltage varies considerably according to the current required by the load and according to the $\pm 10\%$ mains voltage variations.

The formula indicated in the output specifications allows to calculate the output voltage with Zero load, with 50% load and full load. This allows you to choose the most suitable transformer for your needs.

These units offer a low cost and a reliable voltage source suitable for loads such as relays, contactors, solenoid valves or loads that can work with relatively high ripple and wide voltage variations; in applications where mains is unstable or troubled, it might be not suitable to feed microprocessor devices, analog converters, encoders and electronic devices which are sensitive to voltage variations.

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB PR/DIN/AC, PR/DIN/AS, PR/DIN/AL

INPUT (Vac)	OUTPUT without load (Vdc)	OUTPUT full load (Vdc)
20	28.7	24.2
18	25.4	21.4
15	21.2	17.2
12	17	15
9	12.7	8.7
6	8.5	4.5



Filtered power supplies without transformer with non regulated output

• DIN rail mounting

- Suitable for rectifying 6....20 Vac
- V output = Vac input x 1.41 (-1V)

93 (3.70 in) 93 (3.70 in) 70 (2.70 in) 70 (2.70 in) 60 (2.40 in) 80 (2.40 in) CE

BLOCK DIAGRAM

NOTES

(1) They can work with input from min. 6 Vac to 30 Vac max., the non regulated output voltage depends on the load and on the variations of the input voltage supplied by the transformer (2) They are protected from overcurrent by their input fuse (except AR1 model); it is recommended to protect cables of the output line with fuses of value coordinated with the current of the load and cables



VERSIONS	Cod. XAR4	Cod. XAR6	
Output 4 A	AR4		
Output 6 A		AR6	
INPUT TECHNICAL DATA			
Input rated voltage	620	D Vac	
Frequency	506	60 Hz	
Current @ lout max.	4.8 A @ 20 Vac	7.2 A @ 20 Vac	
Internal protection fuse	T 6.3 A replaceable	T 8 A replaceable	
External protection on AC line	MCB: 10 A C characteristic - fuse T 7 A	MCB: 10 A C characteristic - fuse T 10 A	
OUTPUT TECHNICAL DATA			
Output voltage (without load)	Uout = (Uin x 1	.41) (1)	
Output voltage (full load)	Uout = (Uin x 1	.41) -2 (1)	
Continuous current	4 A @ 20°C	6 A @ 20°C	
Overload limit	6 A	9 A	
Load regulation	-	-	
Ripple @ nominal ratings	£1		
Hold up time @ In		>20 ms	
Overload / short circuit protections		not available, insert external fuse (2)	
Status display	"DC OK" g	green LED	
Parallel connection	-	_	
Redundant parallel connection	-	_	
GENERAL TECHNICAL DATA			
Operating temperature range	-20+45°C	/ max 60°C	
Input/output isolation	not ins		
Input/ground isolation	0.5 KVa		
Output/ground isolation	0.5 KVa		
Reference Standards	IEC 664-1		
MTBF @ 25°C @ nominal ratings	>500'000 h acc. to SN 29500 / >15		
Overvoltage category/Pollution degree	/		
Protection degree	IP 00 IEC 52		
Connection terminal	2.5 mm² fixe		
Housing material	UL94V-0 pla		
Approx. weight	115 g (4.06 oz)	140 g (4.94 oz)	
Mounting information	vertical on rail, allow 50 mm spaci	ing between adjacent components	
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB		
Mounting rail type according to IEC60715/G32	PR/DIN/AC, PR/DI	IN/AS, PR/DIN/AL	

APPLICATIONS

tified and filtered power supmade with a rectifier bridge filter capacitor, that converts Iternating voltage into a conus voltage. Since the power ly unit is not regulated, the it voltage varies considerably rding to the current required e load and according to the % mains voltage variations.

formula indicated in the ut specifications allows to late the output voltage with load, with 50% load and full This allows you to choose nost suitable transformer for needs.

e units offer a low cost and iable voltage source suitafor loads such as relays, actors, solenoid valves or that can work with relatihigh ripple and wide voltage tions; in applications where s is unstable or troubled, it it be not suitable to feed oprocessor devices, anaconverters, encoders and tronic devices which are itive to voltage variations.

INPUT (Vac)	OUTPUT without load (Vdc)	OUTPUT full load (Vdc)
20	28.7	24.2
18	25.4	21.4
15	21.2	17.2
12	17	15
9	12.7	8.7
6	8.5	4.5

cabur

Accessory for charging buffer batteries

- Battery charger
- Allows to connect in redundant parallel two power supplies
- Suitable for power supplies up to 10 A
- Battery protection fuse
- Battery feedback protection diode
- Current charge limiting resistor

93 (3.66 in) 26 (1.02 in) 80 (3.15 in)

The depth dimension includes the terminal blocks and the DIN rail clamp.

NOTES

(1) The charging current is dependent on the battery type and the required level of charge **BLOCK DIAGRAM**



VERSIONS	Cod. XCSBC	APPLICATIONS
	CSBC	1. Battery charger
		With this module is possible to
		use a Cabur power supply as a
GENERAL TECHNICAL DATA		battery charger while it is feeding
Power supply rated voltage	630 Vdc	the load.
Power supply rated current	> 3 A	The diode provides decoupling
Load rated voltage	629.5 Vdc	between the battery and the
Load max current	10 A	power supply; the resistance limits
Charge current limitation	0.6 A (1)	the current charge limiting power supply output current and assu-
Battery disconnecting voltage	not available	ring longer life to the battery. The
IN/OUT drop voltage	0.5 V	F1 fuse protects the battery and
Battery protection fuse	F1 = T 6.3 A / F2 = T 1 A	its wiring against short circuit.
Protections	battery short circuit /overload	The next picture shows the con-
Alarm signal	_	nections.
Operating temperature range	-10+50°C	
Reference Standards	IEC 664-1, DIN VDE	2. Parallel connection of power
Overvoltage category/Pollution degree	II / 2	supplies
Protection degree	IP 20 IEC 529, EN60529	It is possible to use this module
Connection terminal	2.5 mm ² fixed screw type	also to connect two power sup-
Housing material	UL94V-0 plastic material	plies in parallel, not provided with
Approx. weight	80 g (2.82 oz)	output decoupling diode, elimina-
Mounting information	vertical on rail, adjacent	ting "Fuse 2" in series to charging
MOUNTING ACCESSORIES		current limiting resistor.
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	The next picture shows the con-

PR/DIN/AC, PR/DIN/AS, PR/DIN/AL

Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32

1. Battery charger



2. Parallel connection of power supplies



nections.

55

Accessory for charging and controlling buffer batteries

- Suitable for power supply with adjustable output
- Suitable for lead batteries
- Suitable for charging batteries while feeding loads
- Battery protection fuse
- "Deep discharge" battery protection
- Status display LED and failure contact



CE



VER	SIONS	Cod. XCSUPS1	Cod. XCSUPS2	A
Output 24 Vdc		CS-UPS1		All power su
Output 12 Vdc			CS-UPS2	voltage to +
				used as lead
GENERAL TE	CHNICAL DATA			be used as
Power supply input voltage		2628.5 Vdc	1215 Vdc	line breakdo
Power supply rated current		≥ 3 A	≥ 3 A	The CS-U
Load rated voltage		2628 Vdc	1015 Vdc	current cha
Max load current		15 A	15 A	possible to
Charging current		selectable 2 A or 4 A	selectable 2 A or 4 A	current ; CS
Battery disconnection voltage		\leq 18 Vdc ±0.5V	≤ 9.2 Vdc ± 0.5 V	form the b
IN/OUT voltage drop		0.4 V		voltage dr total disch
Battery protection fuse		T 15 A 42 V bla	de type	battery life.
Protections		Reverse polarity, short circuit, battery or		The modu
Alarm signals	Power supply OK:	SPDT 24 V /		protecting
	Battery OK	green LEI		prevent fire
	Battery LOW	red LED		circuit. The
	Load OK	yellow LE		following le
Operating temperature range	Battery reverse polarity	green LEI -10+50		PS OK: Th
EMC Standards		=10+30 IEC 664-1. DI		power sup
Overvoltage category/Pollution	degree	ILC 004-1, Di	1 VDL	OK and the
Protection degree	lachiec	IP 20 IEC 529, E	N60529	supply whi
Connection terminal		2.5 mm ² pluggable		charged.
Housing material		2.5 mm² piuggable screw type aluminium		LOAD OK CS-UPS1 f
Approx. weight		300 g (10.58 oz)		BATT. OK
Mounting information		vertical on rail, adjacent		the power
v	ACCESSORIES			disconnect
Mounting rail type according to		PR/3/AC, PR/3/AC/ZB, PR/	/3/AS DR/3/AS/7R	battery is
		PR/JIN/AC, PR/DIN/AC, PR/DIN/AC		load.
Mounting rail type according to IEC60715/G32		FR/DIW/AG, FR/DIW/AG, FR/DIW/AE		DATT IO

APPLICATIONS

All power supplies with adjustable output voltage to +15% of rated voltage can be used as lead battery chargers, suitable to be used as back up supply in case of AC line breakdown.

The CS-UPS-1 circuit regulate the current charging the battery, and it is possible to set it up to 2A or 4A charging current ; CS- UPS1 disconnects the load form the battery whenever the battery voltage drops under 19Vdc, to avoid total discharge which always shortens battery life.

The module is provided with a fuse protecting the battery and its cable to prevent fire risk in case in case of short circuit. The module is provided with the following leds diplay:

PS OK: The green LED is on when the power supply feeding the CS-UPS1 is OK and the load is supplied by the power supply while the battery is continuously charged.

LOAD OK: Yellow LED is on when CS-UPS1 feeds the load.

BATT. OK: Green LED is on when the power supply is turned OFF or disconnected and indicates that the battery is connected and can feed the load.

BATT. LOW: Red LED on when the battery is low or discharged.

REVERSE BATTERY: Red LED is on when battery is connected with reverse polarity.

Alarm contact: a relay with an SPDT contact 1A/24V switches when the load is no more supplied by the power supply and then is supplied by the battery. This contact allows to get a remote warning on the status of the system even in the case that the power supply is turned OFF or damaged, or non more supplied for any reasons.

Batteries holder module

NOTES

The depth dimension includes the terminal blocks and the DIN

- 12 or 24 Vdc selectable output voltage
- Suitable for sealed lead rechargeable batteries
- Suitable for CSBC, CS-UPS, CSC75
- Suitable for DIN rail installation

(1) Available from February 2009

rail clamp.



BLOCK DIAGRAM SERIES connection: jumper 1 PARALLEL connection: jumper 2 + 3 Vdv/d/.2Ah Uvdo/2.4Ah Uvdo/2.4Ah Battery 1 12Vdo/1.2Ah Battery 2 12Vdo/1.2Ah

APPLICATIONS

VERSIONS		
Batteries holder module (empty)	CSBP30Y	Art. No. XCSBP30Y
Battery	BAT12V1,2AH	Art. No. 911012
GENERAL TECHNICAL DATA		
Batteries type	2 sealed batterie	s 12 Vdc 1.2 Ah
Internal protection fuse	15	A
Tipo di configurazione	parallel	series
Output voltage	12 Vdc 2.4 Ah	24 Vdc 1.2 Ah
Charging current max.	0.6 A	0.3 A
Discharging current max.	5 A	3 A
Operating temperature range	-10	+50°C
EMC Standards	IEC 664-1	, DIN VDE
Overvoltage category/Pollution degree	/	2
Protection degree		EC 529, EN60529
Connection terminal	2.5 mm ² plugg	51
Housing material	alumi	nium
Approx. weight	1.2 kg (4	
Mounting information	vertical on r	ail, adjacent
MOUNTING ACCESSORIES		
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB,	PR/3/AS, PR/3/AS/ZB
Mounting rail type according to IEC60715/G32	PR/DIN/AC, PR/DIN/AS, PR/DIN/AL	



Switching power supply with integrated battery charger

- Suitable for 12 Vdc loads and batteries
- Suitable for lead batteries
- Suitable for charging batteries while feeding loads
- Battery protection circuit
- "Deep discharge" battery protection
- Status display LED and failure contact

115 (4.53 in) PRELIMINARY CSC75B 130 (5.12 in) 55 (2.17 in)

◆ cabur

NOTES

The depth dimension includes the terminal blocks and the DIN clamp.

- (1) Version available upon request; for information call our sales department, local agent or representative
- (2) With 100...127 Vdc input voltage, constant output power and Ta>45°C, the output current must be derated by 25%
- (3) In addition to the current load, the device supplies about 0.8 A for battery charging
- (4) Over 50°C (122°F) apply a derating -0.13 A/°C, max 60°C

(5) Available from February 2009



BLOCK DIAGRAM

APPLICATIONS

VERSIONS	Cod. XCSC75B	Cod. XCSC75C	APPLICA					
Output 12 Vdc 5 A	CSC75B (5)							
Output 24 Vdc 5 A (1)		(1)						
INPUT TECHNICAL DATA								
Input rated voltage	120–230 Vac (range 9026	64 Vac / 100370 Vdc) (2)	-					
Frequency		63 Hz						
Current @ nominal lout (Uin 120 /230 Vac)	1.3 A / 0.8	3 A ± 10%						
Inrush peak current	< 2	20 A						
Power factor	> (0.6						
Internal protection fuse	T 2 A reg	blaceable						
External protection on AC line	circuit breaker: 4 A - C c	haracteristic - fuse: T 4 A						
OUTPUT TECHNICAL DATA								
Output voltage with operating power supply	12.815.2 Vdc	24.827 Vdc						
Output voltage with batteries	1214.4 Vdc	2426.2 Vdc						
Continuous current	5 A @ 50°C (3)	5 A @ 50°C (3)						
Overload limit	>8 A per >30 s	>8 A per >30 s						
Short circuit peak current	_	_						
Load regulation	< 1%	< 1%						
Ripple @ nominal ratings	≤ 50 mVpp	≤ 50 mVpp						
Hold up time @ In (Uin 120 / 230 Vac)	>15 ms / >20 ms	>15 ms / >20 ms						
Overload / short circuit protections	with operating power supply: hiccup	at the overload limit with auto reset						
	with non operating power supply: auto resetta	ble electronic fuse against battery short circuit						
	with non operating power supply: thresh	old-relay against battery deep discharge						
Output voltage with operating power supply	"PSU OK" green LED / failure	contact / "BATTERY" red LED						
Output voltage with operating batteries	0.8 A (suitable for sealed I	0.8 A (suitable for sealed lead batteries up to 15 Ah)						
GENERAL TECHNICAL DATA								
Efficiency (Uin 120 / 230 Vac)	>86% / >90%	>90%	-					
Dissipated power (Uin 120 / 230 Vac)	21 W / 13 W	< 13 W						
Operating temperature range	-20+60°C, with derating over 50°	C / over temperature protection (4)						
Input/output isolation	1.5 KVac / 60	s SELV output						
Input/ground isolation	1.5 KVa	c / 60 s						
Output/ground isolation	0.5 KVa	c / 60 s						
Standard/approvals	IEC950, I	EN60950						
EMC Standards	EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-6,	EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-11						
MTBF @ 25°C @ nominal ratings	>500'000 h acc. to SN 29500 / >15							
Overvoltage category/Pollution degree		/ 2						
Protection degree	IP 20 IEC 52	29 EN60529						
Connection terminal	2.5 mm² pluga	able screw type						
Housing material		inium						
Approx. weight	500 g (1	7.65 oz)						
Mounting information	vertical on rail, allow 10 mm spac							
MOUNTING ACCESSORIES								
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB,	PR/3/AS, PR/3/AS/ZB	-					
Mounting rail type according to IEC60715/G32		-						

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Accessory for power supplies redundant parallel connections

- Suitable for power supplies without Oring diodes
- Compact dimensions
- Three selectanle voltages 12, 24 and 48 Vdc

NOTES The depth dimension includes the terminal blocks and the DIN

• 2 status/relays contacts

rail clamp.

• Power supplied status LED



BLOCK DIAGRAM

VERSIONS	Cod. XCSBD	APPLICATIONS
	CSBD	This module allows the custom
		connect in redundant parallel two p
		supplies not provided with built in
		diodes (output decoupling diode
GENERAL TECHNICAL DATA		jumper bridge allows to select 12
Power supply rated voltage	12–24–48 Vdc selectable	24 or 48 Vdc operating voltage;
Power supply rated current	15 A, max 30 A	channel is provided with status indic
Load rated voltage	12–24–48 Vdc selectable	led, status relay and contact for re failure alarm.
Load max current	15 A	lailule alaitti.
IN/OUT drop voltage	0.7 V @ 15 A	
Protections	—	
Alarm signal	2 contacts NA 2A @ 230 Vac	
Operating temperature range	-20+50°C	
Reference Standards	IEC 664-1, DIN VDE	
Overvoltage category/Pollution degree	II / 2	
Protection degree	IP 00 IEC 529, EN60529	
Connection terminal	2.5 mm ² fixed screw type	
Housing material	UL94V-0 plastic material	
Approx. weight	120 g (4.23 oz)	
Mounting information	vertical on rail, adjacent	
MOUNTING ACCESSORIES		
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32	PR/DIN/AC, PR/DIN/AS, PR/DIN/AL	

le allows the customer to redundant parallel two power provided with built in Oring tput decoupling diodes); a ge allows to select 12, 15, /dc operating voltage; each rovided with status indication relay and contact for remote

Block diagram





Surge Protection Devices

Surge Protection Devices

The MA3000 Series surge protection devices prevent surges and transient overvoltages conducted through AC power distribution boards from damaging electronic systems such as instrumentation control panels, telemetry substations and fire and security alarm installations. The JVS operates by limiting excess voltages to suitable lower levels for the equipment previewed for employment in Overvoltage Category II (2.5 KV), in Class C overvoltage security zone, like requested by the Standards IEC 1024, IEC 1312-1, EN 50083-1.

Where to mount the SPDs

According to actual standards, the JVS overvoltage protection device has to be installed on the AC supply line at the very input of control cabinets, to guarantee surge immunity of all the devices installed in the panel, such as PLC, power supplies, inverters etc. The conformity to EMC Standards applies also to control cabinets, and requires that the max residual

overvoltage does not exceed 2.5 KV. As a consequence, it is mandatory to install overvoltage protection devices capable to reduce incoming overvoltages under 2.5 KV, and overvoltage level that the devices inside the cabinet can withstand without damage.

JVS Series

The surge protection device is made of a DIN rail mounted socket equipped with double connection terminal blocks and a pluggable module containing the overvoltage protection circuitry. This feature makes it easy to remove the protection device during isolation tests and for quick replacement. The MA 3000 can withstand a 20 times 10 kA discharge current (waveform 8/20), and a single 40 kA (JVS1-C1P) and 70 kA (JVS1-E1P) peak current. As required by industry surge protection device standards, the MA3000 series is provided with a disconnection device that removes the SPD from the line in case of internal damage or short circuit, giving a visible failure display on the front panel of the unit

(picture no. 2). After a great number of discharges and continued long service the module will lose protection capacity and can be replaced without disconnecting the circuit wiring.

Fuse and protection devices

The MA3000 Series surge protective devices are not designed with a built-in thermal disconnector, therefore they must be equipped with upstream protection against short-circuit currents and with a differential protection element for protection against indirect contact (generally already present in the installation). The MA3000 Series must not be installed downstream of high sensitivity differential protection devices.

Connections

The surge protection devices MA3000 series can be employed in these types of connections:



Protection takes priority



Continuity of services takes priority





Lightning protection zones

Zone 0 - Zone where items are subject to direct lightning strikes or where an unattenuated electromagnetic field occurs as a result of the strike.

Zone 1 - Zone where items are subject to low level direct lightning strikes. The conducted impulse lightning currents and/or switching surges are reduced compared with Zone 0.

Zone 2 - Remnants of lightning impulse currents and/or switching surges are reduced compared with Zone 1.

Zone 3 - Surges, caused by oscillation effects, magnetic field couplings and internal switching surges are reduced compared with Zone 2

- A Sub Station
- B Main distribution board
- C Heavy machinery
- **D** Local distribution board
- E Light machinery
- **F** Workstation **G** Equipment
- **u** Equipine







Surge protection devices

- Rugged contacts
- Pluggable protection
- Efficiency status indicator on front panel
- Rugged metal parallel connection bridges





NOTES

BLOCK DIAGRAM



VERSIONS	cod. XJVS1C1P	cod. XJVS1E1P	
With varistor	JVS1-C1P	JVS1-E1P	
ELECTRICAL TECHNICAL DATA			
Rated voltage	230 V	400 V	
Max. operating voltage	320 V	460 V	
Frequency		5060 Hz	
Limiting voltage	< 1500 V	< 2300 V	
Nominal discharge current (20 multi shot 8/20 µs wavefor	rm) 20 kA	40 kA	
Maximum discharge current (single shot 8/20 µs wavefor	rm) 40 kA	70 kA	
Protection voltage level	í 1.5 kV	2.3 kV	
Varistor rated voltage	510 V ±10%	680 V ±10%	
Leakage current		< 1 mA	
Response time		<25 ns	
Energy withstand (2 ms)	640 J	1580 J	
External protection devices	circuit	breaker: C-10 A o B-25 A - fuse: 5040 A	
GENERAL TECHNICAL DATA			
Efficiency status indicator		green: protection fully operational	
	red: p	otection disconnected, replace the module	
Operating temperature range		-40+80°C	
Protection degree		IP 20 IEC 529, EN60529	
Reference Standards		IEC61643-1	
EMC Standards		EN 55011	
Connection terminal	16 mm	² screw type (6 AWG) / 25 mm ² (rigid cable)	
Module color	light grey	red	
Housing material		UL94V-0 plastic material	
Approx. weight		128 g (4.52 oz)	
Mounting information		on rail, adjacent without gap	
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5	PR/3/	AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
Replacement varistor	XJVS1C1R	XJVS1E1R	
	2 poles	XJGB2P	
51 5 I	poles	XJGB3P	
	poles	XJGB4P	

APPLICATIONS

The JVS Series surge protection devices prevent surges and transient overvoltages conducted through AC power distribution boards from damaging electronic devices and electronic control systems used in process control, factory automation , machinery automation and electric systems in general.

In case of local or remote lightining strokes, JVS surge suppressors limit the residual overvoltage to volateg values co ordinated with Overvoltage Cathegory II, as used on most electronic control systems, panels and electronic devices such as PLCs, DCSs, industrial PCs, power supplies and motor drives or any other electronic devices.



Adjustable electronic overcurrent protection from 1...10 A / 24 Vdc



According to the new EN60204-1 Std. it is **compulsory** to protect wires on SELV-PELV lines against the effects of surges. The standard requires that surge protection devices on 24Vdc cut the fault off before the 24 Vdc control drops below 21.6 V, disconnecting power to controls and preventing the starting of emergency and safety functions.

According to EN 60204-1 and EN 61131-1 and -2, surge protection devices on SELV-PELV lines must be able to disconnect shorts within 10ms and dangerous surges within 5s. The use of power supplies with high output surge capacity and precise and quick protection devices enables to cut faults off before 24V drops below 21.6V disconnecting power to controls.

Fuses and magneto-thermic switches on 24 Vdc lines do not have I /t features enabling to quickly and precisely cut faults off; moreover fuses may be replaced with different types thus altering the system's protection and safety.

The correct coordination of the circuitry into which the surge protection device is incorporated must take into account the line's total R: R connections + R wires + R protection + residual R of the damaged load. R total value must always enable that the protection device's tripping current may flow in the circuit; it is also important to avoid undersizing the protection device in order to prevent inconvenient trips due to the load's breakaway starting I, or oversizing it thus increasing t of intervention.

The whole circuitry made up of power supply, surge protection device, wires and connections must be designed so as to enable the safe interruption of surges within 5s before 24 Vdc drops below 21.6 Vdc. This condition may be met using Cabur's power supplies - series CSF and CSG - dimensioned to supply high output surge (>+50% of rat.l for >5s) and electronic surge protection devices with CEP System which are more precise and quicker than magneto-thermic switches and devices whose tripping t does not depend upon ambient T and may be reset with local or remote controls.

Features of protection devices

Mgts have two different intervention curves: Thermal and Magnetic. The magnetic relay trips exclusively in the event of a short with different I/ t curves: thermal relays have all the same intervention curve, regardless of the mgt curve and in the event of a surge, they operate as described in figure 2: surge currents 1.13 x In are cut in >1h and with surges > 1.45 X In, the tripping takes place in a few minutes.

The disconnection of short currents is carried out by a magnetic relay whose tripping t goes from 0.01 to 0.1 sec, with very high currents which the power supply may not be able to supply; an mgt C5 used on DC has >70A safe tripping, a current that only power supplies with much higher rated I, i.e. 40A, may be able to supply (and not all of them) and that can not be supplied by 10A power supplies.

Using mgt as surge protection device, if the power supply has a surge I 1.2 times its rat. I, disconnection will take place in 20...60 min, while with 2.5 currents higher than rat.I it will take place between 25 sec. and 2 min., depending on amb.T., whose times are too long to ensure the stability of 24V, for protecting wires and the selectivity of protection devices. In the event of a failure - until the protection device trips - the power supply remains with a higher surge of In x 1.5 x 5s and 24V drops below 21.6V leaving standard functions and most of all safety functions with no power supply.

Selectivity of protection devices

In the event of a surge or a short, only the damaged circuit is disconnected by its protection device with no repercussions on the supply of the other loads. This function is obtained with power supplies having high surge capacity and quick and precise protection devices.

CEP system - a smart system for current's control

CEP "recognizes" surges at their lowest and more precise stage and disconnects the damaged circuit as quickly as possible. For an excellent flexible use, the CEP system allows to set 10 tripping currents ranging from 1A to 10A in 1A steps and 3 intervention curves "Fast - Normal - Delayed" (see figure 3).

The protection status is displayed by two leds and by a remote alarm transistor output; the load may be activated / deactivated by pressing a button on the front (figure 5) or by the PLC remote control. The possibility of separately controlling single channels is useful during installation, because the various components may be separately activated and tested and - in big systems - the remote control may be used in order to gradually activate loads thus preventing simultaneous overloads when the system is started up. Another important features in terms of safety is the possibility of manually disconnecting the load, which means that even when protection devices are reset from the remote control, the load will remain inactive thus preventing dangerous situations.



figure 1



figure 3



figure 4



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UL pendant

Programmable electronic overcurrent protection 1....10 A / 24 Vdc

- Programmable from 1 A to 10 A in 1 A steps
- 3 programmable characteristic curves
- Remote or local ON/OFF control

10.000 1.00

Su 100

10

2 3 5 6 10

Time

- Status signal with LED and remote signal
- Slide contact for the manual load disconnection
- Sealable front cover allows to protect the set up of the protection

NOTES

The measures include the overall dimensions and the fixing to the guide. (1) Version available upon request; for information call our sales department, local agent or representative (2) II comando remoto avviene tramite impulsi a 24 Vdc. La durata degli impulsi dovrà essere: ON = impulso > 1 s / OFF = impulso > 100 ms e < 800 ms (3) The three standard intervention curves are described in the grafics; the C EP-D3 Version is also provided with a curve programmable through a software



BLOCK DIAGRAM

30 40

20

4 5 6

Current (A) 63

8 10

2 3 60 80 100



1) sealable front cover 2) current selector 3) identification label4) characteristic curve selector 5) ste/reset button

th overload indication th status indication (ON/OFF) th one wire bus INPUT TECHNICAL DATA ted voltage ted current ax system current	CEP-D1	(1) 24 Vdc (range 1832 Vdc)	CEP-D3
th one wire bus INPUT TECHNICAL DATA ted voltage ted current			CEP-D3
INPUT TECHNICAL DATA ted voltage ted current			CEP-D3
ted voltage ted current		24 Vdc (range 18 32 Vdc)	
ted current		24 Vdc (range 18 32 Vdc)	
av system current		10 A dc max.	
,		40 A dc with CEP-RCC copper ra	
otection		Internal against reverse polarity	
mote control ON/OFF	24 Vdc ext	ernal pulse	24 Vdc external pulse and by software (2)
OUTPUT TECHNICAL DATA			
ted voltage		Vdc (voltage drop <170 mV @ Ur	
rrent min. / max.		0 A dc programmable in 10 step	
ogrammable characteristic curves	slow, med	dium, fast	slow, medium, fast and a special
itab ON appacity		10.000E	programmable custom curve (3)
vitch ON capacity atus indication	groop LED; fixed ok flashing	$10.000 \ \mu F$ g = lout at 90% of the nominal, re	d LED: fixed output manually
		low flashing = overcurrent, quick	
atus display	open collector transistor	open collector transistor	open collector transistor
	(overcurrent status)	(ON/OFF status)	(programmable status)
GENERAL TECHNICAL DATA			
erating temperature range	-25	+60°C, derating Imax. 8 A over	40°C
out/output isolation		3 KVac / 60 s SELV output	
otection degree		IP 20 IEC 529, EN60529	
ference Standards	EN60950-1, EN611	31-1, EN61131-2, EN60898, EN6	60947-4-1, EN50081
nnection terminal		0.252.5 mm ² fixed screw type	•
using material		PA 6.6 (UL94V-0, NFF I2, F2)	
prox. weight		120 g (4.24 oz)	
punting information	vertical on rail, adjace	ent without gap, we recommend th	he use of end brackets
MOUNTING ACCESSORIES			
ounting rail type according to IEC60715/TH35-7.5	PR/3//	AC, PR/3/AC/ZB, PR/3/AS, PR/3	B/AS/ZB
ounting rail type according to IEC60715/G32		—	
stribution kit (terminal + end bracket)	CEP-SS	(cod. XCEPSS)	
stribution rail (busbar)	CEP-RCC	(cod. XCEPRCC)	
sulation cover for distribution rail	CEP-RCP	(cod. XCEPRCP)	
ıg-in jumper red	CEP-BCR	(cod. XCEPBCR)	(8 poles)
blue blue	CEP-BCB CEP-MTW	(cod. XCEPBCB) (cod. XCEPMTW)	(8 poles)
arking tag	GEP-IVITW	(COU. AGEPIVITW)	(table with 50 tags)
		8 10 20 30 40 60 80 100	
	$V \to V \to V \to V$	III	$\wedge \wedge $
	10.000		10.000

(sm)

Time

30 40

20

Current (A)

60 80 10





CEP-MTW



Intervention curves: 1) fast 2) medium 3) slow





EMI filters quick selection table

200 A

300 A

400 A

500 A

600 A

These tables allow you to quickly select only the items, then check if all product's technical data meet your application requirements.

_

Common mode (L / PE) attenuation (dB) Differential mode (L / L) attenuation (dB) Cat. No. Current 0.15 0.15 0.5 0.5 10 MHz 30 MHz 10 MHz 30 MHz MHz MHz MHz MHz MHz MHz MHz MHz 7 A XFTDV07ST2 16 A XFTDV16ST2 30 A XFTDV30ST2 42 A XFTDV42ST2 XFTDV55ST2 55 A 75 A XFTDV75ST2 100 A XFTDV100ST2 150 A XF150TDS84C 180 A XF180TDS84C

3-phase filter without neutral wire 400-480 Vac

Page

XF200TDDS84C

XF300TDSS84C

XF400TDSS84C

XF500TDSS84C

XF600TDSS84C

3-phase filter with neutral wire 400-480 Vac

		Common	mode (L /	PE) attenu	ation (dB)			Differentia	l mode (L	/ L) atten	uation (dB))		
Current	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	Cat. No.	Page
10 A	10	20	20	20	30	25	10	20	25	25	30	30	XF10TYG9	70
16 A	25	50	50	50	45	30	35	55	60	60	40	30	XF16TYT2	69
20 A	10	15	20	35	40	25	10	15	20	20	25	20	XF20TYS9	70
25 A	25	50	50	50	45	30	35	55	60	60	40	30	XF25TYT2	69
36 A	25	50	50	50	40	25	30	50	55	50	40	30	XF36TYT2	69
50 A	25	45	45	40	40	25	30	50	50	40	40	30	XF50TYT2	69
100 A	10	20	25	30	30	20	30	40	40	35	35	25	XF100TYT2	69

Single-cell single-phase filter 120-250 Vac

		Common i	mode (L /	PE) attenu	ation (dB)			Differentia	l.					
Current	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	Cat. No.	Page
3 A	20	30	35	45	50	45	7	35	50	45	45	45	XF03DKBG5B	71
6 A	15	20	25	40	45	45	10	20	45	45	50	45	XF06DKBG5B	71
12 A	10	20	22	35	45	40	10	20	40	45	45	45	XF12DKBG5B	71
16 A	10	18	20	35	45	30	10	18	40	40	40	35	XF16DKCG5B	71
20 A	10	18	20	30	35	35	10	12	35	35	40	40	XF20DKCG5B	71
30 A	10	25	30	45	50	35	12	40	50	50	50	45	XF30DKCS5B	71

Double-cell single-phase filter 120-250 Vac

		Common I	mode (L /	PE) attenu	ation (dB)			Differentia	I mode (L	/ L) atten	uation (dB)			
Current	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	Cat. No.	Page
3 A	45	60	60	55	45	45	12	45	45	45	45	45	XF03DPCG5C	72
6 A	30	50	60	55	50	35	8	45	45	45	45	45	XF06DPCG5C	72
12 A	15	25	35	55	55	35	12	40	40	35	35	40	XF12DPCG5C	72
16 A	20	35	45	60	50	35	12	40	40	45	45	50	XF16DPCG5C	72
20 A	15	40	45	50	50	40	12	45	45	45	35	50	XF20DPCG5C	72
30 A	10	30	35	55	45	30	18	45	50	40	40	40	XF30DPGS5C	72

3-phase filter without neutral TDV series

- Models from 7 to 130 A
- High attenuation from 50 kHz to 30 MHz
- High attenuation also with long cables
- Minimum space on the panel



NOTES

Dimensions and diagrams are indicative, for more details see the products data sheet.

(1) According to EN60950 insulation tests on input side must be made only with DC instruments.



	VERSIONS			Dimensions		Weight
Rated current	Туре	Cat. No.	Α	В	C	(kg)
7 A	F 07 TDV ST2	XFTDV07ST2	42 (1,65 in)	192 (7,56 in)	72 (2,84 in)	
16 A	F 16 TDV ST2	XFTDV16ST2	47 (1,85 in)	252 (9,93 in)	72 (2,84 in)	
30 A	F 30 TDV ST2	XFTDV30ST2	52 (2,05 in)	272 (10,72 in)	87 (3,43 in)	
42 A	F 42 TDV ST2	XFTDV42ST2	52 (2,05 in)	312 (12,29 in)	87 (3,43 in)	
55 A	F 55 TDV ST2	XFTDV55ST2	87 (3,43 in)	252 (9,93 in)	92 (3,62 in)	
75 A	F 75 TDV ST2	XFTDV75ST2	92 (3,62 in)	272 (10,72 in)	137 (5,4 in)	
100 A	F 100 TDV ST2	XFTDV100ST2	90 (3,55 in)	270 (10,64 in)	150 (5,91 in)	
GENE	RAL TECHNICA	L DATA				
Rated voltage				480 Vac	c ± 10%	
Rated current				see versi	ons table	
Froquoney				50	60 Hz	

Ģ[]

Raleu current	see versions table
Frequency	5060 Hz
Leakage current at 480 Vac 60 Hz	30 mA
Operating temperature range	–25+85°C
Insulation L/L	1.45 KVdc / 60 s (1)
Insulation L/PE	2.25 KVdc / 60 s (1)
Overvoltage category/Pollution degree	-
Protection degree	IP 20 IEC 529, EN60529
Connection terminal	screw terminals
Housing material	metal
Approx. weight	see versions table
Mounting information	on the panel with screws

		Common ı	mode (L /	PE) atten	uation (dB))	Differential mode (L / L) attenuation (dB)					
Туре	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz
F 07 TDV ST2	20	60	60	60	50	35	25	60	65	60	55	40
F 16 TDV ST2	15	50	55	60	50	35	25	55	60	60	55	40
F 30 TDV ST2	15	50	55	60	50	35	25	55	60	60	55	40
F 42 TDV ST2	55	70	70	45	35	20	45	45	45	45	45	30
F 55 TDV ST2	15	55	55	55	50	35	25	55	60	60	50	40
F 75 TDV ST2	15	55	55	55	50	30	20	50	50	50	55	40
F 100 TDV ST2	35	50	45	25	15	7	30	35	35	35	30	7

3-phase filter without neutral TDS series

- Models from 150 to 180 A
- High attenuation from 150 kHz to 30 MHz
- High attenuation also with long cables



NOTES

Dimensions and diagrams are indicative, for more details see the products data sheet.

- Version available upon request; for information call our sales department, local agent or representative
- (2) According to EN60950 insulation tests on input side must be made only with DC instruments.



BLOCK DIAGRAM

	VERSIONS			Dimensions		Weight					
Rated current	Туре	Cat. No.	Α	В	C	(kg)					
150 A	F 150 TDS 84C	XF150TDS84C (1)	202 (7,96 in)	390 (15,37 in)	122 (4,81 in)						
180 A	F 180 TDS 84C	XF180TDS84C (1)	202 (7,96 in)	390 (15,37 in)	122 (4,81 in)						
GENE	RAL TECHNICA	L DATA									
Rated voltage				480 Vac	: ± 10%						
Rated current				see versi	ons table						
Frequency				50	60 Hz						
Leakage current at 4	480 Vac 60 Hz			500	mA						
Operating temperatu	ire range			-25	+85°C						
Insulation line/line				1 KVdc /	60 s (2)						
Insulation line/PE				KVdc / 60 s (150A) - 2.	25 KVdc / 60 s (180A) (2)					
Overvoltage category	y/Pollution degree			-	_						
Protection degree				IP 20 IEC 52	9, EN60529						
Connection terminal				with scr	ew bolts						
Housing material			metal								
Approx. weight			see versions table								
Mounting informatio	n			on the panel	with screws						

		Common mode (L / PE) attenuation (dB)							Differential mode (L / L) attenuation (dB)						
Туре	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz			
F 150 TDS 84C	20	30	40	45	40	30	30	40	40	45	40	25			
F 180 TDS 84C	20	30	40	45	40	30	30	40	40	45	40	25			

3-phase filter without neutral serie TDDS

- High attenuation from 150 kHz to 30 MHz
- High attenuation also with long cables



NOTES

Dimensions and diagrams are indicative, for more details see the products data sheet.

- Version available upon request; for information call our sales department, local agent or representative
- (2) According to EN60950 insulation tests on input side must be made only with DC instruments.





	VERSIONS			Dimensions		Weight				
Rated current	Туре	Cat. No.	А	В	C	(kg)				
200 A	F 200 TDDS 84C	XF200TDDS84C (1)	240 (9,46 in)	477 (18,79 in)	140 (5,52 in)					
GENE	RAL TECHNICA	L DATA								
Rated voltage			480 Vac ± 10%							
Rated current				20	0 A					
Frequency				50	60 Hz					
Leakage current at 4	480 Vac 60 Hz									
Operating temperatu	ure range		-25+85°C							
Insulation line/line				1 KVdc / 60 s	(2)					
Insulation line/PE				1.8 KVdc / 60 s	(2)					
Overvoltage categor	y/Pollution degree			-	_					
Protection degree				IP 20 IEC 52	29, EN60529					
Connection terminal				with scr	ew bolts					
Housing material				me	etal					
Approx. weight				see versi	ons table					
Mounting informatio	n			on the pane	with screws					

Common mode (L / PE) attenuation (dB)							Differential mode (L / L) attenuation (dB)					
Туре	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz
F 200 TDDS 84C	55	60	55	30	20	/	45	30	25	10	10	5

3-phase filter without neutral TDSS series

- Models from 300 to 600 A
- High attenuation from 150 kHz to 30 MHz
- High attenuation also with long cables



NOTES

Dimensions and diagrams are indicative, for more details see the products data sheet.

- Version available upon request; for information call our sales department, local agent or representative
- (2) According to EN60950 insulation tests on input side must be made only with DC instruments.





	VERSIONS				Weight							
Rated current	Туре	Cat. No.	Α	В	C	(kg)						
300 A	F 300 TDSS 84C	XF300TDSS84C (1)	242 (9,53 in)	525 (20,69 in)	142 (5,59 in)							
400 A	F 400 TDSS 84C	XF400TDSS84C (1)	242 (9,53 in)	525 (20,69 in)	142 (5,59 in)							
500 A	F 500 TDSS 84C	XF500TDSS84C (1)	272 (10,72 in)	680 (26,79 in)	182 (7,17 in)							
600 A	F 600 TDSS 84C	XF600TDSS84C (1)	272 (10,72 in)	680 (26,79 in)	182 (7,17 in)							
GENE	RAL TECHNICA	L DATA										
Rated voltage				480 Vac ± 10%								
Rated current				see versi	ons table							
Frequency				50	60 Hz							
Leakage current at 4	480 Vac 60 Hz		1000 mA									
Operating temperatu	ire range		-25+85°C									
Insulation line/line				0.6 KVdc / 60 s	(2)							
Insulation line/PE				1 KVdc / 60 s	(2)							
Overvoltage category	y/Pollution degree			-	-							
Protection degree				IP 20 IEC 52	9, EN60529							
Connection terminal				with fla	at plug							
Housing material				me	tal							
Approx. weight			see versions table									
Mounting information	n			on the panel	with screws							

	(Common n	node (L /	PE) attenu	uation (dB))	Differential mode (L / L) attenuation (dB)					
Туре	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz
F 300 TDSS 84C	30	40	40	25	20	15	40	40	50	35	30	20
F 400 TDSS 84C	25	35	30	20	20	10	40	35	35	20	15	10
F 500 TDSS 84C	25	30	30	20	15	10	30	30	30	20	15	10
F 600 TDSS 84C	25	25	25	15	15	10	25	25	25	15	10	10



3-phase filter with neutral serie TYT

Models from 16 to 100 A

the products data sheet.

made only with DC instruments.

- High attenuation from 150 kHz to 30 MHz
- High attenuation also with long cables



NOTES Dimensions and diagrams are indicative, for more details see

(1) According to EN60950 insulation tests on input side must be

BLOCK DIAGRAM



	VERSIONS				Weight						
Rated current	Туре	Cat. No.	Α	В	C	(kg)					
16 A	F 16 TYT2	XF16TYT2	107 (4,22 in)	191,5 (7,55 in)	82 (3,23 in)						
25 A	F 25 TYT2	XF25TYT2	107 (4,22 in)	191,5 (7,55 in)	82 (3,23 in)						
36 A	F 36 TYT2	XF36TYT2	107 (4,22 in)	191,5 (7,55 in)	82 (3,23 in)						
50 A	F 50 TYT2	XF50TYT2	124 (4,89 in)	194 (7,64 in)	104 (4,1 in)						
100 A	F 100 TYT2	XF100TYT2	162 (6,38 in)	252 (9,93 in)	132 (5,2 in)						
GENEF	RAL TECHNICA	L DATA									
Rated voltage			440 Vac ± 10%								
Rated current				see versi	ons table						
Frequency			5060Hz								
Leakage current at 4	80 Vac 60 Hz		3 mA								
Operating temperatu	re range			-25	+85°C						
Insulation line/line				1.45 KVdc / 60 s	(1)						
Insulation line/PE				2.25 KVdc / 60 s	(1)						
Overvoltage category	/Pollution degree			-	-						
Protection degree				IP 20 IEC 52	9, EN60529						
Connection terminal			screw terminals								
Housing material				me	etal						
Approx. weight				see versi	ons table						
Mounting information	1		on the panel with screws								

		Common mode (L / PE) attenuation (dB)							Differential mode (L / L) attenuation (dB)						
Туре	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz			
F 16 TYT2	25	50	50	50	45	30	35	55	60	60	40	30			
F 25 TYT2	25	50	50	50	45	30	35	55	60	60	40	30			
F 36 TYT2	25	50	50	50	40	25	30	50	55	50	40	30			
F 50 TYT2	25	45	45	40	40	25	30	50	50	40	40	30			
F 100 TYT2	10	20	25	30	30	20	30	40	40	35	35	25			



Compact 3-phase filter with neutral TY series

- Models from 10 to 20 A
- High attenuation from 150 kHz to 30 MHz
- High attenuation also with long cables
- Eccellent quality/price/performances ratio



7



	VERSIONS			Dimensions		Weight				
Rated current	Туре	Cat. No.	Α	В	C	(kg)				
10 A	F 10 TYG9	XF10TYG9	50 (1,97 in)	85 (3,35 in)	44 (1,73 in)					
20 A	F 20 TYS9	XF20TYS9	50 (1,97 in)	97 (3,82 in)	44 (1,73 in)					
GENER	AL TECHNICA	. DATA								
Rated voltage				440 Vac	: ± 10%					
Rated current				see versi	ons table					
Frequency				50	60Hz					
Leakage current at 48	30 Vac 60 Hz			0.5	mA					
Operating temperatur	e range		–25+85°C							
Insulation line/line				1.45 KVdc / 60 s	(1)					
Insulation line/PE				2.25 KVdc / 60 s	(1)					
Overvoltage category	Pollution degree			-	-					
Protection degree				IP 20 IEC 52	9, EN60529					
Connection terminal			with flat plug (10 A) and with screw terminals (20 A)							
Housing material			metal							
Approx. weight				see versi	ons table					
Mounting information				on the panel	with screws					

		Common mode (L / PE) attenuation (dB)							Differential mode (L / L) attenuation (dB)						
Туре	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz			
F 10T YG9	10	20	20	20	30	25	10	20	25	25	30	30			
F 20 TYS9	10	15	20	20	25	20	10	15	20	20	25	20			

Single-cell single-phase filter DK series

- Models from 3 to 30 A
- High attenuation from 150 kHz to 30 MHz
- High attenuation also with long cables
- Minimum space on the panel



cabur

- A 🚯

BLOCK DIAGRAM

NOTES

Dimensions and diagrams are indicative, for more details see the products data sheet.

- (1) 0.25 mA @ 115 Vac e 0.45 mA @ 250 Vac for models from 3...20 A - 1 mA @ 115 Vac e 2 mA @ 250 Vac for the model of 30 A.
- (2) According to EN60950 insulation tests on input side must be made only with DC instruments.
- (3) With flat plug for models from 3...20 A with screw bolt for the model from 30 A.



	VERSIONS				Weight					
Rated current	Туре	Cat. No.	А	В	C	(kg)				
3 A	F 03 DK BG5B	XF03DKBG5B	64,5 (2,54 in)	34 (1,34 in)	30 (1,18 in)					
6 A	F 06 DK BG5B	XF06DKBG5B	64,5 (2,54 in)	34 (1,34 in)	30 (1,18 in)					
12 A	F 12 DK BG5B	XF12DKBG5B	64,5 (2,54 in)	34 (1,34 in)	30 (1,18 in)					
16 A	F 16 DK CG5B	XF16DKCG5B	45,5 (1,79 in)	71,5 (2,82 in)	30 (1,18 in)					
20 A	F 20 DK CG5B	XF20DKCG5B	51,8 (2,04 in)	84,8 (3,34 in)	30 (1,18 in)					
30 A	F 30 DK CS5B	XF30DKCS5B	56,5 (2,23 in)	114 (4,49 in)	46,4 (1,83 in)					
GENE	RAL TECHNICA	L DATA								
Rated voltage				115-250	Vac ± 10%					
Rated current				see versi	ions table					
Frequency				50	60 Hz					
Leakage current at	480 Vac 60 Hz		0.251 mA / 0.452 mA (1)							
Operating temperatu	ure range			-25	+85°C					

oporating temperature range	2011/00/0
Insulation line/line	1.45 KVdc / 60 s (2)
Insulation line/PE	2.25 KVdc / 60 s (2)
Overvoltage category/Pollution degree	_
Protection degree	IP 20 IEC 529, EN60529
Connection terminal	with flat plug (from 3 to 20 A) / with screw bolt (30 A) (3)
Housing material	metal
Approx. weight	see versions table
Mounting information	on the panel with screws

		Common mode (L / PE) attenuation (dB)							Differential mode (L / L) attenuation (dB)						
Туре	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz			
F 03 DK BG5B	20	30	35	45	50	45	7	35	50	45	45	45			
F 06 DK BG5B	15	20	25	40	45	45	10	20	45	45	50	45			
F 12 DK BG5B	10	20	22	35	45	40	10	20	40	45	45	45			
F 16 DK CG5B	10	18	20	35	45	30	10	18	40	40	40	35			
F 20 DK CG5B	10	18	20	30	35	35	10	12	35	35	40	40			
F 30 DK CS5B	10	25	30	45	50	35	12	40	50	50	50	45			

Double-cell single-phase filter DP series

NOTES Dimensions and diagrams are indicative, for more details see

(1) 0.25 mA @ 115 Vac e 0.45 mA @ 250 Vac for models from

(2) According to EN60950 insulation tests on input side must be

(3) With flat plug for models from 3...20 A - with screw bolt for

3...20 A - 1 mA @ 115 Vac e 2 mA @ 250 Vac for the

Models from 3 to 30 A

the products data sheet.

model of 30 A.

the model from 30 A.

made only with DC instruments.

- High attenuation from 150 kHz to 30 MHz
- High attenuation also with long cables
- Minimum space on the panel



- A 🚯

BLOCK DIAGRAM



VERSIONS Dimensions Weight **Rated current** Туре Cat. No. A В C (kg) 3 A F 03 DP CG5C XF03DPCG5C 84,8 (3,34 in) 75 (2,96 in) 52 (2,05 in) 6 A F 06 DP CG5C XF06DPCG5C 152.9 (6.02 in) 143 (5,63 in) 51,3 (2,02 in) F 12 DP CG5C XF12DPCG5C 84,8 (3,34 in) 12 A 75 (2,96 in) 52 (2,05 in) XF16DPCG5C F 16 DP CG5C 16 A 20 A F 20 DP CG5C XF20DPCG5C 56,5 (2,23 in) 46.4 (1,83 in) 30 A F 30 DP GS5C XF30DPGS5C **GENERAL TECHNICAL DATA** Rated voltage 115-250 Vac ± 10% Rated current see versions table 50...60 Hz Frequency Leakage current at 480 Vac 60 Hz 0.25...1 mA / 0.45...2 mA (1) Operating temperature range -25...+85°C Insulation line/line 1.45 KVdc / 60 s (2) Insulation line/PE 2.25 KVdc / 60 s (2) Overvoltage category/Pollution degree Protection degree IP 20 IEC 529, EN60529 Connection terminal with flat plug (from 3 to 20 A) / with screw bolt (30 A) (3) Housing material metal Approx. weight see versions table Mounting information on the panel with screws

	Common mode (L / PE) attenuation (dB)						Differential mode (L / L) attenuation (dB)					
Туре	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz	0.15 MHz	0.5 MHz	1 MHz	5 MHz	10 MHz	30 MHz
F 03 DP CG5C	45	60	60	55	45	45	12	45	45	45	45	45
F 06 DP CG5C	30	50	60	55	50	35	8	45	45	45	45	45
F 12 DP CG5C	15	25	35	55	55	35	12	40	40	35	35	40
F 16 DP CG5C	20	35	45	60	50	35	12	40	40	45	45	50
F 20 DP CG5C	15	40	45	50	50	40	12	45	45	40	35	50
F 30 DP GS5C	10	30	35	55	45	30	18	45	50	40	40	40


Analog converters

Applications of analog converters and galvanic isolation

These convert electric signals generated by sensors for measuring physical quantities such as: temperature (RTD thermocouples and PT100 thermal resistors), frequency (proximity, contacts, photoelectric cells), current (HV, Hall sensors), resistance (potentiometers), voltage, pressure, level etc., into standardised electrical signals, adapting them to the I/O of industrial PLC's, DCS's, and PC's (control), or they convert a given analog signal into a different one, adapting it to the inputs/outputs of the control, or allow remote transmission of the signal without interference via galvanic isolation (Fig. 1).



Adaptation between sensor output signal and control input signal:

physical quantity measured	sensor output	converter inp	ut	converter ou	tput
Temperature		0 – 60 mV	±60 mV	0 – 5 V	±5 V
Frequency		0 – 100 mV	±100 mV	0 – 10 V	±10 V
Current		0 – 500 mV	±500 mV	0 – 20 mA	±20 mA
Resistance		0 – 1 V	±1 V	4 – 20 mA	
Voltage	Normally one of the signals	0 – 5 V	±5 V		
Pressure	indicated in the next column	0 – 10 V	±10 V		
Level measurement		0 – 5 mA	±5 mA		
		0 – 10 mA	±10 mA		
		0 – 20 mA	±20 mA		
		0 – 20 mA			

Remote transmission of the signal:

The voltage signals reach a max. distance of 10-20 m, beyond this they lose reliability and become very sensitive to earth and induced interference (to transmit at a distance > 20 m a voltage signal must be converted into a current signal and galvanically isolated) (Fig. 2).



 current signals exceed 300 m of transmission distance and are less sensitive to induced interference. In order to transmit a current signal at a distance galvanic isolation is required.

- fig. 2
- ① Input amplifier
- ② Opto-isolator
- ③ Signal adapter
- Output amplifier
- ⑤ DC/DC converter



Galvanic isolation of the signal:

• electrically isolates and separates the circuit of the sensor from the control and power supply circuits. Thus each circuit operates with reference to its own zero potential which, being isolated from other circuits, cannot be altered by differences in potential always present between different earth references (Figs. 3 and 4).





- isolates and separates the various zero potentials between power supply, control and sensors/actuators;
- allows transmission of the signal without errors or interference and with greater reliability;
- the higher the isolation (in KV), the greater the security of transmission where there are zero potentials, electromagnetic interference, transients (lightning, discharges etc.) (Fig. 5).



Galvanic isolation is necessary when:

- the distance between control and sensor/actuator is more than 20 m;
- the earth references are different;
- the zero potentials are high, or potentially high in the case of discharges or earth dispersed currents;
- electromagnetic interference is present;
- the signal cables are wired in conduits with power cables (Fig. 6).



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Analog converters selection table

These tables allow you to quickly select only the items, then check if all product's technical data meet your application requirements.

Analog converters and isolators

Output						
υιιριι	Isolation	Power supply	Notes	Туре	Cat. No.	Page
05 / 010 / ±5 / ±10 V 020 / 420 / ±20 mA	3 ways	24 Vdc	(1) (4)	CA-PI/P01	XSSAPIP01	78
010 V 020 / 420 mA	3 ways	24 Vac/dc	(1) (4)	CWUAA 6-0516	X756516	79
010 V 020 / 420 mA	3 ways	24240 Vac/dc	(1) (5)	CWUAA 6-0517	X756517	79
010 V 020 / 420 mA	3 ways	24 Vac/dc	(1) (4)	CWNAA 7-0539	X756539	80
010 V 020 / 420 mA	3 ways	24240 Vac/dc	(1) (5)	CWNAA 6-0510	X756510	80
010 V 020 / 420 mA	2 ways	24 Vac/dc	(1) (4)	CWNAA 6-0509	X756509	81
010 V	3 ways	24 Vac/dc	(2) (4)	CWAA 6-0530	X756530	82
020 mA	3 ways	24 Vac/dc	(2) (4)	CWAA 6-0531	X756531	82
420 mA	3 ways	24 Vac/dc	(2) (4)	CWAA 6-0532	X756532	82
010 V	3 ways	24 Vac/dc	(2) (4)	CWAA 6-0533	X756533	83
020 mA	3 ways	24 Vac/dc	(2) (4)	CWAA 6-0534	X756534	83
420 mA	3 ways	24 Vac/dc	(2) (4)	CWAA 6-0535	X756535	83
010 V	3 ways	24 Vac/dc	(2) (4)	CWAA 6-0536	X756536	84
020 mA	3 ways	24 Vac/dc	(2) (4)	CWAA 6-0537	X756537	84
420 mA	3 ways	24 Vac/dc	(2) (4)	CWAA 6-0538	X756538	84
010 V	2 ways	24 Vac/dc	(2) (4)	CWAA 6-0500	X756500	85
020 mA	2 ways	24 Vac/dc	(2) (4)	CWAA 6-0501	X756501	85
420 mA	2 ways	24 Vac/dc	(2) (4)	CWAA 6-0502	X756502	85
010 V	2 ways	24 Vac/dc	(2) (4)	CWAA 6-0503	X756503	86
020 mA	2 ways	24 Vac/dc	(2) (4)	CWAA 6-0504	X756504	86
420 mA	2 ways	24 Vac/dc	(2) (4)	CWAA 6-0505	X756505	86
010 V	2 ways	24 Vac/dc	(2) (4)	CWAA 6-0506	X756506	87
020 mA	2 ways	24 Vac/dc	(2) (4)	CWAA 6-0507	X756507	87
420 mA	2 ways	24 Vac/dc	(2) (4)	CWAA 6-0508	X756508	87
020 / 420 mA	2 ways	—	(4)	CWPAA 7-0526	X756526	88
020 / 420 mA	2 ways	_	(3) (4)	CWPAA 7-0527	X756527	88
050 / 0100 Hz	2 ways	24 Vac/dc	(1)	CWNAF 6-0511	X756511	89
01 / 010 kHz						
050 / 0100 Hz 01 / 010 kHz	3 ways	24240 Vac/dc	(1)	CWNAF 6-0512	X756512	89
	 020 / 420 / ±20 mA 010 V 020 / 420 mA 020 / 420 mA 010 V 020 mA 420 mA 010 V 020 mA 120 mA 010 V 020 mA 120 mA 010 V 020 mA 120 mA 010 V 020 mA 010 V 020 mA 010 V 020 mA 010 V 020 mA 020 / 420 mA 	020 / 420 / ±20 mA 3 ways 010 V 3 ways 020 / 420 mA 3 ways 020 / 420 mA 3 ways 010 V 3 ways 020 / 420 mA 3 ways 010 V 3 ways 020 / 420 mA 3 ways 010 V 2 ways 020 / 420 mA 3 ways 010 V 2 ways 020 / 420 mA 3 ways 010 V 3 ways 020 / 420 mA 3 ways 020 / 420 mA 3 ways 020 / 420 mA 3 ways 020 mA 3 ways 020 mA 3 ways 010 V 3 ways 020 mA 3 ways 020 mA 3 ways 010 V 2 ways 020 mA 2 ways 020 mA <td>020 / 420 / ±20 mA 3 ways 24 Vac/dc 010 V 3 ways 24 Vac/dc 010 V 3 ways 24240 Vac/dc 010 V 3 ways 24 Vac/dc 020 mA 3 ways 24 Vac/dc 010 V 3 ways 24 Vac/dc 020 mA 3 ways 24 Vac/dc 020 mA 3 ways 24 Vac/dc 020 mA 2 ways 24 Vac/dc 020 mA 2 ways 24 Vac/dc <td>020 / 420 / ±20 mA 3 ways 24 Vac/dc (1) (4) 010 V 3 ways 24240 Vac/dc (1) (5) 010 V 2 ways 24 Vac/dc (1) (4) 010 V 3 ways 24 Vac/dc (2) (4) 010 V 2 ways 24 Vac/dc (2) (4) 010 V 3 ways 24 Vac/dc (2) (4) 020 mA 3 ways <t< td=""><td>020 / 420 / 420 mA 3 ways 24 Vac/dc (1) (4) CWUAA 6-0516 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 010 V 3 ways 24240 Vac/dc (1) (4) CWUAA 6-0509 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0531 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0531 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0533 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0533 020 rA. 3 ways 24 Vac/dc (2) (4) CWUAA 6-0533 020 mA 3 ways 24 Vac/dc (2) (4) CWUAA 6-0534 420 mA 3 ways 24 Vac/dc (2) (4) CWUAA 6-0536 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0537 <tr< td=""><td>020 / 420 / ±.20 mA 3 ways 24 Vac/dc (1) (4) CWUAA 6-0516 X756516 020 / 420 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 X756517 020 / 420 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 X756539 010 V 20 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 X756539 010 V 20 mA 3 ways 24240 Vac/dc (1) (4) CWNAA 6-0510 X756509 010 V 20 mA 2 ways 24 Vac/dc (2) (4) CWAA 6-0531 X756539 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0533 X756531 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0534 X756533 020 mA 3 ways 24 Vac/dc (2) (4) CWAA 6-0535 X756533 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0536 X756535 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0538</td></tr<></td></t<></td></td>	020 / 420 / ±20 mA 3 ways 24 Vac/dc 010 V 3 ways 24 Vac/dc 010 V 3 ways 24240 Vac/dc 010 V 3 ways 24 Vac/dc 020 mA 3 ways 24 Vac/dc 010 V 3 ways 24 Vac/dc 020 mA 3 ways 24 Vac/dc 020 mA 3 ways 24 Vac/dc 020 mA 2 ways 24 Vac/dc 020 mA 2 ways 24 Vac/dc <td>020 / 420 / ±20 mA 3 ways 24 Vac/dc (1) (4) 010 V 3 ways 24240 Vac/dc (1) (5) 010 V 2 ways 24 Vac/dc (1) (4) 010 V 3 ways 24 Vac/dc (2) (4) 010 V 2 ways 24 Vac/dc (2) (4) 010 V 3 ways 24 Vac/dc (2) (4) 020 mA 3 ways <t< td=""><td>020 / 420 / 420 mA 3 ways 24 Vac/dc (1) (4) CWUAA 6-0516 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 010 V 3 ways 24240 Vac/dc (1) (4) CWUAA 6-0509 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0531 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0531 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0533 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0533 020 rA. 3 ways 24 Vac/dc (2) (4) CWUAA 6-0533 020 mA 3 ways 24 Vac/dc (2) (4) CWUAA 6-0534 420 mA 3 ways 24 Vac/dc (2) (4) CWUAA 6-0536 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0537 <tr< td=""><td>020 / 420 / ±.20 mA 3 ways 24 Vac/dc (1) (4) CWUAA 6-0516 X756516 020 / 420 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 X756517 020 / 420 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 X756539 010 V 20 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 X756539 010 V 20 mA 3 ways 24240 Vac/dc (1) (4) CWNAA 6-0510 X756509 010 V 20 mA 2 ways 24 Vac/dc (2) (4) CWAA 6-0531 X756539 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0533 X756531 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0534 X756533 020 mA 3 ways 24 Vac/dc (2) (4) CWAA 6-0535 X756533 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0536 X756535 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0538</td></tr<></td></t<></td>	020 / 420 / ±20 mA 3 ways 24 Vac/dc (1) (4) 010 V 3 ways 24240 Vac/dc (1) (5) 010 V 2 ways 24 Vac/dc (1) (4) 010 V 3 ways 24 Vac/dc (2) (4) 010 V 2 ways 24 Vac/dc (2) (4) 010 V 3 ways 24 Vac/dc (2) (4) 020 mA 3 ways <t< td=""><td>020 / 420 / 420 mA 3 ways 24 Vac/dc (1) (4) CWUAA 6-0516 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 010 V 3 ways 24240 Vac/dc (1) (4) CWUAA 6-0509 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0531 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0531 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0533 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0533 020 rA. 3 ways 24 Vac/dc (2) (4) CWUAA 6-0533 020 mA 3 ways 24 Vac/dc (2) (4) CWUAA 6-0534 420 mA 3 ways 24 Vac/dc (2) (4) CWUAA 6-0536 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0537 <tr< td=""><td>020 / 420 / ±.20 mA 3 ways 24 Vac/dc (1) (4) CWUAA 6-0516 X756516 020 / 420 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 X756517 020 / 420 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 X756539 010 V 20 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 X756539 010 V 20 mA 3 ways 24240 Vac/dc (1) (4) CWNAA 6-0510 X756509 010 V 20 mA 2 ways 24 Vac/dc (2) (4) CWAA 6-0531 X756539 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0533 X756531 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0534 X756533 020 mA 3 ways 24 Vac/dc (2) (4) CWAA 6-0535 X756533 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0536 X756535 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0538</td></tr<></td></t<>	020 / 420 / 420 mA 3 ways 24 Vac/dc (1) (4) CWUAA 6-0516 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 010 V 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 010 V 3 ways 24240 Vac/dc (1) (4) CWUAA 6-0509 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0531 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0531 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0533 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0533 020 rA. 3 ways 24 Vac/dc (2) (4) CWUAA 6-0533 020 mA 3 ways 24 Vac/dc (2) (4) CWUAA 6-0534 420 mA 3 ways 24 Vac/dc (2) (4) CWUAA 6-0536 010 V 3 ways 24 Vac/dc (2) (4) CWUAA 6-0537 <tr< td=""><td>020 / 420 / ±.20 mA 3 ways 24 Vac/dc (1) (4) CWUAA 6-0516 X756516 020 / 420 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 X756517 020 / 420 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 X756539 010 V 20 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 X756539 010 V 20 mA 3 ways 24240 Vac/dc (1) (4) CWNAA 6-0510 X756509 010 V 20 mA 2 ways 24 Vac/dc (2) (4) CWAA 6-0531 X756539 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0533 X756531 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0534 X756533 020 mA 3 ways 24 Vac/dc (2) (4) CWAA 6-0535 X756533 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0536 X756535 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0538</td></tr<>	020 / 420 / ±.20 mA 3 ways 24 Vac/dc (1) (4) CWUAA 6-0516 X756516 020 / 420 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 X756517 020 / 420 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0517 X756539 010 V 20 mA 3 ways 24240 Vac/dc (1) (5) CWUAA 6-0510 X756539 010 V 20 mA 3 ways 24240 Vac/dc (1) (4) CWNAA 6-0510 X756509 010 V 20 mA 2 ways 24 Vac/dc (2) (4) CWAA 6-0531 X756539 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0533 X756531 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0534 X756533 020 mA 3 ways 24 Vac/dc (2) (4) CWAA 6-0535 X756533 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0536 X756535 010 V 3 ways 24 Vac/dc (2) (4) CWAA 6-0538

Notes

(1) programmable input and output signal via DIP switches

(2) single range input and output signal (not programmable), articles generally not in stock but

available upon request, for info please contact our sales department

(3) two channels version

(4) 1.5 KVac / 60 s two way isolation (input / output) or 1.5 KVac / 60 s three way isolation (input / output / supply)

(5) 4 KVac / 60 s three way isolation (input / output / supply)

(6) 0.5 KVac / 60 s two way isolation (input / output)

Analog / digital and digital / analog converters

Notes	Туре	Cat. No.	Page
	ADC08V10	XW000933	98
	ADC08A0	XW000934	98
	ADC08A4	XW000935	98
	DAC08V10	XW000936	99
	DAC08A0	XW000937	99
	DAC08A4	XW000938	99
	Notes	ADC08V10 ADC08A0 ADC08A4 DAC08V10 DAC08A0	ADC08V10 XW000933 ADC08V10 XW000934 ADC08A0 XW000935 ADC08V10 XW000935 DAC08V10 XW000936 DAC08A0 XW000937



Analog converters selection table

These tables allow you to quickly select only the items, then check if all product's technical data meet your application requirements.

Input	Output	Isolation	Power supply	Notes	Туре	Cat. No.	Page
050 A ac 050 A ac	adjustable threshold 130 A adjustable threshold 240 A	2 ways 2 ways	24 Vdc 24 Vdc	(3) (4)	CCIS-1 CCIS-R	XCCIS1 XCCISR	94 94
01 A ac/dc	010 V 020 / 420 mA	2 ways	24 Vdc	(2)	SW01VA	XW000928	95
05 A ac/dc	010 V 020 / 420 mA	2 ways	24 Vdc	(2)	SW05VA	XW000929	95
010 A ac/dc	010 V 020 / 420 mA	2 ways	24 Vdc	(2)	SW10VA	XW000930	95
020 A ac/dc	010 V 020 / 420 mA	2 ways	24 Vdc	(2)	SW20VA	XW000931	96
050 A ac/dc	010 V 020 / 420 mA	2 ways	24 Vdc	(2)	SW50VA	XW000932	96

Current converter

Notes

(1) single I/O version

(2) three programmable output signals

(3) open collector threshold output(4) threshold output with one changeover relay

Programmable frequency to analog signal converters

Input	Output	Isolation	Power supply	Notes	Туре	Cat. No.	Page
028.8 kHz	010 V 020 / 420 mA	2 ways	24 Vac/dc	(1)	CWNFA 6-0524	X756524	96

Notes

(1) 21 input signals and 3 programmable output signals

(2) 3 input signals and 3 programmable output signal

Analog to threshold signal converters

Input	Output	Isolation	Power supply	Notes	Туре	Cat. No.	Page
010 V	relé 1 exchange	2 ways	24 Vdc	(1)	GWMV10	XW000926	100
020 mA	relé 1 exchange	2 ways	24 Vdc	(2)	GWMA0	XW000927	100

Notes

(1) programmable threshold output 0.3...10 V and 0.1...10 V hysteresis

(2) programmable threshold output 0.6...20 mA and 0.2...20 mA hysteresis

Load cells converters

Input	Output	Isolation	Power supply	Notes	Туре	Cat. No.	Page
Measuring bridge	010 V 020 / 420 mA		24 Vac/dc		CWBRA 6-0522	X756522	101



Analog converters selection table

These tables allow you to quickly select only the items, then check if all product's technical data meet your application requirements.

Converters for temperature sensors

Sensor Type	Input	Output	Isolation	Power supply	Notes	Туре	Cat. No.	Page		
PT100, PT500, PT1000 Ni100, Ni1000 PTC, KTY Potentiometers 05 kOhm Thermocouples B, C, D, E, J, K, L, N, R, S, T, U	Programmable -200+2400°C (-328+4.352°F) according to sensor type	010 / 210 V 020 / 420 mA	3 ways	24 Vac/dc	(1)	CWTPR 7-0890	X756890	90		
PT100 3 wires (RTD)	-50+50°C (-58+122°F) -50+100°C (-58+212°F) -50+150°C (-58+302°F) 0+100°C (+32+212°F) 0+150°C (+32+302°F) 0+200°C (+32+392°F) 0+300°C (+32+572°F) 0+400°C (+32+752°F)	010 V 020 / 420 mA	3 ways	24 Vac/dc	(2)	CWPT 6-0816	X756816	91		
PT100 3 wires (RTD)	-50+50°C (-58+122°F) -50+100°C (-58+212°F) -50+150°C (-58+302°F) 0+150°C (+32+212°F) 0+150°C (+32+302°F) 0+200°C (+32+392°F) 0+300°C (+32+572°F) 0+400°C (+32+752°F)	010 V 020 / 420 mA	3 ways	24240 Vac/dc	(2)	CWPT 6-0817	X756817	91		
Thermocouples J (FeCuNi) and K (NiCrNi)	-50+200°C (-58+392°F) -50+350°C (-58+662°F) 0+200°C (+32+392°F) 0+400°C (+32+752°F) 0+600°C (+32+1112°F) 0+800°C (+32+1472°F) 0+1000°C (+32+1832°F) 0+1200°C (+32+2192°F)	010 V 020 / 420 mA	3 ways	24 Vac/dc	(2)	CWTH 6-0844	X756844	92		
Thermocouples J (FeCuNi) and K (NiCrNi)	-50+200°C (-58+392°F) -50+350°C (-58+662°F) 0+200°C (+32+392°F) 0+400°C (+32+752°F) 0+600°C (+32+1112°F) 0+800°C (+32+1472°F) 0+1000°C (+32+1832°F) 0+1200°C (+32+2192°F)	010 V 020 / 420 mA	3 ways	24240 Vac/dc	(2)	CWTH 6-0847	X756847	92		
PT100 2 wires (RTD)	-50+150°C (-58+302°F) 0+200°C (+32+392°F) 0+400°C (+32+752°F)	050 / 0100 Hz 01 / 010 kHz	3 ways	24 Vac/dc	(2)	CWPTF 7-0811	X756811	93		
Thermocouples J (FeCuNi)	0+200°C (+32+392°F) 0+400°C (+32+752°F) 0+600°C (+32+1112°F)	050 / 0100 Hz 01 / 010 kHz	3 ways	24 Vac/dc	(2)	CWTHF 7-0831	X756831	93		
Thermocouples K (NiCrNi)	0+200°C (+32+392°F) 0+400°C (+32+752°F) 0+600°C (+32+1112°F)	050 / 0100 Hz 01 / 010 kHz	3 ways	24 Vac/dc	(2)	CWTHF 7-0871	X756871	93		

Notes

(1) programmable input and output signals via software

(2) programmable input and output signals via dip-switch

Auxiliary power supply for sensors and potentiometers

Input	Output	Isolation	Power supply	Notes	Туре	Cat. No.	Page
24 Vdc	10 Vdc	2 Vie			CWCV 7-6184	X766184	102

NPN and PNP signal polarity inverter

Input	Output	Isolation	Power supply	Notes	Туре	Cat. No.	Page
NPN (1730 Vdc)	PNP				CI-NPN/PNP	XNPNPNP	103
PNP (1730 Vdc)	NPN				CI-NPN/PNP	XNPNPNP	103

Programmable analog signal converter

- 19 input scales
- 7 output scales
- 1 SPST (NO) alarm contact
- IN/OUT isolation >3 KVac
- · Auxiliary supply output for loop-powered sensors

NOTES The dimensions include the terminal blocks and

(1) The modules in stock are programmed and

calibrated with 0 - 10 V and 0 - 15 V output.

Modules programmed and calibrated for all

other possible configurations can be supplied on

VERSIONS

Input for potentiometer

the DIN clamp.

request.



TAB.1 - INPUT SELECTION TABLE

INPUT	RANGE				SW1 (INPUT)			
UNIPOLAR	BIPOLAR	1	2	3	4	5	6	7	8
0 – 60 mV	± 60 mV								
0 – 100 mV	± 100 mV		•						
0 – 500 mV	± 500 mV			•					
0 – 1 V	± 1 V				•				
0-2V	± 2 V						•		
0-5V	±5V			•	•	•	•		
0 – 10 V	± 10V							•	
0 – 5 mA	±5mA	•		•					
0 – 10 mA	± 10 mA	•			•				
0 – 20 mA	± 20 mA	•					•		
4 – 20 mA	_	•				•			•

BLOCK DIAGRAM

CE



	NANGE	TIFE	1	2	3	4	5	6	7	8		
	0-5V	UNIP.	Х		٠				•		U	
	0 - 5 V	BIP.	Х	•	٠				•	•	U	
1	± 5V	UNIP.	Х			•			•		U	
	± SV	BIP.	Х		٠				٠		U	
	0 – 10 V	UNIP.	Х		٠						U	
	0 - 10 V	BIP.	Х	•	•					•	U	
	± 10 V	UNIP.	Х			•					U	
	±IUV	BIP.	Х		٠						U	
	0 – 20 mA	UNIP.	Х		٠				Х			
	0 - 20 MA	BIP.	Х	•	٠				Х	•	-	
	± 20 mA	UNIP.	Х			•			Х		Ι	
	± 20 MA	BIP.	Х		٠				Х		1	
1	4 – 20 mA	UNIP.	Х				٠	•	Х		-	
	4 - ∠0 MA	BIP.	Х	٠			٠	٠	Х	٠	1	

SW2 (OUTPUT)

SW3

• = 0N = 0FF X = ANY

INPUT TECHNICAL DATA

Input signal (1) Impedance voltage / current mode Max. input voltage Max. input current

OUTPUT TECHNICAL DATA

Output signal (1) Applicable load (voltage / current model) Max. output voltage Max. output current

GENERAL TECHNICAL DATA

Supply voltage
Rated current
Auxiliary DC feed output max. current
Gain error
Offset error
Linearity error
Zero adjustment / Span adjustment
Transmission frequency
Rise time
Bandwidth
Phase delay
I/O / supply isolation
Continuous voltage isolation
Reference Standard
Overvoltage category/Pollution degree
Operating temperature range
ΔT
Protection degree
ECM standards
Connection terminal
Housing material
Approx. weight
Mounting information

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32 Plug-in jumper red white blue

19 programmable ranges (see Table 1)	
1 MΩ / 50 Ω	
15 V	
30 mA	

CA-PI/P01

7 programmable ranges (see Table 2)	
\geq 10 K Ω / \leq 500 Ω	
12 V	
25 mA	

1536 Vdc
100 mA max. @ 24 Vdc
5 mA @ 5 Vdc / 30mA @ 15 Vdc
< 0.1% FS
< 0.05 % FS
< 0.1% FS
± 10% FS
400Hz1kHz according to full-scale
150 mV / µs
1 kHz @ -6 dB
< 10 µs
> 3 KVac / 60 s
800 Vac max.
IEC 664-1, DIN VDE0110.1
III / 2
-10 +65°C
5°C
IP 20 IEC 529, EN60529
EN 50081-2, EN 50082-2
2.5 mm ² pluggable screw type (14 AWG)
polyamide UL94V-0
150 g (5.29 oz)
vertical on rail, allow 5 mm spacing between adjacent component

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
-	
—	
—	
—	

INPUT STAGE

TAB.2 - OUTPUT SELECTION TABLE

OUTPUT INPUT BANGE TYPE

The module can manage single-pole and two-pole inputs, choosing from among the ranges (see Table 1):

• 060 mV	± 60 mV
• 0100 mV	± 100 m\
• 0500 mV	± 500 m\
• 01 V	±1V
• 05 V	± 5 V
• 010 V	± 10 V
• 05 mA	± 5 mA
• 010 mA	± 10 mA
• 020 mA	± 20 mA
• 420 mA	
The input store	provides two out

The input stage provides two auxiliary supply outputs, for feeding loop powered sensor and potentiometer directly from the module (5 V and 15 V).

Example of connection:



OUTPUT STAGE

The module supplies in output single-pole and two-pole signals with the following ranges (see Table 2):

05 V	±5V
010 V	± 10 V
020 mA	± 20 mA

• 0...20 mA • 4...20 mA

• •

Programmable analog signal converters

- 3 ways galvanic isolation
- 14 programmable input range
- 3 programmable output range
- Simple programming
- Available version with 24-240 Vac/dc supply voltage



NOTES		BLOCK DIAGRAM	
The dimensions include the DIN clamp. (1) Adjustable via rotary-switch (2) Adjustable via dip-switch (3) range 16.830 Vdc / 19.228.8 Vac (4) range 16.8264 Vdc / 19.2264 Vac (5) 3-way isolation: IN/OUT/power supply	IN+ 0 IN- 02 To 8 Power supply 24 Vac/dc	IN+ 0 U,I IN- 2 T, 8 Power supply 24240 Vac/dc	
VERSIONS	Cat. No. X756516	Cat. No. X756517	APP
24 Vac/dc supply voltage	CWUAA 6-0516		Multifunction
24-240 Vac/dc supply voltage		CWUAA 6-0517	used to conve

24 vau/uu suppiy vuitaye	GWUAA 0-0310		Multifunction conver
24-240 Vac/dc supply voltage		CWUAA 6-0517	used to convert and is
			common standard a
INPUT TECHNICAL DATA			the input of the modu
Input signal (1)	060 / 0100 / 0300 / 0500 mV 01 / 010 / 020 / 220 V 05 / 010 / 020 / 420 / ±5 / ±20 mA	060 / 0100 / 0300 / 0500 mV 01 / 010 / 020 / 220 V 05 / 010 / 020 / 420 / ±5 / ±20 mA	up into 14 signal ra output can be set for important analog rang
Input resistance	330 K Ω with input voltage 100 Ω with input current	330 K Ω with input voltage 100 Ω with input current	is possible by simply position of a dip swit of the module.
OUTPUT TECHNICAL DATA			The many different
Output signal (2)	010 V 020 / 420 mA	010 V 020 / 420 mA	combinations offered ctions modules allow inventory for both new
Applicable load	$>1~{\rm K}\Omega$ with output voltage $<400~\Omega$ with output current	>1 K Ω with output voltage $<400 \Omega$ with output current	ment products and p signal conversion solu
GENERAL TECHNICAL DATA			The "3 ways" galv assures total isolat
Supply voltage	24 Vac/dc (3)	24-240 Vac/dc (4)	input, output and
Rated current	≤ 35 mA ± 10% @ 24 Vdc	≤ 35 mA ± 10% @ 24 Vdc	this feature, and the
Accuracy	0.1% @ 23°C FS	0.1% @ 23°C FS	ting signal circuitry"
Trasmission frequency	< 30 Hz	< 30 Hz	lent accuracy withou
Temperature coefficient	0.02% / K FS	0.02% / K FS	adjustment.
Isolation	1.5 KVac / 60 s (5)	4 KVac / 60 s (5)	If a single signal mus
ECM standards	EN 50081-2, EN 50082-2	EN 50081-2, EN 50082-2	ral output channels i
Reference Standard	IEC 664-1, DIN VDE	IEC 664-1, DIN VDE	use many modules c
Overvoltage category/Pollution degree	III / 2	III / 2	inputs in parallel as
Protection degree	IP 20 IEC 529, EN60529	IP 20 IEC 529, EN60529	signal is voltage, or
Operating temperature range	-25+60°C	-25+60°C	signal is current.
Connection terminal	2.5 mm ² fixed screw type	2.5 mm ² fixed screw type	
Housing material	Noryl UL94V-0	Noryl UL94V-0	
Approx. weight	65 g (2.29 oz)	75 g (2.65 oz)	
Mounting information	vertical on rail adjacent without gap	vertical on rail adjacent without gap	
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB	, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32	-	_	

Mounting rail type according to IEC60715/TH35-7	<i>'</i> .5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail type according to IEC60715/G32		—
Plug-in jumper	red	_
(16 poles, 16 A)	white	_
	blue	—

PLICATIONS

on converters can be solate the most analog signals; ules can be set anges and the r up to 3 most ges. The set up y switching the tch on the side

input / output by multifunws to reduce w and replaceprovides many utions.

anic isolation tion between supply input; "self calibragives excelut any manual

provide seveis possible to onnecting their s long as the in series when

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Programmable analog signal converters

- 1.5 KV, 3 ways, IN/OUT/supply voltage isolation
- 3 programmable input range
- 3 programmable output range
- Simple programming and self calibrating

The dimensions include the DIN clamp.

(1) range 16.8...30 Vdc / 19.2...28.8 Vac

(2) range 16.8...264 Vdc / 19.2...264 Vac

(3) 3-way isolation: IN/OUT/power supply

• Available version with 24-240 Vac/dc supply voltage

NOTES





IN+

IN-

BLOCK DIAGRAM



VERSIONS		Cat. No. X756539	Cat. No. X756510	APPLI
24 Vac/dc supply voltage		CWNAA-7-0539		Multi-function
24-240 Vac/dc supply voltage			CWNAA-6-0510	used to convert
				common standa
INPUT TECHNICAL DATA				the input and th
Input signal		010 V	010 V	up into 3 diffe
		020 / 420 mA	020 / 420 mA	The set up is
Input resistance		330 K Ω with input voltage	330 K Ω with input voltage	switching the
		100 Ω with input current	100 Ω with input current	switch on the si
	_			The input / or offered by thes
OUTPUT TECHNICAL DATA				the most com
Output signal		010 V	010 V	configurations r
		020 / 420 mA	020 / 420 mA	when compared
Applicable load		>1 K Ω with output voltage	>1 K Ω with output voltage	output module
		$<$ 400 Ω with output current	$<400 \Omega$ with output current	inventory.
GENERAL TECHNICAL DATA				If a single sig several output ch
Supply voltage		24 Vac/dc (1)	24-240 Vac/dc (2)	to use many m
Rated current		≤ 35 mA ± 10% @ 24 Vdc	≤ 35 mA ± 10% @ 24 Vdc	their inputs in pa
Accuracy		0.1% @ 23°C FS	0.1% @ 23°C FS	signal is voltage
Trasmission frequency		< 30 Hz	< 30 Hz	signal is current
Temperature coefficient		0.02% / K FS	0.02% / K FS	
Isolation		1.5 KVac / 60 s (3)	4 KVac / 60 s (3)	
ECM standards		EN 61000-6-2, EN 61000-6-4	EN 50081-2, EN 50082-2	
Reference Standard		IEC 664-1, DIN VDE	IEC 664-1, DIN VDE	
Overvoltage category/Pollution degree		III / 2	III / 2	
Protection degree		IP 20 IEC 529, EN60529	IP 20 IEC 529, EN60529	
Operating temperature range		-25+60°C	-25+60°C	
Connection terminal		2.5 mm ² fixed screw type	2.5 mm ² fixed screw type	
Housing material		Noryl UL94V-0	Noryl UL94V-0	
Approx. weight		40 g (1.41 oz)	75 g (2.65 oz)	
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap	
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB	, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32			_	
Plug-in jumper	red	CWBK 7-0802 Cat. No. X766802	_	
(16 poles, 16 A)	white	CWBK 7-0803 Cat. No. X766803	_	
		OWDIA 7 0004 Cat Na VZCC004		

CWBK 7-0804 Cat. No. X766804

blue

APPLICATIONS

Multi-function converters can be used to convert and isolate the most common standard analog signals; the input and the output can be set up into 3 different signal ranges. The set up is possible by simply switching the position of a dip switch on the side of the module. The input / output combinations offered by these modules provide the most common input/output configurations more economically when compared to 14 input / 3 output modules and reduces inventory.

If a single signal must provide several output channels it is possible to use many modules connecting their inputs in parallel as long as the signal is voltage, or in series when signal is current.

Programmable analog signal converters

- 2 ways galvanic isolation
- 3 programmable input range
- 3 programmable output range

The dimensions include the DIN clamp.

(3) 2-way isolation: IN/OUT

rotary-switch in model CWNAA 6-0510 (2) range 16.8...30 Vdc / 19.2...28.8 Vac

- Simple programming
- Available version with 24-240 Vac/dc supply voltage

NOTES

(1) Adjustable via dip-switch in model CWNAA 6-0509 and via



BLOCK DIAGRAM



VERSIONS		Cat. No. X756509	APPLICATIONS
24 Vac/dc supply voltage		CWNAA 6-0509	Multi-function converters can be
24-240 Vac/dc supply voltage			used to convert and isolate the most
			common standard analog signals;
INPUT TECHNICAL DATA			the input and the output can be set
Input signal (1)		010 V	up into 3 different signal ranges.
		020 / 420 mA	The set up is possible by simply
Input resistance		330 K Ω with input voltage	switching the position of a dip switch on the side of the module.
		100 Ω with input current	The input / output combinations
	_		offered by these modules provide
OUTPUT TECHNICAL DATA			the most common input/output
Output signal (2)		010 V	configurations more economically
Applicable lead		020 / 420 mA >1 KΩ with output voltage	when compared to 14 input / 3
Applicable load		$<400 \Omega$ with output voltage	output modules and reduces
			inventory.
GENERAL TECHNICAL DATA			The "2 way" galvanic isolation
Supply voltage		24 Vac/dc (2)	assures isolation only between input
Rated current		$\leq 35 \text{ mA} \pm 10\% @ 24 \text{ Vdc}$	and output signal, the supply input has the negative pole in common
Accuracy		0.1% @ 23°C FS	with the output signal; this feature,
Trasmission frequency		< 30 Hz	and the "self calibrating signal
Temperature coefficient		0.02% / K FS	circuitry", gives excellent accuracy
Isolation		1.5 KVac / 60 s (3)	without any manual adjustment.
ECM standards		EN 50081-2, EN 50082-2	These modules are the right solution
Reference Standard		IEC 664-1, DIN VDE	in applications where analog
Overvoltage category/Pollution degree		III / 2	converter are mounted in the same
Protection degree		IP 20 IEC 529, EN60529	cabinet with PLC, DCS and CN, and
Operating temperature range		-25+60°C	when they are powered by the same supply; in this case they allow a cost
Connection terminal		2.5 mm ² fixed screw type	reduction compared with 3 way fully
Housing material		Noryl UL94V-0	isolated modules.
Approx. weight		35 g (1.24 oz)	If a single signal must provide
Mounting information		vertical on rail adjacent without gap	several output channels it is possible
MOUNTING ACCESSORIES			to use many modules connecting
			their inputs in parallel as long as the
Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32		PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	signal is voltage, or in series when
Plug-in jumper	red	_	the signal is current.
(16 poles, 16 A)	white		
	blue	_	
	DIUG		

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- 1.5 KV, 3 ways, IN/OUT/supply voltage isolation
- Fixed value

Plug-in jumper

(16 poles, 16 A)

• Compact dimension, 6.2 mm pitch





BLOCK DIAGRAM

NOTES The dimensions include the DIN clamp. (1) range 16.8...30 Vdc / 19.2...28.8 Vac (2) 3-way isolation: IN/OUT/power supply



VERSIONS	Cat. No. X756530	Cat. No. X756531	Cat. No. X756532
IN: 010 V / OUT: 010 V	CWAA 7-0530		
IN: 010 V / OUT: 020 mA		CWAA 7-0531	
IN: 010 V / OUT: 420 mA			CWAA 7-0532
INPUT TECHNICAL DATA			
Input signal	010 V	010 V	010 V
Input resistance	330 KΩ	330 KΩ	330 KΩ
OUTPUT TECHNICAL DATA			
Output signal	010 V	020 mA	420 mA
Applicable load	>1 KΩ	<400 Ω	<400 Ω
GENERAL TECHNICAL DATA			
Supply voltage	24 Vac/dc (1)	24 Vac/dc (1)	24 Vac/dc (1)
Rated current	\leq 13 mA \pm 10%	\leq 13 mA \pm 10%	≤ 13 mA ± 10%
Accuracy	0.1% @ 23°C FS	0.1% @ 23°C FS	0.1% @ 23°C FS
Trasmission frequency	< 30 Hz	< 30 Hz	< 30 Hz
Temperature coefficient	0.02% / K FS	0.02% / K FS	0.02% / K FS
Isolation	1.5 KVac / 60 s (2)	1.5 KVac / 60 s (2)	1.5 KVac / 60 s (2)
ECM standards	EN 61000-6-2, EN 61000-6-4	EN 61000-6-2, EN 61000-6-4	EN 61000-6-2, EN 61000-6-4
Reference Standard	IEC 664-1, DIN VDE	IEC 664-1, DIN VDE	IEC 664-1, DIN VDE
Overvoltage category/Pollution degree	III / 2	III / 2	Ⅲ/2
Protection degree	IP 20 IEC 529, EN60529	IP 20 IEC 529, EN60529	IP 20 IEC 529, EN60529
Operating temperature range	-25+60°C	-25+60°C	-25+60°C
Connection terminal	2.5 mm ² fixed screw type	2.5 mm ² fixed screw type	2.5 mm ² fixed screw type
Housing material	PPE	PPE	PPE
Approx. weight	40 g (1.41 oz)	40 g (1.41 oz)	40 g (1.41 oz)
Mounting information	vertical on rail adjacent without gap	vertical on rail adjacent without gap	
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5	PR/3/A	.C, PR/3/AC/ZB, PR/3/AS, PR/3	S/AS/ZB
Mounting rail type according to IEC60715/G32			
· · · · · · · · · · · · · · · · · · ·			

red

white blue

APPLICATIONS

converters can be used to ert and isolate the most comstandard analog signals; each is designed for a single input t signal function, and they are right solution in applications e many modules handling the signal are used, where they a large cost reduction comwith multi function modules. modules are provided with ys galvanic isolation between output and supply voltage. If gle signal must provide several it channels it is possible to nany modules connecting their in parallel as long as the is voltage, or in series when ignal is current.

CWBK 7-0802 Cat. No. X766802

CWBK 7-0803 Cat. No. X766803 CWBK 7-0804 Cat. No. X766804

- 1.5 KV, 3 ways, IN/OUT/supply voltage isolation
- Fixed value
- Compact dimension, 6.2 mm pitch



6.2 (0.24 in)

92.5 (3.64 in)

BLOCK DIAGRAM

The dimensions include the DIN clamp. (1) range 16.8...30 Vdc / 19.2...28.8 Vac (2) 3-way isolation: IN/OUT/power supply

NOTES



IN: 020 mA / 0UT: 020 mACWAA 7-0534convert and isol mon standard an model is designed model is desi	rs can be used to late the most com- nalog signals; each ed for a single input nction, and they are ion in applications odules handling the e used, where they ost reduction com- i function modules. are provided with
IN: 020 mA / 0UT: 020 mA CWAA 7-0534 convert and isol IN: 020 mA / 0UT: 420 mA Image: CWAA 7-0535 most and ard a model is designed most and are arrow and arrow arrow are arrow and arrow arrow are arrow arrow are arrow ar	late the most com- nalog signals; each ed for a single input oction, and they are ion in applications odules handling the e used, where they ost reduction com- i function modules.
IN: 020 mA / 0UT: 420 mA CWAA 7-0535 mon standard at model is designed output signal fur the right solution to same signal fur the right solution to same signal fur the right solution to same signal are allow a large or pared with multi signal fur the right solution to same signal are allow a large or pared with multi first solution to same signal are allow a large or pared with multi first solution to same signal are allow a large or pared with multi first solution to same signal are allow a large or pared with multi first solution to same signal are allow a large or pared with multi first solution to same signal are allow a large or pared with multi first solution to same signal are allow a large or pared with multi first solution to same signal are allow a large or pared with multi first solution solution to same signal are allow a large or pared with multi first solution solution to same signal are allow a large or pared with multi first solution solution to same signal are allow a large or pared with multi first solution solution to same signal are allow a large or pared with multi first solution solution to same signal are allow a large or pared with multi first solution solution to same signal are allow a large or pared with multi first solution solution to same signal are allow a large or pared with multi first solution solution to same signal are allow a large or pared with multi first solution solution to same signal are allow a large or same signal are allow a large or pared with multi first solution solution solution solution solution solution solution solution solution to same signal are allow a large or pared with multi first solution solutin solutin solutin solutin solution solutin solution solutin solut	nalog signals; each ed for a single input nction, and they are ion in applications odules handling the e used, where they ost reduction com- i function modules.
INPUT TECHNICAL DATAmodel is designed output signal lnput signal lnput resistancemodel is designed output signal fur the right solution same signal are allow a large cc pared with multi These modulesOUTPUT TECHNICAL DATA020 mA020 mA020 mAwhere many mod same signal are allow a large cc pared with multi These modulesOUTPUT TECHNICAL DATA010 V020 mA420 mAsame signal are allow a large cc pared with multi These modulesOutput signal Applicable load010 V020 mA420 mAsawe signal are allow a large cc pared with multi These modulesSupply voltage Rated current Accuracy24 Vac/dc (1)24 Vac/dc (1)24 Vac/dc (1)same signal a single signal a single signal output channels use many modul input output and a single signal are output channels use many modul input output and a single signal are output channels use many modul input output and a single signal are output channels use many modul input signal is voltage the signal is voltage t	ed for a single input nction, and they are ion in applications odules handling the e used, where they ost reduction com- i function modules.
Input signal Input resistance020 mA020 mA020 mAthe right soluti where many model same signal are allow a large or pared with multi These modulesOUTPUT TECHNICAL DATA010 V020 mA420 mA3 ways galvanic input output and a single signal are allow a large or pared with multi These modulesOutput signal Applicable load010 V020 mA420 mA3 ways galvanic input output and a single signal are a single signal are a single signal are a single signal are a single signal are 	ion in applications odules handling the e used, where they ost reduction com- i function modules.
Input signalC20 INAC20 INAC20 INAC20 INAC20 INAWhere many models are signal are allow a large of pared with multi the set models are signal are allow a large of pared with multi the set models are signal are allow a large of pared with multi the set models are signal are allow a large of the signal are allow are allow a large of the signal are allow are all	odules handling the e used, where they ost reduction com- i function modules.
Input resistance100 s2100 s2100 s2100 s2same signal are allow a large compared with multi These modulesOutput signal010 V020 mA420 mA3 ways galvanic input output and a single signal me a single signal me ta single signal me a single signal me a single signal me ta single signal me 	e used, where they ost reduction com- i function modules.
allow a large cd pared with multi These modulesOutput signal010 V020 mA420 mA3 ways galvanic input output and a single signal moutput channelsApplicable load $>1 K\Omega$ $<400 \Omega$ $<400 \Omega$ $<400 \Omega$ $$	ost reduction com- i function modules.
OUTPUT TECHNICAL DATApared with multi These modulesOutput signal010 V020 mA420 mA3 ways galvanic input output and a single signal moutput damesApplicable load $>1 K\Omega$ $<400 \Omega$ $<400 \Omega$ $<400 \Omega$ a single signal moutput and 	i function modules.
OUTPUT TECHNICAL DATAThese modulesOutput signal010 V020 mA420 mA3 ways galvanicApplicable load>1 KΩ<400 Ω	
Output signal O10 V O20 mA 420 mA 3 ways galvanic Applicable load >1 KΩ <400 Ω	ale provided with
Applicable load>1 KΩ<400 Ω<400 Ωinput output and a single signal m output channelsGENERAL TECHNICAL DATASupply voltage24 Vac/dc (1)24 Vac/dc (1)24 Vac/dc (1)input single signal m output channelsRated current $\leq 13 \text{ mA} \pm 10\%$ signal is voltageAccuracy0.1% @ 23°C FS0.1% @ 23°C FSTrasmission frequency $< 30 \text{ Hz}$ Temperature coefficient0.02% / K FS0.02% / K FS0.02% / K FS0.02% / K FS $< 1.5 \text{ KVac / 60 s (2)}$ $1.5 KVac / 60 s $	
In part of output a single signal in output channelsGENERAL TECHNICAL DATASupply voltage Rated current Accuracy24 Vac/dc (1)24 Vac/dc (1)24 Vac/dc (1) $Supply voltageRated currentAccuracy\leq 13 \text{ mA} \pm 10\%\leq 13 \text{ mA} \pm 10\%\leq 13 \text{ mA} \pm 10\%signal is voltagesignal is voltagethe signal is current\leq 30 \text{ Hz}\leq 30 \text{ Hz}\leq 30 \text{ Hz}\leq 30 \text{ Hz}\leq 30 \text{ Hz}Trasmission frequencyTemperature coefficientIsolation0.02\% / \text{K FS}0.02\% / \text{K FS}Isolation1.5 \text{ KVac } / 60 \text{ s } (2)1.5 \text{ KVac } / 60 \text{ s } (2)1.5 \text{ KVac } / 60 \text{ s } (2)1.5 \text{ KVac } / 60 \text{ s } (2)1.5 \text{ KVac } / 60 \text{ s } (2)$	
GENERAL TECHNICAL DATASupply voltage24 Vac/dc (1)24 Vac/dc (1)24 Vac/dc (1)use many modul inputs in paralle signal is voltageRated current $\leq 13 \text{ mA} \pm 10\%$ signal is voltageAccuracy $0.1\% @ 23^{\circ} C FS$ its voltageTrasmission frequency $< 30 \text{ Hz}$ $< 30 \text{ Hz}$ $< 30 \text{ Hz}$ $< 30 \text{ Hz}$ its voltageTemperature coefficient $0.02\% / K FS$ Isolation $1.5 \text{ KVac } / 60 \text{ s } (2)$ $1.5 \text{ KVac } / 60 \text{ s } (2)$ $1.5 \text{ KVac } / 60 \text{ s } (2)$ $1.5 \text{ KVac } / 60 \text{ s } (2)$ ECM standardsEN 61000-6-2, EN 61000-6-4EN 61000-6-2, EN 61000-6-4EN 61000-6-2, EN 61000-6-4	
GENERAL TECHNICAL DATASupply voltage24 Vac/dc (1)24 Vac/dc (1)24 Vac/dc (1)Rated current $\leq 13 \text{ mA} \pm 10\%$ $\leq 13 \text{ mA} \pm 10\%$ $\leq 13 \text{ mA} \pm 10\%$ Accuracy $0.1\% @ 23^{\circ} C FS$ $0.1\% @ 23^{\circ} C FS$ $0.1\% @ 23^{\circ} C FS$ Trasmission frequency $< 30 \text{ Hz}$ $< 30 \text{ Hz}$ $< 30 \text{ Hz}$ Temperature coefficient $0.02\% / \text{K} FS$ $0.02\% / \text{K} FS$ $0.02\% / \text{K} FS$ Isolation $1.5 \text{ KVac / 60 s} (2)$ $1.5 \text{ KVac / 60 s} (2)$ $1.5 \text{ KVac / 60 s} (2)$ ECM standardsEN 61000-6-2, EN 61000-6-4EN 61000-6-2, EN 61000-6-4EN 61000-6-2, EN 61000-6-4	s it is possible to
Subply voltage 24 value (1) 24 value 24 value (1) 24 value	les connecting their
Rated current $\leq 13 \text{ mA} \pm 10\%$ $\leq 13 \text{ mA} \pm 10\%$ $\leq 13 \text{ mA} \pm 10\%$ Signal is voltageAccuracy $0.1\% @ 23^{\circ} C FS$ Trasmission frequency $< 30 \text{ Hz}$ $< 30 \text{ Hz}$ $< 30 \text{ Hz}$ Temperature coefficient $0.02\% / \text{K} FS$ $0.02\% / \text{K} FS$ $0.02\% / \text{K} FS$ Isolation $1.5 \text{ KVac } / 60 \text{ s } (2)$ $1.5 \text{ KVac } / 60 \text{ s } (2)$ $1.5 \text{ KVac } / 60 \text{ s } (2)$ ECM standardsEN 61000-6-2, EN 61000-6-4EN 61000-6-2, EN 61000-6-4EN 61000-6-2, EN 61000-6-4	el as long as the
Acturacy 0.1% @ 23°CFS 0 Trasmission frequency < 30 Hz	
Temperature coefficient 0.02% / K FS 0.02% / K FS 0.02% / K FS Isolation 1.5 KVac / 60 s (2) 1.5 KVac / 60 s (2) 1.5 KVac / 60 s (2) ECM standards EN 61000-6-2, EN 61000-6-4 EN 61000-6-2, EN 61000-6-4 EN 61000-6-2, EN 61000-6-4	rent.
Isolation 1.5 KVac / 60 s (2) 1.5 KVac / 60 s (2) 1.5 KVac / 60 s (2) ECM standards EN 61000-6-2, EN 61000-6-4 EN 61000-6-2, EN 61000-6-4 EN 61000-6-2, EN 61000-6-4	
ECM standards EN 61000-6-2, EN 61000-6-4 EN 61000-6-4 EN 61000-6-2, EN 61000-6-2, EN 61000-6-4	
Reference Standard IEC 664-1, DIN VDE IEC 664-1, DIN VDE IEC 664-1, DIN VDE	
Overvoltage category/Pollution degree III / 2 III / 2 III / 2	
Protection degree IP 20 IEC 529, EN60529 IP 20 IEC 529, EN60529 IP 20 IEC 529, EN60529	
Operating temperature range -25+60°C -25+60°C -25+60°C	
Connection terminal 2.5 mm² fixed screw type 2.5 mm² fixed screw type 2.5 mm² fixed screw type	
Housing material PPE PPE PPE	
Approx. weight 40 g (1.41 oz) 40 g (1.41 oz) 40 g (1.41 oz)	
Mounting information vertical on rail adjacent without gap vertical on rail adjacent without gap vertical on rail adjacent without gap	
MOUNTING ACCESSORIES	
Mounting rail type according to IEC60715/TH35-7.5 PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	

Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32 Plug-in jumper red (16 poles, 16 A) white blue

CWBK 7-0802 Cat. No. X766802

CWBK 7-0803 Cat. No. X766803 CWBK 7-0804 Cat. No. X766804

- 1.5 KV, 3 ways, IN/OUT/supply voltage isolation
- Fixed value
- Compact dimension, 6.2 mm pitch





BLOCK DIAGRAM

NOTES The dimensions include the DIN clamp. (1) range 16.8...30 Vdc / 19.2...28.8 Vac (2) 3-way isolation: IN/OUT/power supply

(16 poles, 16 A)



VERSIONS		Cat. No. X756536	Cat. No. X756537	Cat. No. X756538
IN: 420 mA / OUT: 010 V		CWAA 7-0536		
IN: 420 mA / OUT: 020 mA			CWAA 7-0537	
IN: 420 mA / OUT: 420 mA				CWAA 7-0538
INPUT TECHNICAL DATA				
Input signal		420 mA	420 mA	420 mA
Input resistance		100 Ω	100 Ω	100 Ω
OUTPUT TECHNICAL DATA				
Output signal		010 V	020 mA	420 mA
Applicable load		>1 KΩ	<400 Ω	<400 Ω
OFNERAL TEOUNIOAL DATA				
GENERAL TECHNICAL DATA		04.)/==/===(1)	04.)/==/d=(1)	04.1/2-2 (1)
Supply voltage		24 Vac/dc (1)	24 Vac/dc (1)	24 Vac/dc (1)
Rated current		$\leq 13 \text{ mA} \pm 10\%$	≤ 13 mA ± 10%	≤ 13 mA ± 10%
Accuracy		0.1% @ 23°C FS	0.1% @ 23°C FS	0.1% @ 23°C FS
Trasmission frequency		< 30 Hz	< 30 Hz	< 30 Hz
Temperature coefficient		0.02% / K FS	0.02% / K FS	0.02% / K FS
Isolation		1.5 KVac / 60 s (2)	1.5 KVac / 60 s (2)	1.5 KVac / 60 s (2)
ECM standards		EN 61000-6-2, EN 61000-6-4	EN 61000-6-2, EN 61000-6-4	EN 61000-6-2, EN 61000-6-4
Reference Standard		IEC 664-1, DIN VDE	IEC 664-1, DIN VDE	IEC 664-1, DIN VDE
Overvoltage category/Pollution degree		Ⅲ/2	III / 2	III / 2
Protection degree		IP 20 IEC 529, EN60529	IP 20 IEC 529, EN60529	IP 20 IEC 529, EN60529
Operating temperature range		-25+60°C	-25+60°C	-25+60°C
Connection terminal		2.5 mm ² fixed screw type	2.5 mm ² fixed screw type	2.5 mm ² fixed screw type
Housing material		PPE	PPE	PPE
Approx. weight		40 g (1.41 oz)	40 g (1.41 oz)	40 g (1.41 oz)
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES			 	
Mounting rail type according to IEC60715/TH35-7.5		PR/3/4	IC, PR/3/AC/ZB, PR/3/AS, PR/3	AS/ZB
Mounting rail type according to IEC60715/G32		1100/		
Plug-in jumper	red		CWBK 7-0802 Cat. No. X766802)
······································			OWDK 7 0000 Oct No. V700000	

white blue

APPLICATIONS

se converters can be used convert and isolate the most mon standard analog signals; model is designed for a e input output signal function, they are the right solution in ications where many modules dling the same signal are d, where they allow a large reduction compared with multi tion modules. These modules provided with 3 ways galvanic tion between input output supply voltage. If a single al must provide several output inels it is possible to use many ules connecting their inputs in llel as long as the signal is ge, or in series when the signal irrent

CWBK 7-0803 Cat. No. X766803 CWBK 7-0804 Cat. No. X766804

NOTES



- Single signal range
- 6.2 mm pitch

Plug-in jumper

(16 poles, 16 A)



BLOCK DIAGRAM

The dimensions include the DIN clamp. (1) range 16.8...30 Vdc / 19.2...28.8 Vac (2) 2-way isolation: IN/OUT



VERSIONS	Cat. No. X756500	Cat. No. X756501	Cat. No. X756502
IN: 0 10 V / OUT: 010 V	CWAA 6-0500		
IN: 0 10 V / OUT: 020 mA		CWAA 6-0501	
IN: 0 10 V / OUT: 420 mA			CWAA 6-0502
INPUT TECHNICAL DATA			
Input signal	010 V	010 V	010 V
Input resistance	330 K Ω	330 KΩ	330 KΩ
OUTPUT TECHNICAL DATA			
Output signal	010 V	020 mA	420 mA
Applicable load	>1 KΩ	<400 Ω	<400 Ω
		04.1/00/d0 (1)	04.)/aa/da (1)
Supply voltage Bated current	24 Vac/dc (1) < 35 mA + 10% @ 24 Vdc	24 Vac/dc (1)	24 Vac/dc (1)
	≤ 35 IIIA ± 10% @ 24 V00 0.1% @ 23°C FS	≤ 35 mA ± 10% @ 24 Vdc 0.1% @ 23°C FS	≤ 35 mA ± 10% @ 24 Vdc 0.1% @ 23°C FS
Accuracy Trasmission frequency	< 30 Hz	< 30 Hz	< 30 Hz
Temperature coefficient	0.02% / K FS	0.02% / K FS	0.02% / K FS
Isolation			
ECM standards	1.5 KVac / 60 s (2) EN 50081-2, EN 50082-2	1.5 KVac / 60 s (2) EN 50081-2, EN 50082-2	1.5 KVac / 60 s (2) EN 50081-2, EN 50082-2
Reference Standard	IEC 664-1, DIN VDE	IEC 664-1, DIN VDE	IEC 664-1, DIN VDE
Overvoltage category/Pollution degree	III / 2	IEC 004-1, DIN VDE	
Protection degree	IP 20 IEC 529, EN60529	IP 20 IEC 529, EN60529	IP 20 IEC 529, EN60529
Operating temperature range	-25+60°C	-25+60°C	-25+60°C
Connection terminal	2.5 mm ² fixed screw type	2.5 mm ² fixed screw type	2.5 mm ² fixed screw type
Housing material	PPE	PPE	PPE
Approx. weight	35 g (1.24 oz)	35 g (1.24 oz)	35 g (1.24 oz)
Mounting information	vertical on rail adjacent without gap	vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5	PR/3/A	C, PR/3/AC/ZB, PR/3/AS, PR/3	S/AS/ZB
Mounting rail type according to IEC60715/G32		—	

red

white blue

APPLICATIONS

These converters can be used to convert and isolate the most common standard analog signals; each model is designed for a single input output signal function, and they are the right solution in applications where many modules handling the same signal are used, where they allow a large cost reduction compared with multi function modules. These modules are provided with 3 ways galvanic isolation between input output and supply voltage. If a single signal must provide several output channels it is possible to use many modules connecting their inputs in parallel as long as the signal is voltage, or in series when the signal is current

_

NOTES

- 2 ways galvanic isolation
- Single signal range
- 6.2 mm pitch

(16 poles, 16 A)



BLOCK DIAGRAM

CUDUS CE

The dimensions include the DIN clamp. (1) range 16.8...30 Vdc / 19.2...28.8 Vac (2) 2-way isolation: IN/OUT



VERSIONS		Cat. No. X756503	Cat. No. X756504	Cat. No. X756505	
IN: 020 mA / OUT: 010 V		CWAA 6-0503			
IN: 020 mA / OUT: 020 mA			CWAA 6-0504		
IN: 020 mA / OUT: 420 mA				CWAA 6-0505	
INPUT TECHNICAL DATA					
Input signal		020 mA	020 mA	020 mA	
Input resistance		100 Ω	100 Ω	100 Ω	
OUTPUT TECHNICAL DATA					
Output signal		010 V	020 mA	420 mA	
Applicable load		>1 KΩ	<400 Ω	<400 Ω	
GENERAL TECHNICAL DATA					
Supply voltage		24 Vac/dc (1)	24 Vac/dc (1)	24 Vac/dc (1)	
Rated current		< 35 mA + 10% @ 24 Vdc	< 35 mA + 10% @ 24 Vdc	< 35 mA + 10% @ 24 Vdc	
Accuracy		0.1% @ 23°C FS	0.1% @ 23°C FS	0.1% @ 23°C FS	
Trasmission frequency		< 30 Hz	< 30 Hz	< 30 Hz	
Temperature coefficient		0.02% / K FS	0.02% / K FS	0.02% / K FS	
Isolation		1.5 KVac / 60 s (2)	1.5 KVac / 60 s (2)	1.5 KVac / 60 s (2)	
ECM standards		EN 50081-2, EN 50082-2	EN 50081-2, EN 50082-2	EN 50081-2, EN 50082-2	
Reference Standard		IEC 664-1, DIN VDE	IEC 664-1, DIN VDE	IEC 664-1, DIN VDE	
Overvoltage category/Pollution degree		III / 2	/ 2	III / 2	
Protection degree		IP 20 IEC 529, EN60529	IP 20 IEC 529, EN60529	IP 20 IEC 529, EN60529	
Operating temperature range		-25+60°C	-25+60°C	-25+60°C	
Connection terminal		2.5 mm ² fixed screw type	2.5 mm ² fixed screw type	2.5 mm ² fixed screw type	
Housing material		Noryl UL94V-0	Noryl UL94V-0	Noryl UL94V-0	
Approx. weight		35 g (1.24 oz)	35 g (1.24 oz)	35 g (1.24 oz)	
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap	vertical on rail adjacent without gap	
MOUNTING ACCESSORIES			 	l 	
Mounting rail type according to IEC60715/TH35-7.5		PR/3/A	AC, PR/3/AC/ZB, PR/3/AS, PR/3	B/AS/ZB	
Mounting rail type according to IEC60715/G32					
Plug-in jumper	red		_		
(10 1 10 1)					

white

blue

APPLICATIONS

These converters can be used to convert and isolate the most common standard analog signals; each model is designed for a single input output signal function, and they are the right solution in applications where many modules handling the same signal are used, where they allow a large cost reduction compared with multi unction modules. These modules are provided with 3 ways galvanic solation between input output and supply voltage. If a single signal must provide several output channels it is possible to use many modules connecting their inputs in parallel as long as the signal is voltage, or in series when the signal is current

NOTES

- 2 ways galvanic isolation
- Single signal range
- 6.2 mm pitch

(16 poles, 16 A)



BLOCK DIAGRAM

The dimensions include the DIN clamp. (1) range 16.8...30 Vdc / 19.2...28.8 Vac (2) 2-way isolation: IN/OUT



VERSIONS		Cat. No. X756506	Cat. No. X756507	Cat. No. X756508	
IN: 420 mA / OUT: 010 V		CWAA 6-0506			
IN: 420 mA / OUT: 020 mA			CWAA 6-0507		
IN: 420 mA / OUT: 420 mA				CWAA 6-0508	
INPUT TECHNICAL DATA					
Input signal		420 mA	420 mA	420 mA	
Input resistance		100 Ω	100 Ω	100 Ω	
OUTPUT TECHNICAL DATA					
Output signal		010 V	020 mA	420 mA	
Applicable load		>1 KΩ	<400 Ω	<400 Ω	
GENERAL TECHNICAL DATA					
Supply voltage		24 Vac/dc (1)	24 Vac/dc (1)	24 Vac/dc (1)	
Rated current		≤ 35 mA \pm 10% @ 24 Vdc	$\leq 35 \text{ mA} \pm 10\% @ 24 \text{ Vdc}$	\leq 35 mA \pm 10% @ 24 Vdc	
Accuracy		0.1% @ 23°C FS	0.1% @ 23°C FS	0.1% @ 23°C FS	
Trasmission frequency		< 30 Hz	< 30 Hz	< 30 Hz	
Temperature coefficient		0.02% / K FS	0.02% / K FS	0.02% / K FS	
Isolation		1.5 KVac / 60 s (2)	1.5 KVac / 60 s (2)	1.5 KVac / 60 s (2)	
ECM standards		EN 50081-2, EN 50082-2	EN 50081-2, EN 50082-2	EN 50081-2, EN 50082-2	
Reference Standard		IEC 664-1, DIN VDE	IEC 664-1, DIN VDE	IEC 664-1, DIN VDE	
Overvoltage category/Pollution degree		III / 2	III / 2	Ⅲ/2	
Protection degree		IP 20 IEC 529, EN60529	IP 20 IEC 529, EN60529	IP 20 IEC 529, EN60529	
Operating temperature range		-25+60°C	-25+60°C	-25+60°C	
Connection terminal		2.5 mm ² fixed screw type	2.5 mm ² fixed screw type	2.5 mm ² fixed screw type	
Housing material		Noryl UL94V-0	Noryl UL94V-0	Noryl UL94V-0	
Approx. weight		35 g (1.24 oz)	35 g (1.24 oz)	35 g (1.24 oz)	
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap	vertical on rail adjacent without gap	
MOUNTING ACCESSORIES					
Mounting rail type according to IEC60715/TH35-7.5		DR/3//	C, PR/3/AC/ZB, PR/3/AS, PR/3	2/A\$/7R	
Mounting rail type according to IEC60715/G32		F N/ 3/ P		I AJI LU	
Pluq-in jumper	red		_		
	i cu	—			

white

blue

APPLICATIONS

These converters can be used to convert and isolate the most common standard analog signals; each model is designed for a single input output signal function, and they are the right solution in applications where many modules handling the same signal are used, where they allow a large cost reduction compared with multi function modules. These modules are provided with 3 ways galvanic isolation between input output and supply voltage. If a single signal must provide several output channels it is possible to use many modules connecting their inputs in parallel as long as the signal is voltage, or in series when the signal is current

Passive galvanic isolators

- Do not require power supply
- Suitable for loop powered sensors
- 2 Ways I/O 500 V isolation
- Single and double channel version
- Compact dimension, 6.2 mm pitch



NOTES

BLOCK DIAGRAM

The dimensions include the DIN clamp.

(1) Input voltage must have a value higher than the value calculated with this formula, where Rb is load resistance (see pic.1); for calculation refer to the diagram comparing minimum input voltage with output load and wires resistance values; refer to the diagram (see pic. 2) to define if application conditions allow to get full 20 mA output signal (2) 2-way isolation: IN/OUT





VERSIONS		Cat. No. X756526 Cat. No. X756527	
Single channel		CWPAA 7-0526	
Double channel			CWPAA 7-0527
INPUT TECHNICAL DATA			
Input signal		1 channel 020 mA, 420 mA	2 channels 020 mA, 420 mA
Input current		_	_
Input voltage (1)		2.7 + (20 mA x Rb)	2.7 + (20 mA x Rb)
Input resistance		100 Ω	100 Ω
OUTPUT TECHNICAL DATA			
Output signal		1 channel 020 / 420 mA, (max 21	2 channels 020 / 420 mA, (max 21 mA)
Applicable load		mA) <400 Ω with output current	$<400 \Omega$ with output current
GENERAL TECHNICAL DATA			
Supply voltage		_	_
Rated current		12 mA	12 mA
Accuracy		0.1 FS (23°C)	0.1 FS (23°C)
Rise time (1090%)		10 ms	10 ms
Trasmission frequency		30 Hz @ 3 dB	30 Hz @ 3 dB
Temperature coefficient		0.02% FS	0.02% FS
Isolation		1.5 KVac / 60 s (2)	1.5 KVac / 60 s (2)
ECM standards		EN 61000-6-2, EN 61000-6-4	EN 61000-6-2, EN 61000-6-4
Reference Standard		IED 664-1, DIN VDE	IED 664-1, DIN VDE
Overvoltage category/Pollution degree		III / 2	III / 2
Protection degree		IP 20 IEC 529 EN60529	IP 20 IEC 529 EN60529
Operating temperature range		-25+60°C	-25+60°C
Connection terminal		1.5 mm ² fixed screw type	1.5 mm ² fixed screw type
Housing material		Luranyl	Luranyl
Approx. weight		35 g (1.24 oz)	35 g (1.24 oz)
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB	, PR/3/AS, PR/3/AS/ZB
Mounting rail type according to IEC60715/G32		-	-
Plug-in jumper	red		Cat. No. X766802
(16 poles, 16 A)	white		Cat. No. X766803
	blue	CWBK 7-0804 (Cat. No. X766804

APPLICATIONS

The passive galvanic isolators can isolate the signal generated by loop powered sensors, where the applied load must have a resistance lower than 400 Ω 20 mA, including the cable resistance; the applied input voltage has to be higher than 2.7 V compared with output voltage (see note 2). If above conditions are satisfied, passive isolators reduce cabling costs and eliminate power supplies thereby saving costs. If above conditions are not satisfied, passive module introduces a signal . attenuation.





Analog signal to frequency converters

- 2 and 3 ways galvanic isolation
- 3 programmable analog signals input ranges
- 4 programmable frequency output ranges
- Simple programming
- Version with 24-240 Vac/dc supply voltage

P

NOTES

The dimensions include the DIN clamp.

(1) Adjustable via dip-switch in model CWNAF 6-0511 and via

- rotary-switch in model CWNAF 6-0512
- (2) range 16.8...30 Vdc / 19.2...28.8 Vac
- (3) range 16.8...264 Vdc / 19.2...264 Vac
- (4) 2-way isolation: IN/OUT
- (5) 3-way isolation: IN/OUT/power supply





BLOCK DIAGRAM

Supply voltage 24...240 Vac/dc

VERSIONS		Cat. No. X756511	Cat. No. X756512
24 Vac/dc supply voltage		CWNAF 6-0511	
24-240 Vac/dc supply voltage			CWNAF 6-0512
INPUT TECHNICAL DATA			
Input signal		010 V	010 V
		020 / 420 mA	020 / 420 mA
Input current		_	_
Input voltage (1)		—	—
Input resistance		330 K Ω with input voltage	330 K Ω with input voltage
		100 Ω with input current	100 Ω with input current
OUTPUT TECHNICAL DATA			
Output signal		050 / 0100 / 01000 / 010000 Hz	050 / 0100 / 01000 / 010000 Hz
Applicable load		20.9 V / 10 mA with 24 Vdc supply voltage	20.9 V / 10 mA with 24 Vdc supply voltage
			, .
GENERAL TECHNICAL DATA			
Supply voltage		24 Vac/dc (2)	24-240 Vac/dc (3)
Rated current		≤ 43mA ± 10% @ 24 Vdc	\leq 43 mA \pm 10% @ 24 Vdc
Accuracy		0.1% @ 23°C FS	0.1% @ 23°C FS
Trasmission frequency		<30 Hz	<30 Hz
Temperature coefficient		0.015% / K FS	0.015% / K FS
Isolation		1.5 KVac / 60 s (4)	4 KVac / 60 s (5)
ECM standards		EN 50081-2, EN 50082-2	EN 50081-2, EN 50082-2
Reference Standard		IEC 664-1, DIN VDE	IEC 664-1, DIN VDE
Overvoltage category/Pollution degree		Ⅲ/2	III / 2
Protection degree		IP20	IP20
Operating temperature range		-20+60°C	-20+60°C
Connection terminal		2.5 mm ² fixed screw type	2.5 mm ² fixed screw type
Housing material		Noryl UL94V-0	Noryl UL94V-0
Approx. weight		35 g (1.24 oz)	50 g (1.77 oz)
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB,	PR/3/AS, PR/3/AS/ZB
Mounting rail type according to IEC60715/G32			-
Plug-in jumper	red		_
(16 poles, 16 A)	white	-	_
V - F			

blue

APPLICATIONS

These modules converts an analog signal into a 24V square wave frequency signal. They can be used to control motor drives, speed counters and in all those cases where an analog signal must be converted into a frequency. High input sensitivity and high accuracy conversion make it possible to convert into a stable and accurate frequency, the lowest input signals of few mV.

Programmable converters for temperature sensors

• For PT100, PT500, PT1000, Ni100, Ni1000, PTC, KTY sensors, thermocouples, potentiometers

CE

- 3 ways I/O 2.5 KV isolation
- 3 programmable output signals
- Simple programming, self-adjusting zero and span
- Compact dimension, 6.2 mm pitch

cabur 90 (3.55 in) 115,5 (4.55 in) 6.2 (0.24 in)





The dimensions include the DIN clamp. (1) Version with spring-clamp terminals available on request

(2) 3-way isolation: IN/OUT/power supply





APPLICATIONS

VERSIONS Cat. No. X756891 Cat. No. X756890 With screw terminals (standard) **CWTPR 7-0890** With spring terminals (1) CWPZB 7-0891 Programming tool **INPUT TECHNICAL DATA** PT100, PT500, PT1000, Ni100, Ni1000, PTC, KTY, potentiometers 0...5 KQ thermocouples tipo B, C, D, E, J, K, L, N, R, S, T, U -200...+2400°C, according to sensor (see table) Temperature range **OUTPUT TECHNICAL DATA**

Applicable load

Output signal

Input signal

Display signals

GENERAL TECHNICAL DATA			
Supply voltage		1536 Vdc	
Rated current		100 mA max. @ 24 Vdd	;
		PT, Ni, PTC, KTY, potentiometers	Thermocouple
Linearity error		±0.03% over FS	
Temperature coefficient		<30 ppm/°C	_
Resolution		0.1°C, 16 bit	—
Connection terminals		PT2, 3, 4-wire; with 2-wire offset correction measurement	—
Input resistance		_	1 MΩ approx
Transmission frequency		—	0.5 Hz
Isolation		2.5 KVac / 60 s (2)	
ECM standards		EN 61000-6-2, EN 61000)-6-4
Reference Standard		IEC 664-1, DIN VDE	
Overvoltage category			
Pollution degree		2	
Protection degree		IP 20 IEC 529 EN6052	9
Operating temperature		-25+60°C	
Connection terminal		1.5 mm ² fixed screw ty	^p e
Housing material		PPE	
Approx. weight		40 g (1.41 oz)	
Mounting information		vertical on rail adjacent without	gap
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-	7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS,	PR/3/AS/ZB
Mounting rail type according to IEC60715/G32		—	
Plug-in jumper	red	CWBK 7-0802 Cat. No. X76	6802

white

blue

010 / 210 V, (max. 10.6 V)
020 / 420 mA, (max 21.2 mA)
>2 KΩ with output voltage
$<$ 400 Ω with output current
green LED = OK , flashing LED = error

		B type	
		C type	
1536 Vdc		D type	
100 mA max. @ 24 Vdc KTY, potentiometers Thermocouples .03% over FS — .30 ppm/°C — .1°C, 16 bit — .2.5 KVac / 60 s (2) . EN 61000-6-2, EN 61000-6-4 . III 2 IP 20 IEC 529 EN60529 .25+60°C 1.5 mm² fixed screw tyre PPE 40 g (1.41 oz) vertical on rail adjacent without gap		E type	
C, KTY, potentiometers	Thermocouples	J type	
0.03% over FS	—	K type	
<30 ppm/°C	—	L type	
0.1°C, 16 bit	—	N type	
with 2-wire offset correction	—	R type	
measurement		S type	
-		T type	
—	0.5 Hz	U type	
()		PT100	
EN 61000-6-2, EN 61000-6-4		PT500	
,		PT1000	
		Ni1000	
-		KTY 81-110	
	9	KTY 81-120	
		KTY 81-121	
,	^{/p} e	KTY 82-122	
=		KTY 82-150	
		KTY 82-151	
vertical on rail adjacent without	gap	KTY 82-152	
		KTY 83-110	
AC, PR/3/AC/ZB, PR/3/AS,	PR/3/AS/ZB	KTY 83-120	
—		KTY 83-121	
CWBK 7-0802 Cat. No. X76	6802	KTY 83-122	
CWBK 7-0803 Cat. No. X76	6803	KTY 83-150	

KTY 83-151

KTY 83-152

KTY 84-130

KTY 84-150 KTY 84-151

KTY 84-152

CSWTPR 7-0890 is a temperature to analog signal conversion module that provides high accuracy measurement and that can be connected to a really wide range of temperature sensors. The module can be used for a temperature range from -200 to + 2.400°C. In case of failure of the sensor or short circuits on the cable, the module generates a signal that allows to get a back up safety function.

With resistive sensors it is possible to select among 2, 3, 4 wire connections. With 3 or 4 wires sensors it assures the "broken wire" function and a short circuit on sensor cables. It is also possible the redundant connection of thermocouples to the module, to increase reliability of the measurement system. Input and output are provided with over voltage protections.

TABLE 1 - Temperature range

0...+1820°C 0...+2300°C 0...+2400°C -200...+1000°C -200...+1200°C -200...+1372°C -200...+900°C -200...+1300°C -50...+1760°C -50...+1760°C -200...+400°C -200...+400°C -200...+850°C -200...+850°C -200...+850°C -58...+208°C -58...+150°C -58...+150°C

-58...+150°C

-58...+150°C

-58...+150°C -40...+300°C

-40...+300°C

-40...+300°C

-40...+300°C

CWBK 7-0804 Cat. No. X766804



Programmable converters for RTD sensors

- Converters for PT100 sensors
- 3 ways galvanic isolation
- 8 programmable input range
- 3 programmable output range
- Simple programming
- Version with 24-240 Vac/dc supply voltage



BLOCK DIAGRAM



(1) Adjustable via rotary-switch

- (2) Adjustable via dip-switch
- (3) They can also be used with 2 wire PT100 sensor, connecting

NOTES

- the terminals 1 and 4
- (4) range 16.8...30 Vdc / 19.2...28.8 Vac
- (5) range 16.8...264 Vdc / 19.2...264 Vac
- (6) 3-way isolation: IN/OUT/power supply



VERSIONS	Cat. No. X756816	Cat. No. X756817	APPLICATIONS
24 Vac/dc supply voltage	CWPT 6-0816		The modules convert and isolat
24-240 Vac/dc supply voltage		CWPT 6-0817	signals generated by 3 wire / 2 wir PT100 (RTD) sensors into analo
INPUT TECHNICAL DATA			signals; the module can be set int
Input signal	PT100 3 wires (3)	PT100 3 wires (3)	8 temperature ranges and for up t
Temperature range (1)	-50+50°C (-58+122°F) -50+100°C (-58+212°F) -50+150°C (-58+302°F) 0+100°C (+32+212°F) 0+150°C (+32+302°F) 0+200°C (+32+392°F) 0+300°C (+32+572°F) 0+400°C (+32+752°F)	-50+50°C (-58+122°F) -50+100°C (-58+212°F) -50+150°C (-58+302°F) 0+100°C (+32+302°F) 0+200°C (+32+302°F) 0+200°C (+32+32°F) 0+400°C (+32+572°F) 0+400°C (+32+752°F)	3 most important analog ranges. Set up is easily achieved by settin a dip-switch on one side of th module. The modules provide input an output isolation, assuring high signa accuracy, and can be used wit isolated and not isolated sensors
Supply current	0.5 mA	0.5 mA	Two wire sensors can be used b connecting a jumper wire betwee
			1 and 4 terminal blocks.
OUTPUT TECHNICAL DATA			
Output signal (2)	010 V	010 V	
	020 / 420 mA	020 / 420 mA	
Applicable load	$>1~{\rm K}\Omega$ with output voltage, $<400~\Omega$ with output current	>1 K Ω with output voltage, $<400 \Omega$ with output current	
GENERAL TECHNICAL DATA			
Supply voltage	24 Vac/dc (2)	24-240 Vac/dc (3)	
Rated current	\leq 35 mA \pm 10% @ 24 Vdc	≤ 35 mA ± 10% @ 24 Vdc	
Accuracy	<0.3% FS	<0.3% FS	
Trasmission frequency	<30 Hz	<30 Hz	
Temperature coefficient	0.015% / K FS	0.015% / K FS	
Isolation	1.5 KVac / 60 s (6)	4 KVac / 60 s (6)	
ECM standards	EN 50081-2, EN 50082-2	EN 50081-2, EN 50082-2	
Reference Standard	IEC 664-1, DIN VDE	IEC 664-1, DIN VDE	
Overvoltage category/Pollution degree	III / 2	III / 2	
Protection degree	IP20	IP20	
Operating temperature range	-20+60°C	-20+60°C	
Connection terminal	2.5 mm ² fixed screw type	2.5 mm ² fixed screw type	
Housing material	Noryl UL94V-0	Noryl UL94V-0	
Approx. weight	75 g (2.65 oz)	85 g (3.00 oz)	
Mounting information	vertical on rail adjacent without gap	vertical on rail adjacent without gap	
MOUNTING ACCESSORIES		1	
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB	, PR/3/AS, PR/3/AS/ZB	
0 11 0			
Mounting rail type according to IEC60715/G32	rod -	_	
Mounting rail type according to IEC60715/G32 Plug-in jumper	red -	_	
Mounting rail type according to IEC60715/G32 Plug-in jumper (16 poles, 16 A) w	red	- - -	

91



9 OUT+

-∘ OUT-

Programmable converters for thermocouples

- · Converters for sensors with thermocouples J and K type
- 3 ways galvanic isolation
- 8 programmable input range
- 3 programmable output range
- Simple programming
- Version with 24-240 Vac/dc supply voltage



BLOCK DIAGRAM

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10

Supply voltage 24...240 Vac/dc

9 OUT+

8 OUT-

11

NOTES	
The dimensions include the DIN clamp. (1) Adjustable via rotary-switch (2) Adjustable via dip-switch (3) range 16.830 Vdc / 19.228.8 Vac (4) range 16.8264 Vdc / 19.2264 Vac (5) "3-way isolation: IN/OUT/power supply	TC
VERSIONS	Cat. No. X756844
24 Vac/dc supply voltage	CWTH 6-0844
24-240 Vac/dc supply voltage	

VERSIONS	Cat. No. X756844	Cat. No. X756847
roltage	CWTH 6-0844	
ply voltage		CWTH 6-0847
JT TECHNICAL DATA		
	thermocouples FeCuNi (J type) e NiCrNi (K type) according to DIN/IEC584-1	thermocouples FeCuNi (J type) e NiCrNi (K type) according to DIN/IEC584-1
1)	-50+200°C (-58+392°F) -50+350°C (-58+662°F) 0+200°C (+32+392°F) 0+400°C (+32+752°F) 0+600°C (+32+1112°F) 0+800°C (+32+1472°F) 0+1000°C (+32+1832°F) 0+1200°C (+32+2192°F) 	-50+200°C (-58+392°F) -50+350°C (-58+662°F) 0+200°C (+32+392°F) 0+400°C (+32+752°F) 0+600°C (+32+1112°F) 0+800°C (+32+1472°F) 0+1000°C (+32+1832°F) 0+1200°C (+32+2192°F)
UT TECHNICAL DATA		
	010 V 020 / 420 mA	010 V 020 / 420 mA
	>1 K Ω with output voltage, $<400 \ \Omega$ with output current	$>1 \text{ K}\Omega$ with output voltage, $<400 \Omega$ with output current
RAL TECHNICAL DATA		
	24 Vac/dc (3)	24-240 Vac/dc (4)
	≤ 35 mA ± 10% @ 24 Vdc	$\leq 35 \text{ mA} \pm 10\% @ 24 \text{ Vdc}$
	<0.5% FS	<0.5% FS
су	<30 Hz	<30 Hz
ent	0.015% / K FS	0.015% / K FS

APPLICATIONS

The modules convert and isolate signals generated by thermocouples type J (FeCuNi) or K (NiCrNi) into an analog signal; can be set into 8 temperature input ranges, and can be set for up to 3 most important analog ranges. The set up is possible by setting a dip-witch on one side of the module.

The modules provide input and output isolation, assuring high signal accuracy, and can be used with isolated and not isolated sensors.

Supply current	

Input signal

Temperature range (1

INPU

OUTPUT TECHNICAL DATA			
		010 V	010 V
Output signal (2)		010 V 020 / 420 mA	020 / 420 mA
Applicable load		>1 K Ω with output voltage,	$>1 \text{ K}\Omega$ with output voltage,
		$<$ 400 Ω with output current	$<400 \Omega$ with output current
GENERAL TECHNICAL DATA			
Supply voltage		24 Vac/dc (3)	24-240 Vac/dc (4)
Rated current		≤ 35 mA ± 10% @ 24 Vdc	≤ 35 mA ± 10% @ 24 Vdc
Accuracy		<0.5% FS	<0.5% FS
Trasmission frequency		<30 Hz	<30 Hz
Temperature coefficient		0.015% / K FS	0.015% / K FS
Isolation		1.5 KVac / 60 s (5)	4 KVac / 60 s (5)
ECM standards		EN 50081-2, EN 50082-2	EN 50081-2, EN 50082-2
Reference Standard		IEC 664-1, DIN VDE	IEC 664-1, DIN VDE
Overvoltage category/Pollution degree		III / 2	III / 2
Protection degree		IP20	IP20
Operating temperature range		-20+60°C	-20+60°C
Connection terminal		2.5 mm ² fixed screw type	2.5 mm ² fixed screw type
Housing material		Noryl UL94V-0	Noryl UL94V-0
Approx. weight		65 g (2.29 oz)	75 g (2.65 oz)
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC, PR/3/AC/ZB,	PR/3/AS, PR/3/AS/ZB
Mounting rail type according to IEC60715/G32			-
Plug-in jumper	red	_	_
(16 poles, 16 A)	white	-	_
	blue	-	-

🔈 cabur **Temperature / frequency** converters • Available for PT100 sensors, and thermocouples J or K (3.55 in) • 3 ways I/O 1.5 KV isolation • 3 programmable temperature input range • 4 programmable frequency output range • Simple programming, self-adjusting zero and span 92.5 (3.64 in) 6.2 Compact dimension, 6.2 mm pitch (0.24 in) c())us (E **BLOCK DIAGRAM** NOTES The dimensions include the DIN clamp. (1) range 20...30 Vdc (2) 3-way isolation: IN/OUT/power supply 4. OUT-OUT-F 5 OUT ОШТ +6 -1 + (-|1 Supply voltage Supply voltage Supply voltage

24 Vac/dc

24 Vac/dc

24 Vac/dc

VERSIONS Cat. No. X756811 Cat. No. X756831 Cat. No. X756871 PT100 / Frequency **CWTHF 7-0811** Termocoppia J / Frequency **CWTHF 7-0831** Termocoppia K / Frequency **CWTHF 7-0871 INPUT TECHNICAL DATA** PT100 (2 wire) Thermocouples J type Thermocouples K type Input signal 0...+200°C Temperature range -50...+150°C 0...+200°C 0...+200°C 0...+400°C 0...+400°C 0...+400°C 0.5 mA 0...+600°C 0...+600°C Input current **OUTPUT TECHNICAL DATA** 0...50 Hz / 0...100 Hz / 0...50 Hz / 0...100 Hz / 0...50 Hz / 0...100 Hz / Output signal 0...1 KHz / 0...10 KHz 0...1 KHz / 0...10 KHz 0...1 KHz / 0...10 KHz >2.5 KΩ (amplitude approx. >2.5 KQ (amplitude approx. >2.5 KQ (amplitude approx. Applicable load 10 V) 10 V) 10 V) **GENERAL TECHNICAL DATA** Supply voltage 24 Vac/dc (1) 24 Vac/dc (1) 24 Vac/dc (1) Rated current 30 mA max 30 mA max 30 mA max 75x811: 0.3% FS; 75x811: 0.3% FS; 75x811: 0.3% FS; Accuracy 75x831/871: 0.5% +2 K FS 75x831/871: 0.5% +2 K FS 75x831/871: 0.5% +2 K FS Linearity error 0.1% FS 0.1% FS 0.1% FS Rise time (10...90%) depends on frequency depends on frequency depends on frequency Setting time to accuracy 1% depends on frequency depends on frequency depends on frequency Trasmission frequency <30 Hz <30 Hz <30 Hz Temperature coefficient 150 ppm/K FS 150 ppm/K FS 150 ppm/K FS Isolation 1.5 KVac / 60 s (2) 1.5 KVac / 60 s (2) 1.5 KVac / 60 s (2) ECM standards EN 60721-3-3; EN 55011; EN EN 60721-3-3; EN 55011; EN EN 60721-3-3; EN 55011; EN 61000-4-2/6: EN 50178 61000-4-2/6: EN 50178 61000-4-2/6: EN 50178 Reference Standard IED 664-1, DIN VDE IED 664-1, DIN VDE IED 664-1, DIN VDE Overvoltage category/Pollution degree Ⅲ/2 11/2 Ⅲ/2 IP 20 IEC 529 EN60529 IP 20 IEC 529 EN60529 Protection degree IP 20 IEC 529 EN60529 Operating temperature range -25...+60°C -25...+60°C -25...+60°C Connection terminal 1.5 mm² fixed screw ty^oe 1.5 mm² fixed screw type 1.5 mm² fixed screw ty^pe Housing material PPF PPF PPF Approx. weight 40 g (1.41 oz) 40 g (1.41 oz) 40 g (1.41 oz) Mounting information vertical on rail adjacent without gap vertical on rail adjacent without gap vertical on rail adjacent without gap **MOUNTING ACCESSORIES** PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32 CWBK 7-0802 Cat. No. X766802 red Plug-in jumper CWBK 7-0803 Cat. No. X766803 (16 poles, 16 A) white

blue

APPLICATIONS

Small control systems are used in simple applications. For economical reasons they often integrate digital inputs instead of analog inputs The Temperature/Frequency converters offer a simple and economical solution to measure and convert temperatures, exploiting the digital inputs of the small control systems

CWBK 7-0804 Cat. No. X766804

Current to threshold converters

- For AC current measure
- · Adjustable threshold value
- · Versions with transistor or relay output
- IN/OUT 3 KV isolation



BLOCK DIAGRAM

NOTES

The dimensions include the terminal blocks and the DIN clamp.



VERSIONS		Cat. No. XCCIS1	Cat. No. XCCIS-R	
Transistor output		CCIS-1		Th
Relay output			CCIS-R	flo
				thr
INPUT TECHNICAL DATA				the
Max. measured current		50 A (AC)	50 A (AC)	rea
Max. measured voltage		600 Vac	600 Vac	rela
Frequency		5060 Hz	5060 Hz	mo
Sensor's hole diameter		Ø 13 mm	Ø 13 mm	fee
				ser In
OUTPUT TECHNICAL DATA				hav
Threshold regulation		130 A	130 A	cur
Threshold hysteresis		± 10%	± 10%	and
Max. output current		100 mA open collector PNP	100 mA open collector PNP	low
Output status		"high" 24 V (closed) with I < threshold	"high" 24 V (closed) with I < threshold	is
		"low" 0 V (open) with I > threshold	"low" 0 V (open) with I > threshold	thro
Response time		20 ms	20 ms	pro
GENERAL TECHNICAL DATA				In r
Supply voltage		24 Vdc ± 10%	24 Vdc ± 10%	turr
Max rated current		100 mA	100 mA	thre
Operating temperature range		060°C	060°C	The
nput/output isolation		> 3 KVac /60 s	> 3 KVac /60 s	an
Connection terminal		2.5 mm ² fixed screw type (14 AWG)	2.5 mm ² fixed screw type (14 AWG)	plu
Housing material		polyamide UL94V-03	polyamide UL94V-03	cas
Approx. weight		100 g (3.53 oz)	100 g (3.53 oz)	ouo
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap	_
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35			, PR/3/AS	
Mounting rail type according to IEC60715/G32		PR/DIN/AC, PR/D	IN/AS, PR/DIN/AL	
Plug-in jumper	red	_		
(16 poles, 16 A)	white			

blue

APPLICATIONS

This module converts a current flowing through circuit into a threshold that can be adjusted by the potentiometer; when the current reaches the threshold value, the relay (or the transistor in the CCIS model) switches; the wire must be feed through the hole of the current sensor for current detection.

In model CCIS-1 the output will have "high" value (24 Vdc) for current higher than the threshold and "low" value (0 Vdc) for current lower than the threshold. The output is internally re-hooked to ground through a 10 k resistor, besides it is protected against overloads.

In model CCIS-R the relay will be turned on for current below the threshold, turned off for current over the threshold.

The output has all the contacts of an SPDT relay, the relay is also pluggable to allow its substitution in case of wear of the contacts.

◆ cabur

Current to analog converters

- For AC/DC current measurements
- Protected against transients
- Power supplied LED
- 3 output signals available



CE

BLOCK DIAGRAM





VERSIONS		Cat. No. XW000928	Cat. No. XW000929	Cat. No. XW000930
01 A input		SW01VA		
05 A input			SW05VA	
010 A input				SW10VA
INPUT TECHNICAL DATA				
Input signal		01 A AC/DC	05 A AC/DC	010 A AC/DC
Max. input voltage		380 V	380 V	380 V
Current wire connection		2.5 mm ² pluggable screw type	2.5 mm ² pluggable screw type	2.5 mm ² pluggable screw type
OUTPUT TECHNICAL DATA		VOL	TAGE CUR	RENT
Output signal		0	10 V 020 mA / 4	20 mA
Max. output signal		11 '	/	22 mA
Applicable load		>2	KΩ <	500 Ω
GENERAL TECHNICAL DATA				
Supply voltage		24 Vdc ± 10%	24 Vdc ± 10%	24 Vdc ± 10%
Rated current		60 mA	60 mA	60 mA
Operating temperature		055°C	055°C	055°C
Linearity error		< 0.5%	< 0.5%	< 0.5%
Offset error		< 0.5%	< 0.5%	< 0.5%
Amplification error		< 0.2%	< 0.2%	< 0.2%
Temperature coefficient		< 0.02%/K	< 0.02%/K	< 0.02%/K
Surge immunity		200 V	200 V	200 V
Response time		10 mS	10 mS	10 mS
Protection degree		IP20	IP20	IP20
Connection terminal		2.5 mm ² pluggable screw type	2.5 mm ² pluggable screw type	2.5 mm ² pluggable screw type
Approx. weight		100 g (3.53 oz)	100 g (3.53 oz)	100 g (3.53 oz)
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35-7.5		PR/3/4	AC, PR/3/AC/ZB, PR/3/AS, PR/3	3/AS/ZB
Mounting rail type according to IEC60715/G32			—	
Plug-in jumper	red		—	
(16 poles, 16 A)	white		—	
	blue		—	

APPLICATIONS

In 99 mm depth measure is included the space occupied by the terminal block provided with the product. Through a "HALL" sensor they grant AC/DC current measurements.

The presence of current in a circuit indicates not only that power is supplied but also that the circuit is closed and the load connected and active.

It's also possible to know the work conditions of the circuit.

The module guarantees galvanic isolation between the current conductor and the analog output and, if not connected in series to the controlled current, cannot be damaged by power surges or short circuits.

Current to analog converters

NOTES The dimensions include the terminal blocks and the DIN clamp.





- Protected against transients
- Power supplied LED

Plug-in jumper

(16 poles, 16 A)

• 3 output signals available



CE

red

white

blue

BLOCK DIAGRAM



VERSIONS	Cat. No. XW000931	Cat. No. XW000932	APPLI
020 A input	SW20VA		In 99 mm depth r
050 A input		SW50VA	the space occup
			block provided w
INPUT TECHNICAL DATA			They allow the us
Input signal	020 A AC/DC	050 A AC/DC	DC currents by a
Max. input voltage	380 V	380 V	The presence of
Current wire connection	Ø 8 mm	Ø 8 mm	indicates not o
			supplied but also
			closed and the lo active. It is also p
OUTPUT TECHNICAL DATA	VOLTAGE	CURRENT	working condition
Output signal	010 V ()20 mA / 420 mA	circuit.
Max. output signal	11 V	22 mA	The module gu
Applicable load	>2 KΩ	<500 Ω	isolation betwe
			conductor and
			and, if not conn
GENERAL TECHNICAL DATA			the controlled c
Supply voltage	24 Vdc ± 10%	24 Vdc ± 10%	damaged by pow
Rated current	60 mA	60 mA	circuits.
Operating temperature	055°C	055°C	
Linearity error	< 0.5%	< 0.5%	
Offset error	< 0.5%	< 0.5%	
Amplification error	< 0.2%	< 0.2%	
Temperature coefficient	< 0.02%/K	< 0.02%/K	
Surge immunity	200 V	200 V	
Response time	10 mS	10 mS	
Protection degree	IP20	IP20	
Connection terminal	2.5 mm ² pluggable screw type (14 AWG)	2.5 mm ² pluggable screw type (14 AWG)	
Approx. weight	100 g (3.53 oz)	100 g (3.53 oz)	
Mounting information	vertical on rail adjacent without gap	vertical on rail adjacent without gap	
MOUNTING ACCESSORIES			
	DD/2/AC	DP/2/AS	
Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32		, PR/3/AS IN/AS, PR/DIN/AL	
	rn/JIN/AG, PK/J	NIV/AO, FN/DIIV/AL	

APPLICATIONS

In 99 mm depth measure is included the space occupied by the terminal block provided with the product. They allow the user to measure AC/ DC currents by an "HALL" sensor. The presence of current in a circuit indicates not only that power is supplied but also that the circuit is closed and the load connected and active. It is also possible to know the working conditions of the controlled circuit.

The module guarantees galvanic isolation between the current conductor and the analog output and, if not connected in series to the controlled current, cannot be damaged by power surges or short circuits.

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Frequency to analog signal converters

- Adjustable frequency range 0...28.8 Khz
- 3 programmable analog signal output ranges
- 3 ways I/O 2.5 KV isolation



CE

NOTES

The dimensions include the terminal blocks and the DIN clamp. (1) range 16.8...30 Vdc / 19.2...28.8 Vac (2) 3-way isolation: IN/OUT



Cat. No. X756524 CWNFA 6-0524

0...28.8 KHz adjustable via DIP switch

AC/DC 0.6...30 Vpp

 $50 \text{ K}\Omega$ 0.5 Vpp o 5 Vpp adjustable via DIP switch

0...10 V, (max. 10.6 V) 0...20 / 4...20 mA, (max 21 mA)

 $>\!\!1$ K $\!\Omega$ with output voltage $<\!\!400$ Ω with output current

< 5 mVeff

BLOCK DIAGRAM

APPLICATIONS

This module is used to convert a frequancy signal, with either sinusoidal or square waveform, into a standard analog signal (eg. 0...10 V, 0..20 mA, 4...20 mA). A microprocessor provides a high resolution, high stability and accuracy output signal and a dip switch gives the possibility to select a calibrated range of frequency measurement from 0 ... 100 Hz up to 0...28.8 kHz.

INPUT 1	TECHNICAL	DATA
---------	-----------	------

VERSIONS

Input signal (range) Input signal (type) Input resistance Hysteresis

OUTPUT TECHNICAL DATA

Output signal

Applicable load

Ripple

GENERAL TECHNICAL DATA	
Supply voltage	24 Vac/dc (1)
Rated current	20 mA
Accuracy	0.1 FS (23°C)
Linearity error	0.02%
Ripple	0.1%
Setting time (accuracy 1%)	200 ms
Temperature coefficient	70 ppm/K
Isolation	1.5 KVac / 60 s (2)
ECM standards	EN 61000-6-2, EN 61000-6-4
Reference Standard	IED 664-1, DIN VDE
Overvoltage category	
Pollution degree	2
Protection degree	IP 20 IEC 529 EN60529
Operating temperature range	-25+60°C
Connection terminal	1.5 mm ² fixed screw type
Housing material	PPE
Peso approssmativo	70 g (2.47 oz)
Mounting information	vertical on rail adjacent without gap
MOUNTING ACCESSORIES	
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail type according to IEC60715/G32	<u> </u>
Plug-in jumper red	_
white	—
blue	_



OUTPUT TECHNICAL DATA			
Output signal	8 bit	8 bit	8 bit
Max. output signal	25 mA	25 mA	25 mA
Signal level	"L" = 0, "H" = V _{IN} - 2 V	"L" = 0, "H" = V _{IN} - 2 V	"L" = 0, "H" = V _{IN} - 2 V
GENERAL TECHNICAL DATA			
Supply voltage	24 Vdc ± 10%	24 Vdc ± 10%	24 Vdc ± 10%
Rated current	25 mA	25 mA	25 mA
Operating temperature	055°C	055°C	055°C
Trasmission error	±1 LSB	±1 LSB	±1 LSB
Hold signal	enabled $> 5 V$	enabled $> 5 V$	enabled $> 5 V$
Bus signal	enabled $> 5 V$	enabled $> 5 V$	enabled $> 5 V$
Conversion time	1.5 ms	1.5 ms	1.5 ms
Resolution	39 mV	78 μA	63 µA
Temperature coefficient	0.01% k	0.01% k	0.01% k
Surge immunity	200 V	200 V	200 V
Protection degree	IP20	IP20	IP20
Connection terminal	2.5 mm ² pluggable screw type	2.5 mm ² pluggable screw type	2.5 mm ² pluggable screw type
Peso apprssimativo	103 g (3.64 oz)	103 g (3.64 oz)	103 g (3.64 oz)
Mounting information	vertical on rail adjacent without gap	vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES			
M		DD /0 /40 DD /0 /40	

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PR/3/AC, PR/3/AS PR/DIN/AC, PR/DIN/AS, PR/DIN/AL any new signal from the input, and

keeps the last stored signal which

can be supplied to the output when

the module receives a control signal on the bus, allowing connection in parallel of more modules.

Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32 Plug-in jumper

red white

blue



Digital to analog signal converters

- 8 bit resolution
- START/STOP function
- · Protected against transients
- Pluggable terminals

(3.70 in) (3.90 in) (0.99 in) Item available till sell-out

CE





VERSIONS		Cat. No. XW000936	Cat. No. XW000937	Cat. No. XW000938
IN: 8 bit / OUT: 0 10 V		DAC08V10		
IN: 8 bit / OUT: 020 mA			DAC08A0	
IN: 8 bit / OUT: 420 mA				DAC08A4
INPUT TECHNICAL DATA				
Input signal		8 bit	8 bit	8 bit
Max. input current		25 mA	25 mA	25 mA
Signal level		"L" < 2.5 V, "H"> 15 V	"L" < 2.5 V, "H"> 15 V	"L" < 2.5 V, "H"> 15 V
OUTPUT TECHNICAL DATA				
Output signal		010 V	020 mA	420 mA
Max. output signal		11 V	25 mA	25 mA
Applicable load		> 2 KΩ	<500 KΩ	<500 KΩ
GENERAL TECHNICAL DATA				
Supply voltage		24 Vdc ± 10%	24 Vdc ± 10%	24 Vdc ± 10%
Rated current		40 mA	40 mA	40 mA
Operating temperature		055°C	055°C	055°C
Transmission error		±1 LSB	±1 LSB	±1 LSB
Hold signal		enabled $> 5 V$	enabled $> 5 V$	enabled $> 5 V$
Conversion time		100 µs	100 µs	100 µs
Resolution		39 mV	78 µA	63 µA
Temperature coefficient		0.01% k	0.01% k	0.01% k
Surge immunity		200 V	200 V	200 V
Protection degree		IP20	IP20	IP20
Connection terminal		2.5 mm ² pluggable screw type	2.5 mm ² pluggable screw type	2.5 mm ² pluggable screw type
Peso approsimativo		103 g (3.64 oz)	103 g (3.64 oz)	103 g (3.64 oz)
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35-7.5			PR/3/AC, PR/3/AS	
Mounting rail type according to IEC60715/G32		Pf	R/DIN/AC, PR/DIN/AS, PR/DIN/	AL
Plug-in jumper	red		—	
	white		—	
	blue			

APPLICATIONS

his module allows to convert halog input signals into a digital bit output signal, suitable to be sed with the less expensive digital puts of any PLC. The 8 bit signal ored in the LATCH memory is ontrolled by HOLD signal input. If DLD is active, the memory does ot convert any new signal from e input, and keeps the last stored gnal which can be supplied to the itput when the module receives a ontrol signal on the bus, allowing onnection in parallel of more odules.



Analog signal to threshold converters

- · Adjustable threshold and hysteresis
- Monitorable threshold value
- Programmable min./max. function



CE

NOTES

The dimensions include the terminal blocks and the DIN clamp. S1=0FF/S2=0N Relay is turned 0N below the threshold (minimum function)

S1=OFF/S2=OFF Relay is turned ON above the threshold (minimum function)

S1=ON/S2=ON Relay is turned ON inside the hysteresis range S1=ON/S2=OFF Relay is turned ON outside the hysteresis range

VEDGIONG

(16 poles, 16 A)



VERSIONS	Cat. No. XW000926	Cat. No. XW000927
IN: O 10 V / OUT: 1 threshold	GWMV10	
N: 020 mA / OUT: 1 threshold		GWMAO
INPUT TECHNICAL DATA		
nput signal	010 V	020 mA
Max input signal	11 V	22 mA
Surge immunity	200 V	200 V
Resistance	> 100 KΩ	50 Ω
OUTPUT TECHNICAL DATA		
Relay contact	SPDT AgCdO	SPDT AgCdO
Rated voltage	250 Vdc, 230 Vac	250 Vdc, 230 Vac
Rated current	5 A	5 A
Max. continuous current	2 A	2 A
Min. contact current	—	-
Threshold value	100% contact ratio	100% contact ratio
Response time	20 ms	20 ms
GENERAL TECHNICAL DATA		
Supply voltage	24 Vdc ± 10%	24 Vdc ± 10%
Rated current	40 mA	40 mA
Surge immunity	200 V	200 V
Setpoint setting range	0.310 V	0.620 V
lysteresis setting range	0.110 V	0.220 V
Max. hysteresis offset	±30 mV	±60 μA
Fransmission error	0.5%	0.5%
Dperating temperature range	055°C	055°C
Connection terminal	2.5 mm ² pluggable screw type	2.5 mm ² pluggable screw type
Approx. weight	110 g (3.88 oz)	110 g (3.88 oz)
Nounting information	vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES		1
Mounting rail type according to IEC60715/TH35	PR/3/AC	, PR/3/AS
Mounting rail type according to IEC60715/G32		IN/AS, PR/DIN/AL
Plug-in jumper red		_

white

blue

Cot No VW00

APPLICATIONS

The modules were designed above all for two examples of application:

1. Threshold value signal

With the aid of a trimmer integrated in the module, a threshold value is set. The base is represented by the input signal of the connected sensor.

If the input signal reaches the nominal value set, a relay is enabled in the output stage. By means of a dip-switch, energisation or de-energisation of the relay can be selected on reaching the nominal value.

2. Minimum/maximum function

Having regulated the threshold, regulation of the hysteresis allows a non-intervention zone to be set between the minimum and maximum, of variable extent.

The relay does not operate on a threshold as constant on/off, but only if the upper and lower limits defined by the hysteresis set are exceeded.

On the THRESHOLD VALUE and HYSTERESIS terminals the limit value set can be displayed with the aid of an external voltmeter. The indication of this measuring instrument also allows the value to be read when setting the threshold and hysteresis values. If several switching points are required, there is the possibility of connecting the appliances with current input (in series).

100

Load cells converter

- Suitable for pressure sensors, for load cells, strain gauges and other measuring bridges
- High impedance differential input, bipolar input and output
- 3 programmable analog signal output ranges



CE

NOTES

Mounting rail type according to IEC60715/G32

red white

blue

Plug-in jumper

The dimensions include the DIN clamp. (1) range 20.4...28.8 Vdc



VERSIONS	Cat. No. X756522
	CWBRA 6-0522
INPUT TECHNICAL DATA	
Input current	1 nA (typical)
Noise	1 mV (0.110 Hz, pp RTI, typical)
Range changeover error	0.5%
Common mode range	-7 to +7 V
OUTPUT TECHNICAL DATA	
Output signal	010 V
	020 / 420 mA
Output current	<5 mA with output voltage
	<21 mA with output current
Output voltage	min.: -10.2 V / max.: 10.5 V
Applicable load	>2 K Ω with output voltage
Desidual ripple	$<400 \Omega$ with output current
Residual ripple	$< 5 \text{ mV}_{eff}$
GENERAL TECHNICAL DATA	
Supply voltage	24 Vac/dc (1)
Rated current	<30 mA
Accuracy	0.1 FS (23°C)
Linearity error	0.02%
Transmission frequency	range 30 mV: 25 Hz/6 Hz; range 1 mV: 2 Hz/1.5 Hz; reversibile
Setting time to accuracy 1%	25 Hz: 50 ms; 6 Hz: 200 ms; 2 Hz: 600 ms; 1.5 Hz: 800 ms
Operating voltage influence	0.005 %/V
Isolation	
ECM standards	EN 60721-3-3; EN 55011; EN 61000-4-2/6; EN 50178
Reference standards	IED 664-1; DIN VDE III / 2
Overvoltage category/Pollution degree	III 7 2 IP 20 IEC 529 EN60529
Protection degree Operating temperature range	-25+60°C
Connection terminal	1.5 mm ² fixed screw type
Housing material	PPE
Approx. weight	70 g (2.47 oz)
Mounting information	vertical on rail adjacent without gap
mounting information	vertiear on rail aujacent without gap
MOUNTING ACCESSORIES	
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

APPLICATIONS

These devices amplify the output signal of a measuring bridge and convert it in a standard analog signal (for example, 0...10 V, 0..20 mA, 4...20 mA). Suitable for pressure sensors, for load cells, strain gauges and other measuring bridges.

They have a high impedance differential input, bipolar I/O, and they supply the measuring bridge with an accurate auxiliary voltage. Moreover they are protected from short circuit, polarity inversion and from overvoltage up to 40 Vdc.

BLOCK DIAGRAM

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Auxiliary supply output for sensors and potentiometers

• Stabilized switching converter

- IN 16.8...20 Vdc / 9...11 Vdc 60 mA
- Suitable to feed potentiometers and sensors



CE

BLOCK DIAGRAM



The dimensions include the DIN clamp. (1) range 16.8...30 Vdc

NOTES





VERSIONS	Cat. No. X766184
With screw connection (standard)	CWCV 7-6184
With spring connection	
INPUT TECHNICAL DATA	
Rated voltage	24 Vdc (1)
Current @ lout max.	30 mA @ 10 Vdc
Protection fuse	T 1 A (external)
OUTPUT TECHNICAL DATA	
Voltage	10 Vdc (911 Vdc adjustable)
Maximum current	60 mA
Continuous current	60 mA
Load regulation	< 1%
Ripple @ rated U-I output	≤ 50 mVpp
Overload / short circuit protection	Sì
Output signal	yellow LED Power OK
Parallel connection	possible with external diode
GENERAL TECHNICAL DATA	
Operating temperature range	-25+60°C
Input/output isolation	50 Vac / 60 s
Protection degree	IP 20 IEC529, EN60529
EMC Standards	EN 50081-1, EN 50082-2, EN 61000-3-2
Surge immunity	EN61000-4-2, EN61000-4-4
Connection terminal	1.5 mm ² screw type / 1.5 mm ² spring type (16 AWG)
Housing material	Noryl UL94V-0
Approx. weight	35 g (1.24 oz)
Mounting information	vertical on rail adjacent without gap
MOUNTING ACCESSORIES	
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail type according to IEC60715/G32	<u> </u>
Plug-in jumper red	CWBK 7-0802 Cat. No. X766802
white	CWBK 7-0803 Cat. No. X766803
blue	CWBK 7-0804 Cat. No. X766804

APPLICATIONS

For the highest accuracy of electronic measurements in process control and automation systems, a stable supply source is required to feed reference voltages. Accuracy of position sensors, such as linear or rotary potentiometers, depends greatly on the stability and accuracy of the DC supply of the sensor. For this reason our modules are provided with a calibrated DC output dedicated to feed the sensor for the highest accuracy, and this feature also helps to save space and the cost of an external DC supply source.

102

NPN and PNP signal polarity inverter

- Converts a NPN sensor in a PNP sensor and vice versa
- · Compact design



CE

BLOCK DIAGRAM

The dimensions include the terminal blocks and the DIN clamp. (1) range 17...30 Vdc

NOTES



Cat. No. XNPNPNP **CI-NPN/PNP**

> 24 Vdc (1) 200 mÅ 120 KHz

A	P	P	IJ	C	A	Ц	0	N	S

It converts signal form PNP sensors into NPN signal and vice versa. It allows to adapt the PLC inputs to all sensors on the market, regardless of their output polarity, and it is a great help for maintenance and allows in any case a quick replacement of failed sensors when you need a PNP sensor but you have a NPN type.

INPUT TECHNICAL DATA
Input voltage
Max. current
Max, frequency

VERSIONS

GENERAL TECHNICAL DATA	
OFF state current	—
ECM standards	EN 61000-6-2, EN 61000-6-4
Reference Standard	IEC 664-1, DIN VDE
Overvoltage category	ll
Pollution degree	2
Protection degree	IP 20 IEC 529 EN60529
Operating temperature range	055°C
Connection terminal	morsetti a vite 2.5 mm2 fissi
Housing material	Poliammide UL94V-0
Approx. weight	20 g (0.71 oz)
Mounting information	vertical on rail adjacent without gap

blue

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32 Plug-in jumper red white

- 5 ()
vertical on rail adjacent without gap
PR/3/AC, PR/3/AS
PR/DIN/AC - PR/DIN/AS - PR/DIN/AL
—
—
—

EXAMPLE

Conversion from PNP to NPN

Conversion from NPN to PNP





Single relay modules quick selection table

These tables allow you to quickly select only the items, then check if all product's technical data meet your application requirements.

Number of	Input	Outp	Output		T	.	Dawa
relays	rated voltage	type / no. of contacts	rated current	Notes	Туре	Cat. No.	Page
1	12 Vdc	SPDT	16A	(2)	RF1012D	XRF1012D	106
1	12 Vdc	SPDT	10A	(1)	CM1C012	XCM1C012	107
1	12 Vdc	DPDT	5A	(1)	CM2C012	XCM2C012	108
1	12 Vdc	4PDT	ЗA	(1)	CM4C012	XCM4C012	109
1	12 Vac	SPDT	10A	(1)	CM1A012	XCM1A012	110
1	12 Vac	DPDT	5A	(1)	CM2A012	XCM2A012	111
1	12 Vac/dc	SPDT	6A	(1)	CWRE7-0848	X766848	115
1	24 Vdc	SPST(NO)	5A	(2)	RFA024D	XRFA024D	105
1	24 Vdc	SPDT	16A	(1)	RE1024D	XRE1024D	105
1	24 Vdc	SPDT	16A	(2)	RF1024D	XRF1024D	105
1	24 Vdc	SPDT	12A	(1)	CM1C024	XCM1C024	107
1	24 Vdc	SPDT	12A	(1)	RE1824D	XRE1824D	105
1	24 Vdc	SPDT	12A	(2)	RF1824D	XRF1824D	105
1	24 Vdc	DPDT	8A	(1)	CM2C024	XCM2C024	108
1	24 Vdc	4PDT	ЗA	(1)	CM4C024	XCM4C024	109
1	24 Vac/dc	SPDT	6A	(1)	CWRE7-0842	X766842	115
1	24 Vac/dc	SPDT	6A	(2) (3)	CKR16	XCKR16	114
1	24 Vac/dc	DPDT	8A	(1)	RE2024D	XRE2024D	106
2	24 Vac/dc	DPST(NO)	5A	(2)	CKR25	XCKR25	114
1	24 Vac	SPDT	12A	(1)	CM1A024	XCM1A024	110
1	24 Vac	DPDT	8A	(1)	CM2A024	XCM2A024	111
1	24 Vac	4PDT	ЗA	(1)	CM4A024	XCM4A024	112
1	48 Vdc	SPDT	10A	(1)	CM1C048	XCM1C048	107
1	48 Vdc	DPDT	5A	(1)	CM2C048	XCM2C048	108
1	48 Vac/dc	SPDT	6A	(1)	CWRE7-0845	X766845	115
1	110 Vdc	SPDT	10A	(1)	CM1C110	XCM1C110	107
1	110 Vdc	DPDT	5A	(1)	CM2C110	XCM2C110	108
1	110120 Vac/dc	SPDT	6A	(1)	CWRE7-0846	X766846	115
1	120 Vac	SPDT	10A	(1)	CM1A120	XCM1A120	110
1	120 Vac	DPDT	5A	(1)	CM2A120	XCM2A120	111
1	230 Vac	SPDT	6A	(1)	CWRE7-0847	X766847	115
1	230 Vac	SPDT	10A	(1)	CM1A230	XCM1A230	110
1	230 Vac	DPDT	5A	(1)	CM2A230	XCM2A230	111

(1) version with pluggable relay

(2) version with fixed relay

(3) protection fuse on the contact

(4) without LED and protection diode

24 Vdc SPDT single relay R series



NOTES

(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical

(2) Version available upon request





BLOCK DIAGRAM



VERSIONS		Cat. No. XRFA024D	Cat. No. XR?1824D	Cat. No. XR?1024D
Pluggable relay		-	RE1824D	RE1024D
Fixed relay		RFA024D	RF1824D	RF1024D
INPUT TECHNICAL DATA				
Rated voltage		24 Vdc ± 10%	24 Vdc ± 10%	24 Vdc ± 10%
Rated current (1 channel)		22 mA ± 10%	22 mA ± 10%	22 mA ± 10%
Turn ON time		15 ms	15 ms	15 ms
Turn OFF time		5 ms	5 ms	5 ms
Protection circuit		damping & polarity protection diode	damping & polarity protection diode	damping & polarity protection diode
OUTPUT TECHNICAL DATA				
Type and number of contacts		SPST(NO) AgSnO ₂	SPDT AgSnO ₂	SPDT AgSnO
Nominal current (resistive load)		5 A / 250 Vac	12 A / 250 Vac	12 A / 250 Vac
Current breaking power		5 A	12 A	12 A
Current of the fuse max.		_	—	_
GENERAL TECHNICAL DATA				
Operating temperature		-10+50°C	-10+50°C	-10+50°C
Coil/contact isolation		2.5 KVac / 60 s	2.5 KVac / 60 s	2.5 KVac / 60 s
Isolation between output terminals		0,5 kVac / 60 s (between open contact)	0,5 kVac / 60 s (between open contact)	0,5 kVac / 60 s (between open contact)
Protection degree		IP 00 IEC529, EN60529	IP 00 IEC529, EN60529	IP 00 IEC529, EN60529
Overvoltage category / pollution degree		III / 2	III / 2	III / 2
Reference Standard		IEC 664-1, DIN VDE 0110.1	IEC 664-1, DIN VDE 0110.1	IEC 664-1, DIN VDE 0110.1
Status display		green LED	green LED	green LED
Connection terminals		2.5 mm ² fixed screw type AWG26-14	2.5 mm ² fixed screw type AWG26-14	2.5 mm ² fixed screw type AWG26-14
Housing material		UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Approx. weight		30 g (1.07 oz)	44 g (1.55 oz)	44 g (1.55 oz)
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35		F	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZI	B
Mounting rail type according to IEC60715/G32			PR/DIN/AC - PR/DIN/AS - PR/DIN/AL	
Replacement relay	(1)	Cat. No. 8904000	Cat. No. 8904001	Cat. No. 89040
Screw type jumper	black		_	

24 Vdc SPDT single relay R series

NOTES



BLOCK DIAGRAM

¢ ¢ (1) Relay model is not binding, they may be modified without φφ prior warning. The technical data shown here is to be ç Q considered typical +|| (2) Version available upon request ₩⊏ h_{r} K1 0 14 0 0 11 لم 14 02 لو 0 0 24 0 $\overset{\circ}{}_{22}$ VERSIONS Cat. No. XRF1012D Cat. No. XRE2024D Pluggable relay RE2024D Fixed relay RF1012D **INPUT TECHNICAL DATA** Rated voltage 12 Vdc ± 10% 24 Vac / dc ± 10% Rated current (1 channel) 44 mA ± 10% 22 mA ± 10% Turn ON time 15 ms 15 ms Turn OFF time 5 ms 5 ms Protection circuit damping & polarity protection diode damping & polarity protection diode **OUTPUT TECHNICAL DATA** Type and number of contacts SPDT AgSnO, DPDT AgSnO, Nominal current (resistive load) 16 A / 250 Vac 8 A / 250 Vac Current breaking power 16 A 8 A Current of the fuse max. **GENERAL TECHNICAL DATA** Operating temperature -10...+50°C -10...+50°C Coil/contact isolation 2.5 KVac / 60 s 2.5 KVac / 60 s 0,5 kVac / 60 s (between open contact) 0,5 kVac / 60 s (between open contact) Isolation between output terminals Protection degree IP 20 IEC529, EN60529 IP 00 IEC529, EN60529 Overvoltage category / pollution degree Ⅲ/2 Ⅲ/2 Reference Standard IEC 664-1, DIN VDE 0110.1 IEC 664-1, DIN VDE 0110.1 Status display green LED green LED Connection terminals 2.5 mm² fixed screw type AWG26-14 2.5 mm² fixed screw type AWG26-14 UL94V-0 plastic material UL94V-0 plastic material Housing material 76 g (2.68 oz) 44 g (1.55 oz) Approx. weight Mounting information vertical on rail adjacent without gap vertical on rail adjacent without gap **MOUNTING ACCESSORIES** PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 PR/DIN/AC - PR/DIN/AS - PR/DIN/AL Replacement relay (1) Cat. No. 8904032 Cat. No. 8904002 Screw type jumper black _



Single relay DC input series CM

- Pluggable relay
- Mounting on DIN rail or panel through central screw
- Compact dimensions
- Cross and slotted screws
- Screw type jumper available

CE

white blue



NOTES

The height dimension includes 35 mm DIN rail.

- Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.
- (2) On request, there are available versions without signalling and protection circuit; for the order, please add the suffix "Z" to the item code (for example: XCM1C024Z).
- (3) On request, there are available versions with gold-plated contact; for the order, please add the suffix "U" to the item code (for example: XCM1C024U).

BLOCK DIAGRAM



VERSIONS	Ca	t. No. XCM1C012	Cat. No. XCM1C024	Cat. No. XCM1C048	Cat. No. XCM1C110		
12 Vdc		CM1C012					
24 Vdc			CM1C024				
48 Vdc				CM1C048			
110 Vdc					CM1C110		
INPUT TECHNICAL DATA							
Rated voltage		12 Vdc ±10%	24 Vdc ±10%	48 Vdc ±10%	110 Vdc ±10%		
Rated current (1 channel)		44 mA ±10%	22 mA ±10%	12 mA ±10%	11 mA ±10%		
Turn ON time		15 ms	15 ms	15 ms	15 ms		
Turn OFF time		5 ms	5 ms	5 ms	20 ms		
Protection circuit			damping	diode (2)			
OUTPUT TECHNICAL DATA							
Type and number of contacts			SPDT AgS	SnO ₂ (3)			
Nominal current (resistive load)			12 A / 1	250 Vac			
Current breaking power			12	2 A			
Current of the fuse max.			-	—			
GENERAL TECHNICAL DATA							
Operating temperature range			-10	+50°C			
Coil/contact isolation			4 kVac	c / 60 s			
Isolation between output terminals			1 kVac / 60 s (bet	ween open contact)			
Protection degree			IP 20 IEC 52	29, EN60529			
Overvoltage category/Pollution degree			III	/ 2			
Reference Standard			IEC 664-1, DI	N VDE 0110.1			
Status display			green L	ED (2)			
Connection terminal			2.5 mm ² fixed scre	ew type AWG26-14			
Housing material		UL94V-0 plastic material					
Approx. weight		54 g (1.90 oz)					
Mounting information			vertical on rail adjacent with	nout gap or panel with screw			
MOUNTING ACCESSORIES							
Mounting rail type according to IEC60715/TH35-7.5			PR/3/AC. PR/3/AC/7R	, PR/3/AS, PR/3/AS/ZB			
Mounting rail type according to IEC60715/G32							
Replacement relay	(1) C	Cat. No. 8904039	Cat. No. 8904001	Cat. No. 8904008	Cat. No. 8904047		
Screw type jumper	black			XCMB16B	0001011		
soron des lambo	ude't e		out. No. /				



DPDT single relay DC input series CM

- Pluggable relay
- Mounting on DIN rail or panel through central screw
- Compact dimensions
- Cross and slotted screws
- Screw type jumper available

CE

white

blue



NOTES

The height dimension includes 35 mm DIN rail.

(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.

BLOCK DIAGRAM



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INPUT TECHNICAL DATA 12 Vic ±10% 24 Vic ±10% 48 Vic ±10% 110 Vic ±1 Rated voltage 44 m ±10% 22 m ±10% 24 m ± 10% 11 m ± 10 Rated voltage 44 m ± 10% 22 m ± 10% 24 m ± 10% 11 m ± 10 Turn ON time 15 ms 16 ms<	VERSIONS		Cat. No. XCM2C012	Cat. No. XCM2C024	Cat. No. XCM2C048	Cat. No. XCM2C110		
By Vdc CM2C048 CM2C110 I10 Vdc I CM2C048 CM2C110 Bated voltage 12 Vdc ±10% 24 Vdc ±10% 48 Vdc ±10% 110 Vdc ±1 Bated voltage 12 Vdc ±10% 24 Vdc ±10% 24 Nd ±10% 11 m 4±0 Bated voltage 12 Vdc ±10% 24 Nd ±10% 24 mA ±10% 11 m 4±0 Inno Nt Ime 14 m 4±10% 22 mA ±10% 24 mA ±10% 11 m 4±0 Turn ON Time 5 ms 15 ms 15 ms 15 ms 20 ms Vorterion circuit 0UTPUT TECHNICAL DATA 0 0UTPUT TECHNICAL DATA 0UTrust ceasing power 20 ms Vorteriot cracking power 0urrent treaking power 8 A / 250 Vac 0urrent treaking power 0urrent treaking power <t< td=""><td>12 Vdc</td><td></td><td>CM2C012</td><td></td><td></td><td></td></t<>	12 Vdc		CM2C012					
ID Vice CM2C110 INPUT TECHNICAL DATA CM2C110 Rated voltage 12 Vdc ±10% 24 Vdc ±10% 48 Vdc ±10% 110 Vdc ±1 Rated voltage 12 Vdc ±10% 22 mA ±10% 24 mA ±10% 11 mA ±10 Turn ON time 15 ms 15 ms 15 ms 15 ms 20 ms 20 ms OUTPUT TECHNICAL DATA DPDT AgSn0 Nominal current (resistive load) DPDT AgSn0 Nominal current (resistive load) 20 ms 20 ms<	24 Vdc			CM2C024				
INPUT TECHNICAL DATA Rated voltage 12 Vdc ±10% 24 Vdc ±10% 48 Vdc ±10% 11 m 4±0% Rated voltage 44 m ±10% 22 m ±10% 24 m ±10% 11 m ±±0 Turn ON time 15 ms 12 0 ms 20 ms 16 ms	48 Vdc				CM2C048			
Rated voltage 12 Vdc ±10% 24 Vdc ±10% 48 Vdc ±10% 110 Vdc ±1 Rated voltage 44 mA ±10% 22 mA ±10% 24 mA ±10% 11 mA ±10 Num ON time 15 ms 15 ms 15 ms 15 ms 15 ms 20 ms Protection circuit 0UTPUT TECHNICAL DATA 5 ms 5 ms 5 ms 20 ms Voge and number of contacts 0PDT AgSn0, 8 A 250 Vac 25 ms 20 ms Outrent of the law max. 0 8 A 250 Vac 25 ms 20 ms Operating temperature range -10,+50°C -10,+50°C -10,+50°C 26 kVac 26 kVac 28 kVac	110 Vdc					CM2C110		
Atted current (1 channel) 44 mA ±10% 22 mA ±10% 24 mA ±10% 11 mA ±10 Turn ON time 15 ms 15 ms 15 ms 15 ms 15 ms 20 ms Turn OFF time 5 ms 5 ms 5 ms 20 ms 70 ms 15 ms 15 ms 15 ms 15 ms 15 ms 20 ms OUTPUT TECHNICAL DATA DPDT AgSn0_	INPUT TECHNICAL DATA							
Turn ON time 15 ms 20 ms Outrput TECHNICAL DATA 5 ms 5 ms 5 ms 20 ms Outrput TECHNICAL DATA 0 <th0< th=""> <th0< th=""> <th0< td="" th<=""><td>Rated voltage</td><td></td><td>12 Vdc ±10%</td><td>24 Vdc ±10%</td><td>48 Vdc ±10%</td><td>110 Vdc ±10%</td></th0<></th0<></th0<>	Rated voltage		12 Vdc ±10%	24 Vdc ±10%	48 Vdc ±10%	110 Vdc ±10%		
furn OFF time 5 ms 5 ms 5 ms 20 ms Protection circuit 6 mping diode	Rated current (1 channel)		44 mA ±10%	22 mA ±10%	24 mA ±10%	11 mA ±10%		
Protection circuit damping diode OUTPUT TECHNICAL DATA yoe and number of contacts bornial current (resistive load) current tresistive load) current tresistive load) current tresistive load) current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL DATA perating temperature range current of the fuse max. GENERAL TECHNICAL CESSORIES Mounting information GENERA	Furn ON time		15 ms	15 ms	15 ms	15 ms		
OUTPUT TECHNICAL DATA Type and number of contacts Jointial current (resistive load) Current of the fuse max. GENERAL TECHNICAL DATA Operating temperature range Current of the fuse max.	Furn OFF time		5 ms	5 ms	5 ms	20 ms		
DPDT AgSn0_ Jominal current (resistive load) 8 A / 250 Vac Current of the fuse max.	Protection circuit			dampir	ig diode			
Wominal current (resistive load) 8 A / 250 Vac Current breaking power 8 A Current of the fuse max.	OUTPUT TECHNICAL DATA							
BA Current of the fuse max. — GENERAL TECHNICAL DATA Operating temperature range — Coll/contact isolation Solation Solation between output terminals — Protection degree It kVaz / 60 s Owervoltage category/Pollution degree III / 2 Status display	Type and number of contacts			DPDT	AgSn0,			
Current of the fuse max.	Nominal current (resistive load)			8 A / 2	250 Vac			
GENERAL TECHNICAL DATA Operating temperature range Coll/contact isolation solation between output terminals ortection degree Protection degree Deveroltage category/Pollution degree Beference Standard Status display Connection terminal Housing material Approx. weight Mounting rail type according to IEC60715/G32 Mounting rail type according to IEC60715/G32 Mounting rail type according to IEC60715/G32 Cat. No. 8904004 Cat. No. 8904002 Cat. No. 8904002 Cat. No. 8904002	Current breaking power			8	Α			
Operating temperature range -10+50°C Coil/contact isolation 4 kVac / 60 s solation between output terminals 1 kVac / 60 s (between open contact) Protection degree II / 2 Overvoltage category/Pollution degree III / 2 Reference Standard IEC 664-1, DIN VDE 0110.1 Status display green LED Connection terminal 2.5 mm² fixed screw type AWG26-14 Housing material UL94V-0 plastic material Approx. weight 67 g (2.37 oz) Mounting rail type according to IEC60715/TH35-7.5 PR/3/AC/ZB, PR/3/AS, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/G32 - Replacement relay (1) Cat. No. 8904000 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904009	Current of the fuse max.			-	_			
Coll/Contact isolation 4 kVac / 60 s solation between output terminals 1 kVac / 60 s Protection degree IP 20 IEC 529, EN60529 Divervoltage category/Pollution degree III / 2 Reference Standard IEC 664-1, DIN VDE 0110.1 Status display green LED Connection terminal 2.5 mm² fixed screw type AWG26-14 Housing material UL94V-0 plastic material Approx. weight 67 g (2.37 oz) Mounting information vertical on rail adjacent without gap or panel with screw Mounting rail type according to IEC60715/TH35-7.5 PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/G32 - Replacement relay (1) Cat. No. 8904040 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904009	GENERAL TECHNICAL DATA							
solation between output terminals 1 kVac / 60 s (between open contact) Protection degree II 20 IEC 529, EN60529 Dervoltage category/Pollution degree III / 2 Reference Standard IEC 664-1, DIN VDE 0110.1 Status display green LED Connection terminal 2.5 mm² fixed screw type AWG26-14 Housing material UL94V-0 plastic material Approx. weight 67 g (2.37 oz) Wounting information vertical on rail adjacent without gap or panel with screw MOUNTING ACCESSORIES Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32 Replacement relay (1) Cat. No. 8904040 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904009	Operating temperature range			-10	+50°C			
Protection degree IP 20 IEC 529, EN60529 Overvoltage category/Pollution degree III / 2 Reference Standard IEC 664-1, DIN VDE 0110.1 Status display green LED Connection terminal 2.5 mm² fixed screw type AWG26-14 Housing material UL94V-0 plastic material Approx. weight 67 g (2.37 oz) Wounting information vertical on rail adjacent without gap or panel with screw MOUNTING ACCESSORIES PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/TH35-7.5 PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/G32 — Replacement relay (1) Cat. No. 8904000 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904009	Coil/contact isolation			4 kVac	:/60s			
Divervoltage category/Pollution degree III / 2 Reference Standard IEC 664-1, DIN VDE 0110.1 Status display green LED Connection terminal 2.5 mm² fixed screw type AWG26-14 Housing material UL94V-0 plastic material Approx. weight 67 g (2.37 oz) Mounting information vertical on rail adjacent without gap or panel with screw Mounting rail type according to IEC60715/TH35-7.5 PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/G32 — Replacement relay (1) Cat. No. 8904000 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904009	solation between output terminals			1 kVac / 60 s (bet	ween open contact)			
Reference Standard IEC 664-1, DIN VDE 0110.1 Status display green LED Connection terminal 2.5 mm² fixed screw type AWG26-14 Housing material UL94V-0 plastic material Approx. weight 67 g (2.37 oz) Wounting information vertical on rail adjacent without gap or panel with screw MOUNTING ACCESSORIES PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/TH35-7.5 PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/G32 — Replacement relay (1) Cat. No. 8904000 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904009	Protection degree			IP 20 IEC 52	29, EN60529			
Status display green LED Connection terminal 2.5 mm² fixed screw type AWG26-14 Housing material UL94V-0 plastic material Approx. weight 67 g (2.37 oz) Mounting information vertical on rail adjacent without gap or panel with screw Mounting rail type according to IEC60715/TH35-7.5 PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/G32 - Replacement relay (1) Cat. No. 8904000 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904009	Overvoltage category/Pollution degree			III	/ 2			
Connection terminal 2.5 mm² fixed screw type AWG26-14 Housing material UL94V-0 plastic material Approx. weight 67 g (2.37 oz) Mounting information vertical on rail adjacent without gap or panel with screw Mounting rail type according to IEC60715/TH35-7.5 PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/G32 — Replacement relay (1) Cat. No. 8904040 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904009	Reference Standard			IEC 664-1, DI	N VDE 0110.1			
Housing material UL94V-0 plastic material Approx. weight 67 g (2.37 oz) Mounting information vertical on rail adjacent without gap or panel with screw MOUNTING ACCESSORIES Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32 Replacement relay (1) Cat. No. 8904040 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904	Status display			greei	n LED			
Approx. weight 67 g (2.37 oz) Mounting information vertical on rail adjacent without gap or panel with screw MOUNTING ACCESSORIES PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/TH35-7.5 PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB Mounting rail type according to IEC60715/G32 — Replacement relay (1) Cat. No. 8904040 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904009	Connection terminal			2.5 mm ² fixed scre	ew type AWG26-14			
Mounting information vertical on rail adjacent without gap or panel with screw MOUNTING ACCESSORIES Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32 Replacement relay (1) Cat. No. 8904040 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 890400 Cat. No. 89040	Housing material							
MOUNTING ACCESSORIES Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32 Replacement relay (1) Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904002 Cat. No. 8904009	Approx. weight		67 g (2.37 oz)					
Mounting rail type according to IEC60715/TH35-7.5 PR/3/AC, PR/3/AC, PR/3/AC, PR/3/AS, PR/3/AS	Mounting information			vertical on rail adjacent with	nout gap or panel with screw			
Mounting rail type according to IEC60715/TH35-7.5 PR/3/AC, PR/3/AC, PR/3/AC, PR/3/AS, PR/3/AS	MOUNTING ACCESSORIES							
Mounting rail type according to IEC60715/G32 — Replacement relay (1) Cat. No. 8904040 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904009				PR/3/AC. PR/3/AC/7R	PB/3/AS, PR/3/AS/ZB			
Replacement relay (1) Cat. No. 8904040 Cat. No. 8904002 Cat. No. 8904009 Cat. No. 8904				-	_			
		(1)	Cat. No. 8904040	Cat. No. 8904002	Cat. No. 8904009	Cat. No. 8904054		
	Screw type jumper	black						


4PDT single relay DC input series CM

- Pluggable relay
- Mounting on DIN rail or panel through central screw
- Compact dimensions
- Cross and slotted screws
- Screw type jumper available

CE

white blue



NOTES

The height dimension includes 35 mm DIN rail.

(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.

BLOCK DIAGRAM	
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A1 (+)	A2 (-)
кі Ціді-	
110-0-0-	0 12 0 14
210-0-0-	—O 22 —O 24
310-0-0-	—O 32 —O 34
410-0-0-	

VERSIONS		Cat. No. XCM4C012	Cat. No. XCM4C024	Cat. No. XCM1C048	Cat. No. XCM1C110
12 Vdc		CM4C012			
24 Vdc			CM4C024		
48 Vdc				_	
110 Vdc					_
INPUT TECHNICAL DATA					
Rated voltage		12 Vdc ±10%	24 Vdc ±10%		
Rated current (1 channel)		75 mA ±10%	38 mA ±10%		
Turn ON time		20 ms	20 ms		
Turn OFF time		20 ms	20 ms		
Protection circuit			dampi	ng diode	
OUTPUT TECHNICAL DATA					
Type and number of contacts			4PDT	AgSn0,	
Nominal current (resistive load)				250 Vac	
Current breaking power			3	BA	
Current of the fuse max.			-	_	
GENERAL TECHNICAL DATA					
Operating temperature range			-10	.+50°C	
Coil/contact isolation			4 kVa	c / 60 s	
Isolation between output terminals			1 kVac / 60 s (bet	ween open contact)	
Protection degree			IP 20 IEC 5	29, EN60529	
Overvoltage category/Pollution degree				/2	
Reference Standard			IEC 664-1, D	IN VDE 0110.1	
Status display				n LED	
Connection terminal			2.5 mm ² fixed scr	ew type AWG26-14	
Housing material				astic material	
Approx. weight					
Mounting information			vertical on rail adjacent wit	hout gap or panel with screw	
MOUNTING ACCESSORIES					
Mounting rail type according to IEC60715/TH35-7.5			PR/3/AC. PR/3/AC/ZB	, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32					
Replacement relay	(1)	Cat. No. 8904018	Cat. No. 8904030		
Screw type jumper	black		Cat. No.	XCMB27B	



Single relay AC input series CM

- Pluggable relay
- Mounting on DIN rail or panel through central screw
- Compact dimensions
- Cross and slotted screws
- Screw type jumper available

CE

white blue



The height dimension includes 35 mm DIN rail.

 Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.

NOTES



VERSIONS		Cat. No. XCM1A012	Cat. No. XCM1A024	Cat. No. XCM1A120	Cat. No. XCM1A230
12 Vdc		CM1A012			
24 Vdc			CM1A024		
120 Vdc				CM1A120	
230 Vdc					CM1A230
INPUT TECHNICAL DATA					
Rated voltage		12 Vac ±10%	24 Vac ±10%	120 Vac ±10%	230 Vac ±10%
Rated current (1 channel)		95 mA ±10%	48 mA ±10%	10.5 mA ±10%	6 mA ±10%
Furn ON time		15 ms	15 ms	15 ms	15 ms
urn OFF time		10 ms	10 ms	10 ms	10 ms
Protection circuit			-	_	
OUTPUT TECHNICAL DATA					
ype and number of contacts			SPDT	AgSnO ₂	
Nominal current (resistive load)			12 A / 1	250 Vac	
Current breaking power			12	2 A	
Current of the fuse max.			-	_	
GENERAL TECHNICAL DATA					
Dperating temperature range			-10	+50°C	
Coil/contact isolation			4 kVac	:/60s	
solation between output terminals			1 kVac / 60 s (bet	ween open contact)	
Protection degree			IP 20 IEC 52	29, EN60529	
Overvoltage category/Pollution degree			III	/ 2	
Reference Standard			IEC 664-1, DI	N VDE 0110.1	
Status display				1 LED	
Connection terminal			2.5 mm ² fixed scre	ew type AWG26-14	
lousing material				astic material	
Approx. weight			54 g (1	l.91 oz)	
Mounting information			vertical on rail adjacent with	nout gap or panel with screw	
MOUNTING ACCESSORIES					
Mounting rail type according to IEC60715/TH35-7.5				, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32					
Replacement relay	(1)	Cat. No. 8904016	Cat. No. 8904048	 Cat. No. 8904056	Cat. No. 8904050
Screw type jumper	black	Jul. 110. 0304010		B16B	Jul. NO. 0304030
Jorow type jumper	white		XOIVI	0100	



DPDT single relay AC input series CM

- Pluggable relay
- Mounting on DIN rail or panel through central screw
- Compact dimensions
- Cross and slotted screws
- Screw type jumper available

75 (2.96 in) 16 (0.63 in) 75 (2.96 in)

NOTES

CE

white blue

The height dimension includes 35 mm DIN rail.

(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.





VERSIONS		Cat. No. XCM2A012	Cat. No. XCM2A024	Cat. No. XCM2A120	Cat. No. XCM2A230
12 Vac		CM2A012			
24 Vac			CM2A024		
120 Vac				CM2A120	
230 Vac					CM2A230
INPUT TECHNICAL DATA					
Rated voltage		12 Vac ±10%	24 Vac ±10%	120 Vac ±10%	230 Vac ±10%
Rated current (1 channel)		95 mA ±10%	48 mA ±10%	10.5 mA ±10%	6 mA ±10%
Turn ON time		15 ms	15 ms	15 ms	15 ms
Turn OFF time		10 ms	10 ms	10 ms	10 ms
Protection circuit			-	_	
OUTPUT TECHNICAL DATA					
Type and number of contacts			DPDT	AgSn0,	
Nominal current (resistive load)			8 A / 2	250 Vac	
Current breaking power			8	Α	
Current of the fuse max.			-	—	
GENERAL TECHNICAL DATA					
Operating temperature range			-10	+50°C	
Coil/contact isolation			4 kVao	c / 60 s	
Isolation between output terminals			1 kVac / 60 s (bet	ween open contact)	
Protection degree			IP 20 IEC 52	29, EN60529	
Overvoltage category/Pollution degree				/ 2	
Reference Standard			IEC 664-1, D	N VDE 0110.1	
Status display				n LED	
Connection terminal				ew type AWG26-14	
Housing material				astic material	
Approx. weight				2.37 oz)	
Mounting information			vertical on rail adjacent with	nout gap or panel with screw	
MOUNTING ACCESSORIES					
Mounting rail type according to IEC60715/TH35-7.5			PR/3/AC, PR/3/AC/78	, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32					
Replacement relay	(1)	Cat. No. 8904017	Cat. No. 8904055	Cat. No. 8904056	Cat. No. 8904057
Screw type jumper	black		Cat. No.	XCMB16B	
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4PDT single relay AC input series CM

- Pluggable relay
- Mounting on DIN rail or panel through central screw
- Compact dimensions
- Cross and slotted screws
- Screw type jumper available

75 (2.96 in) 27 (1.06 in) 68 (2.86 in)

CE



кі Ц	
110-00	
210-00	O 22 O 24
310-00	O 32 O 34
410-00	0 42 0 44

The height dimension includes 35 mm DIN rail.(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be

NOTES

considered typical.

VERSIONS Cat. No. XCM4A024
_
CM4A024
-
INPUT TECHNICAL DATA
tage 24 Vac ±10%
rent (1 channel) 38 mA ±10%
time 20 ms
time 20 ms
n circuit —
OUTPUT TECHNICAL DATA
number of contacts DPDT AgSnO,
current (resistive load) 3 A / 250 Vac
reaking power 3 A
f the fuse max. —
GENERAL TECHNICAL DATA
temperature range -10+50°C
act isolation 4 kVac / 60 s
petween output terminals 1 kVac / 60 s (between open contact)
n degree IP 20 IEC 529, EN60529
ge category/Pollution degree III / 2
e Standard IEC 664-1, DIN VDE 0110.1
splay green LED
on terminal 2.5 mm² fixed screw type AWG26-14
naterial UL94V-0 plastic material
veight
information vertical on rail adjacent without gap or panel with s
MOUNTING ACCESSORIES
rail type according to IEC60715/TH35-7.5 PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/Z
rail type according to IEC60715/G32 —

would in type according to 12000	110/002	—
Replacement relay	(1)	Cat. No. 8904033
Screw type jumper	black	-
	white	-
	blue	-

CK system interface

The CK series is a collection of interfaces for sensors and actuators, is composed by a wide range of electromechanical relay and solid state relay modules and passive interfaces in modular housings, which are only 6 mm wide thus saving valuable space. All products are mounted inside the CK housing, which is also available for use as a housing for custom. The CK housing can be equipped with six 2.5 mm spring-clamp terminals and four contacts for the insertion of a PTC parallel connection bridge, which provides for quick and easy circuit bridging and saves space and harness time.

cabur

The product range is currently composed by:

- Single electromechanical relay with 6 A/250 Vac SPDT protected with replaceable fuse, status Led display on front panel, AC/DC input and positive or negative common on relay coil.
- Double electromechanical relay with 5 A/250 Vac SPST (NO), two status LED displays on front panel, AC/DC input and positive or negative common on relay coil.
- Single solid state relay for common negative load, 5 A /48 Vdc output current, protected with Pouble solid state relay suitable for 12-24 Vdc 2.5 A loads, status LED display on front panel and
- positive or negative common of the input and output as well.
- Diode-holder modules with common anode (CK...AC) or common cathode (CK...CC).
- Lamp and LED test modules.
- Supply connection and distribution modules with LED display.

Composition of an interface with the CK System:

- The required modules must be selected and mounted on the DIN rail.
- The common poles of inputs and outputs can be connected in parallel using the fast connection bridges PTC/CK/42.
- For the connection of inputs and outputs of the relay module interface, we recommend to use the CKF supply distribution module: it allows to connect and distribute the feeding potential to inputs and outputs on all adjacent modules; the CKF module can be mounted as first module, or even better, in the middle position of the interfaces assembly, to divide 50+50% the current on the bridge and to reduce voltage drop and heating; the CKF- - is available with LED for ON display, and is equipped with four 2.5 mm / AWG 26 \div 14 / 24 A rated spring-clamp terminals - input and output.
- In order to assure the IP XXB protection degree, the last module must be protected and insulated using the **CK/PT** end section.
- Main technical data and BLOCK DIAGRAM are printed on one side of each module; for individual terminal block marking, CNU/8 marking tags are available; CNU/8 marking tags are available in blank format for plotter or pen marking, or in CK dedicated series bearing numbers and/or symbols and allow to have 4, 8, 16 relay interface modules, each one individually marked on all poles.
- If the input and output power supply cables of the interface assembly are directly connected to eg. the first module, two cables must be connected on a single terminal block (feeding wire and load wire) forcing to reduce the cross-section of each conductor to less than 2,5 mm; 2consequently, this means a current and a reduction of the total number of relay modules that can be fed; the problem can be solved by using the CKF feeder distribution module as described in the third point.

Easy Bridge system

The fast connection bridge PTC/CK/42 has 42 poles, and a rated current of 32 A; WARNING: the total current is limited by the rated current of the spring-clamp terminal block (24 A): if a PTC/CK serves 10 relays, a rated current of 2.4 A can be distributed on to each relay.

- The use of PTC/CK bridges is simple and cost effective; the following instructions must be followed: after having cut the PTC/CK/42-pole bar according to required number of poles, in order to maintain the IPXXB protection degree the bar must be sheared in proximity of the end poles (see pictures 1 and 2);
- insert the jumper in the slot of the CK terminals (see picture 3);
 by using the blade of a screwdriver, the PTC bridge must be pushed down until it snaps into the female contacts; in case of long jumpers, the operation shall be started by pushing the bridge in the middle, then gradually on left / right sides; the jumper will then result completely IPXXB insulated (see picture 4);
- to remove the jumper, the blade of a screwdriver shall be inserted into the slot provided in the upper side of the PTC bridge, then lifted up and finally extracted; in case of long jumpers, the bridge shall be lifted in the middle, then gradually on left / right sides (pictures 5 and 6).















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3



24 Vdc relay modules **CKR** series

- Built-in replaceable contact protection fuse
- AC/DC common negative or positive input
- Status LED display, reverse polarity protection, crow-bar diode
- 6 mm wide
- Plug-in jumper available



NOTES

- (1) The contact rated voltage is 250 Vac; max operating voltage of the contact of the module is 50 Vac-Vdc, limited by the voltage ratings of the adopted type of fuse, which is rated for ≤50 Vac-75 Vdc SELV voltages; WARNING: if used with higher voltage, it does not guarantee breaking power and thus safety, and IP protection degree is lowered to IP 00; fuses with higher current ratings are not allowed and do not protect the contact against short circuit and overcurrents
- (2) Version available upon request.
- (3) In order to assure the IP20 protection degree, the last module must be protected and insulated using the CK/PT end section.



VERSIONS		Cat. No. XCKR16	Cat. No. XCKR25
1 channel		CKR16	_
2 channels		_	CKR25
INPUT TECHNICAL DATA			
Rated voltage		24 Vac/dc ± 10%	24 Vac/dc ±10%
Rated current (1 channel)		≤15 mA ± 10% @ 24 Vdc	≤13 mA ±10% @ 24 Vdc
Turn ON time		5 ms	5 ms
Turn OFF time		10 ms	10 ms
Protection circuit		bridge rectifier	bridge rectifier
OUTPUT TECHNICAL DATA			
Type and number of contacts		SPDT AgSnO ₂	2PST (NO) AgSnO ₂
Nominal current (resistive load)		6 A / 250 Vac	5 A / 250 Vac
Current breaking power		30 A	30 A
Current of the fuse max.		—	—
GENERAL TECHNICAL DATA			
Operating temperature		-20+60°C	-20+60°C
Coil/contact isolation		3 KVac / 60 s	3 KVac / 60 s
Isolation between output terminals			
Protection degree		IP 20 IEC529, EN60529	IP 00 IEC529, EN60529
Overvoltage category / pollution degree		II / 2	II / 2
Reference Standard		IEC 664-1, DIN VDE 0110.1	IEC 664-1, DIN VDE 0110.1
Status display		green LED	green LED
Connection terminals		2.5 mm ² AWG26-14 fixed spring type	2.5 mm ² AWG26-14 fixed spring type
Housing material		polyamide UL94V-0	polyamide UL94V-0
Approx. weight		40 g (1.41 oz)	43 g (1,52 oz)
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35		PR/3/AC, PR/3/AC/ZB	PR/3/AS, PR/3/AS/ZB
Mounting rail type according to IEC60715/G32		PR/DIN/AC - PR/D	IN/AS - PR/DIN/AL
Replacement relay	(1)	—	—
Plug-in jumper	_	Cat. No. PTCCK42 (42 poles)	Cat. No. XCKPT
Marking tags	blank	Cat. No. NU008	Cat. No. NU008
	in a first second	Cot No NOCK1610	Cot No NOCKOE10

Cat. No. N8CK1610

Cat. No. N8CK1620

printed

printed

12

K1 ϘΥ +/- Η A2 QY K2 K1

BLOCK DIAGRAM

11-21 14 57

Cat. No. NU008 Cat. No. N8CK2518

End plate

114

◆ cabur

Relay modules AC/DC input series CWRE

- Pluggable relay
- Status LED display
- 6.2 mm wide
- Plug-in jumper available



NOTES

APPLICAZIONI

CE

The height dimension includes 35 mm DIN rail.

- Version available upon request; for information call our sales department, local agent or representative.
- (2) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.

The CWRE series is suitable for the commutation of signals and is equipped with a pull-out relay to make the maintenance operations easy. Furthermore this series offers the possibility to execute the parallel on both the input and output side by the means of a proper comb jumper.





VERSIONS	Cat. No. X766848	3 Cat. No. X766842	Cat. No. X766845	Cat. No. X766846	Cat. No. X766847
12 Vac/dc	CWRE7-0848				
24Vac/dc		CWRE7-0842			
48 Vac/dc (1)			CWRE7-0845 (1)		
115 Vac/dc				CWRE7-0846	
230 Vac/dc					CWRE7-0847
INPUT TECHNICAL DATA					
Rated voltage	12 Vac/dc ±10%	24 Vac/dc ±10%	48 Vac/dc ±10%	115 Vac/dc ±10%	230 Vac/dc ±10%
Rated current (1 channel)	10 mA +10%	7 mA +10%	5 mA +10%	4 mA +10%	4 mA +10%
Turn ON time	8 ms	8 ms	7 ms	8 ms	8 ms
Turn OFF time	5 ms	5 ms	7 ms	13 ms	13 ms
Protection circuit	0 110	0 110	bridge rectifier	1 101110	10 110
OUTPUT TECHNICAL DATA			-		
Type and number of contacts			SPDT AgSnO ₂ (3)		
Nominal current (resistive load)			6 A / 250 Vac : 6 A / 30 Vd	c	
Current breaking power			/ 1A; 115V / 200 mA; 2		
Current of the fuse max.			—		
GENERAL TECHNICAL DATA					
Operating temperature			-40+70°C		
Coil/contact isolation			4 kVac / 60 s		
Isolation between output terminals		1 K	Vac / 60 s (between open co	ntact)	
Protection degree			IP 20 IEC 529, EN60529		
Overvoltage category / pollution degree			Ⅲ/2		
Reference Standard			IEC 664.1, DIN VDE 0110.1	1	
Status display			green LED		
Connection terminals		2.5	mm ² fixed screw type AWG2	26-14	
Housing material			UL94V-0 plastic material		
Approx. weight			35 g (1.23 oz)		
Mounting information		ver	rtical on rail adjacent without	gap	
MOUNTING ACCESSORIES					
Mounting rail type according to IEC60715/TH35-7.5		PR/3/AC	, PR/3/AC/ZB, PR/3/AS, P	R/3/AS/ZB	
Mounting rail type according to IEC60715/G32			—		
Replacement relay	(2)	Cat. No. 8904027			
Plug-in jumper	black		· _		
	white		_		
	blue		7-0813 (Cat. No. X766813)		



Multiple relay modules quick selection table

These tables allow you to quickly select only the items, then check if all product's technical data meet your application requirements.

Number of		Output			_		-
relays	Input rated voltage	type / no. of contacts	rated current	Notes	Туре	Cat. No.	Page
4	12 Vdc	SPDT	10 A	(1) (4)	R41E12	XR041E12	125
4	12 Vdc	DPDT	5 A	(1) (4)	R42E12	XR042E12	126
4	24 Vdc	SPDT	12 A	(1) (4)	R41E24	XR041E24	117
4	24 Vdc	SPDT	12 A	(1) (5)	R41E24P	XR041E24P	118
4	24 Vdc	SPDT	12 A	(3) (4)	Z4124D	XZ04124D	130
4	24 Vdc	DPDT	8 A	(1) (4)	R42E24	XR042E24	121
4	24 Vdc	DPDT	8 A	(1) (5)	R42E24P	XR042E24P	122
4	24 Vdc	DPDT	8 A	(3) (4)	Z4224D	XZ04224D	131
4	24 Vac/dc	SPDT	8 A	(2) (6)	CR4-1	XCR41	132
4	24 Vac/dc	SPDT	8 A	(2) (6)	CR4-2	XCR42	132
4	24 Vac/dc	SPDT	8 A	(1) (6)	CRE4-1	XCRE41	132
4	24 Vac/dc	SPDT	12 A	(1) (6)	R41EAD	XR041EAD	119
4	24 Vac/dc	SPDT	12 A	(1) (6) (8)	R41U24F	XR041U24F	120
4	24 Vac/dc	DPDT	8 A	(1) (6)	R42EAD	XR042EAD	123
4	24 Vac/dc	DPDT	8 A	(2) (6)	CR4-2SC	XCR42SC	134
4	24 Vac/dc	DPDT	8 A	(1) (6)	CRE4-2SC	XCRE42SC	134
4	110 Vdc/120 Vac ±10%	SPDT	10 A	(1) (6)	R41E11A	XR041E1A	128
4	230 Vac	SPDT	10 A	(1) (6)	R41E22A	XR041E2A	120
8	12 Vdc	SPDT	10 A	(1) (4)	R81E12	XR081E12	125
8	12 Vdc	DPDT	5 A	(1) (4)	R82E12	XR082E12	125
8	24 Vdc	SPDT	12 A	(1) (4)	R81E24	XR081E24	117
8	24 Vdc 24 Vdc	SPDT	12 A 12 A		R81E24P	XR081E24P	118
8		SPDT	12 A	(1) (5)			
	24 Vdc 24 Vdc	DPDT	8 A	(3) (4)	Z8124D R82E24	XZ08124D XR082E24	130
8 8	24 Vdc	DPDT	8 A	(1) (4)	R82E24	XR082E24	121
0 8	24 Vdc 24 Vdc	DPDT		(1) (5)	Z8224D	XR062E24P XZ08224D	121 131
			8 A	(3) (4)			
8	24 Vac/dc	SPST(NO)	8 A	(2) (6)	CR8-2	XCR82	133
8	24 Vac/dc	SPST(NO)	8 A	(1) (6) (7)	CR8-3	XCR83	137
8	24 Vac/dc	SPST(NO)	8 A	(1) (6)	CRE8-1	XCRE81	133
8	24 Vac/dc	SPST(NO)	8 A	(1) (6) (7)	CRE8-3	XCRE83	137
8	24 Vac/dc	SPDT	12 A	(1) (6)	R81EAD	XR081EAD	119
8	24 Vac/dc	SPDT	12 A	(1) (6) (8)	R81U24F	XR081U24F	120
8	24 Vac/dc	SPDT	12 A	1) (6) (9) (10)	RMP081CM	XRMP081CM	124
8	24 Vac/dc	SPST(NO)	8 A	(2) (6)	CR8-1	XCR81	133
8	24 Vac/dc	DPDT	8 A	(1) (6)	R82EAD	XR082EAD	123
8	48 Vdc	DPDT	8 A	(1) (4)	R82E48	XR082E48	127
8	110 Vdc/120 Vac ±10%	SPDT	10 A	(1) (6)	R81E11A	XR081E1A	128
8	230 Vac	SPDT	10 A	(1) (6)	R81E22A	XR081E2A	129
16	12 Vdc	SPDT	10 A	(1) (4)	R161E12	XR161E12	125
16	12 Vdc	DPDT	5 A	(1) (4)	R162E12	XR162E12	126
16	24 Vdc	SPDT	12 A	(1) (4)	R161E24	XR161E24	117
16	24 Vdc	SPDT	12 A	(1) (5)	R161E24P	XR161E24P	118
16	24 Vdc	SPDT	12 A	(3) (4)	Z16124D	XZ16124D	130
16	24 Vdc	DPDT	8 A	(1) (4)	R162E24	XR162E24	121
16	24 Vdc	DPDT	8 A	(1) (5)	R162E24P	XR162E24P	121
16	24 Vdc	DPDT	8 A	(3) (4)	Z16224D	XZ16224D	131
16	24 Vac/dc	SPDT	12 A	(1) (6)	R161EAD	XR161EAD	119
16	24 Vac/dc	SPDT	12 A	(1) (6) (8)	R161U24F	XR161U24F	120
16	24 Vac/dc	DPDT	8 A	(1) (6)	R162EAD	XR162EAD	123
16	48 Vdc	DPDT	5 A	(1) (4)	R162E48	XR162E48	127
16	110 Vdc/120 Vac ±10%	SPDT	10 A	(1) (6)	R161E11A	XR161E1A	128
16	230 Vac	SPDT	10 A	(1) (6)	R161E22A	XR161E2A	129

Note

- (1) version with pluggable relay
- (2) version with fixed relay
- (3) with socket but without relay
- (4) negative common, positive command
- (5) positive common, negative command

(6) universal control voltage, negative DC command, positive DC, AC

(7) with connector input command

- (8) with protection fuse on the relay contact
- (9) with test push button
- (10) with test switch



24 Vdc SPDT relay modules negative common

- DC control voltage
- Negative control voltage
- Status LED display
- Pluggable relay



NOTES

The height dimension includes 35 mm DIN rail. (1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical

VERSIONS

BLOCK DIAGRAM



4 relay module

VENJIONJ	Uat. NO. ANU41124	0at. NO. ANOUTL24	Ual. NO. ANTOTE24
4 relay module	R41E24		
8 relay module		R81E24	
16 relay module			R161E24
INPUT TECHNICAL DATA			
Rated voltage		24 Vdc ± 10%	
Rated current (1 channel)		22 mA ± 10%	
Turn ON time		15 ms	
Turn OFF time		5 ms	
Protection circuit	damp	bing & polarity protection	diode
OUTPUT TECHNICAL DATA			
Type and number of contacts Nominal load (resistive)		SPDT AgSnO ₂ 12 A / 250 Vac	
Current breaking power		12 A / 250 Vac 12 A	
Current of the fuse max.		IZ A	
current of the fuse max.			
GENERAL TECHNICAL DATA Operating temperature range Coil/contact isolation Isolation between output terminals Protection degree Overvoltage category / Pollution degree Reference Standard Status display Connection terminal Housing material Approx. weight Mounting information	li 188 g (6.63 oz)	-10+50°C 2.5 KVac / 60 s c / 60 s (between open cr IP 20 IEC 529, EN60529 III / 2 EC 664-1, DIN VDE 0110. green LED / yellow LED 2.5 mm² fixed screw ty%e UL94V-0 plastic material 342 g (12.06 oz) ical on rail adjacent witho	1 657 g (23,17 oz)
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35		PR/3/AC/ZB, PR/3/AS, PR	
Mounting rail type according to IEC60715/G32	PR/DI	N/AC - PR/DIN/AS - PR	/DIN/AL
Replacement relay (1)		Cat. No. 8904001	
Screw type jumper red white blue			
5.00			

Cat. No. XR041E24 Cat. No. XR081E24 Cat. No. XR161E24

117



8 relay module



16 relay module



24 Vdc SPDT relay modules positive common

- DC control voltage
- · Positive control voltage
- Status LED display
- Pluggable relay



NOTES

The height dimension includes 35 mm DIN rail. (1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical

BLOCK DIAGRAM



4 relay module

VERSIONS	Cat. No. XR041E24P	Cat. No. XR081E24P	Cat. No. XR161E24P
4 relay module	R41E24P		
8 relay module		R81E24P	
16 relay module			R161E24P
INPUT TECHNICAL DATA			
Rated voltage		24 Vdc ± 10%	
Rated current (1 channel)		22 mA ± 10%	
Turn ON time		15 ms	
Turn OFF time		5 ms	
Protection circuit	damp	bing & polarity protection	diode
OUTPUT TECHNICAL DATA			
		CDDT AgenO	
Type and number of contacts Nominal load (resistive)		SPDT AgSnO ₂ 12 A / 250 Vac	
		12 A / 250 Vac 12 A	
Current breaking power Current of the fuse max.		IZ A	
current of the fuse max.		_	
GENERAL TECHNICAL DATA			
Operating temperature range		-10+50°C	
Coil/contact isolation		2.5 KVac / 60 s	
Isolation between output terminals	1 KVa	ic / 60 s (between open co	ontact)
Protection degree		IP 00 IEC 529, EN60529	
Overvoltage category / Pollution degree		III / 2	
Reference Standard		EC 664-1, DIN VDE 0110.	1
Status display		green LED / yellow LED	
Connection terminal		2.5 mm ² fixed screw type	
Housing material		UL94V-0 plastic material	
Approx. weight	188 g (6.63 oz)	342 g (12.06 oz)	657 g (23,17 oz)
Mounting information	vert	ical on rail adjacent witho	ut gap
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35		PR/3/AC/ZB, PR/3/AS, PF	D/2/AC/7P
Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32		N/AC - PR/DIN/AS - PR	
0 11 0	PR/DI		DIN/AL
Replacement relay (1)		Cat. No. 8904001	
Screw type jumper red		—	
white		_	
blue		—	



8 relay module



16 relay module

118



24 Vac/dc SPDT relay modules universal control voltage

- DC and AC control voltage
- Positive or negative control voltage
- Status LED display
- Pluggable relay



NOTES

The height dimension includes 35 mm DIN rail. (1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical (2) Version available upon request.

VERSIONS

POWER SUPPLY		
A1 = +	A2 = -	negative common
A1 = -	A2 = +	positive common
A1 = ~	A2 = ~	AC power supply

Cat. No. XR041EAD Cat. No. XR081EAD Cat. No. XR161EAD

119

BLOCK DIAGRAM



4 relay module

VENJIUNJ	Gal. NO. ANU41EAD	Gal. NO. ANUOTEAD	Gal. NO. ANTOTEAD
4 relay module	R41EAD		
8 relay module		R81EAD	
16 relay module			R161EAD
INPUT TECHNICAL DATA			
Rated voltage		24 Vac/dc ± 10%	
Rated current (1 channel)		22 mA ± 10%	
Turn ON time		15 ms	
Turn OFF time		5 ms	
Protection circuit		bridge rectifier	
OUTPUT TECHNICAL DATA			
Type and number of contacts		SPDT AgSnO ₂	
Nominal load (resistive)		12 A / 250 Vac	
Current breaking power		12 A	
Current of the fuse max.		_	
GENERAL TECHNICAL DATA			
Operating temperature range		-10+50°C	
Coil/contact isolation		2.5 KVac / 60 s	
Isolation between output terminals	1 KVa	ic / 60 s (between open c	ontact)
Protection degree		IP 00 IEC 529, EN60529	
Overvoltage category / Pollution degree		III / 2	
Reference Standard		EC 664-1, DIN VDE 0110.	1
Status display		green LED / yellow LED	
Connection terminal		2.5 mm ² fixed screw type	
Housing material		UL94V-0 plastic material	
Approx. weight	192 g (6.76 oz)	345 g (12.18 oz)	688 g (24.29 oz)
Mounting information	vert	ical on rail adjacent witho	ut gap
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35	PR/3/AC,	PR/3/AC/ZB, PR/3/AS, PR	R/3/AS/ZB
Mounting rail type according to IEC60715/G32	PR/DI	N/AC - PR/DIN/AS - PR	/DIN/AL
Replacement relay (1)		Cat. No. 8904001	
Screw type jumper red		_	
white		_	
blue		_	
5100			



8 relay module

16 relay module



24 Vac/dc SPDT relay modules universal control voltage with fuse

- DC and AC control voltage
- Positive or negative control voltage
- Status LED display
- Pluggable relay
- Output contact with protection fuse

NOTES The height dimension includes 35 mm DIN rail. (1)

Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical. (2) The interface is supplied without a fuse and the screw plug

of the fuse-holder is provided in a bag inside

the packaging. The fuse must be dimensioned according to load. The max. value of 6.3 A is referred to EN60127-complying fuses and the

homologation rated current of the fuseholder.

Fuses of a higher value may damage the fuse-



	POWE	R SUPPLY
A1 = +	A2 = -	negative common
A1 = -	A2 = +	positive common
A1 = ~	A2 = ~	AC power supply



4 relay module

holder and module.	
VERSIONS	Cat. No. XR041U24F
4 relay module	R41U24F
8 relay module	
16 relay module	
INPUT TECHNICAL DATA	
Rated voltage	
Rated current (1 channel)	
Turn ON time	
Turn OFF time	
Protection circuit	

OUTPUT TECHNICAL DATA

Type and number of contacts Nominal load (resistive) Current breaking power Current of the fuse max.

GENERAL TECHNICAL DATA

Operating temperature range Coil/contact isolation Isolation between output terminals Protection degree Overvoltage category / Pollution degree Reference Standard Status display Connection terminal Housing material Approx. weight Mounting information

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper red

red white blue

SPDT AgSnO ₂ per 4 relé	
12 A / 250 Vac	
12 A	
6,3 A (2)	

1	2	8	A1 A1 A2 A2
Ĭ			
¥3 Y_		₹≈ `	
K1 K		кв	power on
		K8	
11 14	12 21 24 22	81 84 82	

8 relay module

-10+50°C		
2.5 KVac / 60 s		
1 KVac / 60 s (between open contact)		
IP 00 IEC 529, EN60529		
III / 2		
IEC 664-1, DIN VDE 0110.1		
green LED / yellow LED		
2.5 mm ² fixed screw ty ^p e		
UL94V-0 plastic material		
210 g (7.41 oz) 326 g (11.51 oz) 770 g (27.18 oz)		
vertical on rail adjacent without gap		

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
PR/DIN/AC - PR/DIN/AS - PR/DIN/AL	
Cat. No. 8904001	
-	
_	
—	



16 relay module

10 ms bridge rectifier

R81U24F

24 Vac/dc ± 10%

 $22 \text{ mA} \pm 10\%$

15 ms

Cat. No. XR081U24F Cat. No. XR161U24F

R161U24F



24 Vdc DPDT relay modules negative common

- DC control voltage
- Negative control voltage
- Status LED display
- Pluggable relay





The height dimension includes 35 mm DIN rail. (1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.



4 relay	module
---------	--------

VERSIONS	Cat. No. XR042E24	Cat. No. XR082E24	Cat. No. XR162E24
4 relay module	R42E24		
8 relay module		R82E24	
16 relay module			R162E24
INPUT TECHNICAL DATA			
Rated voltage	24 Vdc ± 10%		
Rated current (1 channel)		22 mA ± 10%	
Turn ON time		15 ms	
Turn OFF time		10 ms	
Protection circuit	damp	ing & polarity protection	diode

OUTPUT TECHNICAL DATA

Type and number of contacts Nominal load (resistive) Current breaking power Current of the fuse max.

- (

GENERA	L TECH	INICAL	DATA

Operating temperature range Coil/contact isolation Isolation between output terminals Protection degree Overvoltage category / Pollution degree Reference Standard Status display Connection terminal Housing material Approx. weight Mounting information

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper red white

blue

IEC 664-1, DIN VDE 0110.1				
green LED / yellow LED				
	2.5 mm ² fixed screw ty ^p e			
	UL94V-0 plastic material			
225 g (7.94 oz)	419 g (14.78 oz)	811 g (28.60 oz)		
vertical on rail adjacent without gap				
PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB				
PR/DIN/AC - PR/DIN/AS - PR/DIN/AL				
Cat. No. 8904002				

DPDT AgNi

8 A / 250 Vac

8 A

-10...+50°C

2.5 KVac / 60 s

IP 00 IEC 529, EN60529

III/2

KVac / 60 s (between open contact)





16 relay module



24 Vdc DPDT relay modules positive common

- DC control voltage
- · Positive control voltage
- Status LED display
- Pluggable relay





The height dimension includes 35 mm DIN rail. (1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.



4 relay	module
---------	--------

VERSIONS	Cat. No. XR042E24P	Cat. No. XR082E24P	Cat. No. XR162E24P
4 relay module	R42E24P		
8 relay module		R82E24P	
16 relay module			R162E24P
INPUT TECHNICAL DATA			
Rated voltage		24 Vdc ± 10%	
Rated current (1 channel)		22 mA ± 10%	
Turn ON time		15 ms	
Turn OFF time		5 ms	
Protection circuit	damp	bing & polarity protection	diode

OUTPUT	TECHNICAL DATA
--------	-----------------------

Type and number of contacts Nominal load (resistive) Current breaking power Current of the fuse max.

- (

GENERAL	TECHNICAL DATA	

Operating temperature range Coil/contact isolation Isolation between output terminals Protection degree Overvoltage category / Pollution degree Reference Standard Status display Connection terminal Housing material Approx. weight Mounting information

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper red white

blue

	2.5 KVac / 60 s			
1 KVa	ac / 60 s (between open co	ontact)		
	IP 00 IEC 529, EN60529			
	III / 2			
	EC 664-1, DIN VDE 0110.	1		
	green LED / yellow LED			
2.5 mm ² fixed screw ty ^p e				
UL94V-0 plastic material				
225 g (7.94 oz)	419 g (14.78 oz)	811 g (28.60 oz)		
vertical on rail adjacent without gap				
PR/3/AC,	PR/3/AC/ZB, PR/3/AS, PR	X/3/AS/ZB		

DPDT AgNi

8 A / 250 Vac

8 A

-10...+50°C

PR/DIN/AC - PR/DIN/AS - PR/DIN/AL
Cat. No. 8904002
—





16 relay module

122



24 Vac/dc DPDT relay modules universal control voltage

- DC and AC control voltage
- Positive or negative control voltage
- Status LED display
- Pluggable relay



Cat. No. XR162EAD

123

NOTES

The height dimension includes 35 mm DIN rail. (1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical. (2) Version available upon request.

VERSIONS

POWER SUPPLY		
A1 = +	A2 = -	negative common
A1 = -	A2 = +	positive common
A1 = ~	A2 = ~	AC power supply

Cat. No. XR042EAD Cat. No. XR082EAD



4	relay	module

VEII010110		Out. NO. ANOOLEAD	OUL NO. ANTOLEAD
4 relay module	R42EAD		
8 relay module		R82EAD	
16 relay module			R162EAD
INPUT TECHNICAL DATA			
Rated voltage		24 Vac/dc ± 10%	
Rated current (1 channel)		22 mA ± 10%	
Turn ON time		15 ms	
Turn OFF time		5 ms	
Protection circuit		bridge rectifier	
		0	
OUTPUT TECHNICAL DATA			
Type and number of contacts		DPDT AgNi	
Nominal load (resistive)		8 A / 250 Vac	
Current breaking power		8 A	
Current of the fuse max.			
ourient of the fuse max.			
GENERAL TECHNICAL DATA			
Operating temperature range		-10+50°C	
Coil/contact isolation		-10+50 C 2.5 KVac / 60 s	
	1 1/1/		anto all
Isolation between output terminals	I KVa	ac / 60 s (between open co	
Protection degree		IP 00 IEC 529, EN60529	
Overvoltage category / Pollution degree		III / 2	
Reference Standard		EC 664-1, DIN VDE 0110.	1
Status display		green LED / yellow LED	
Connection terminal		2.5 mm ² fixed screw type	
Housing material		UL94V-0 plastic material	
Approx. weight	227 g (8.01 oz)	427 g (15.07 oz)	835 g (29.48 oz)
Mounting information	vert	ical on rail adjacent witho	ut gap
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/	PR/3/AC.	PR/3/AC/ZB, PR/3/AS, PF	R/3/AS/ZB
TH35	,	, -,	
Mounting rail type according to IEC60715/G32	PR/DI	N/AC - PR/DIN/AS - PR	/DIN/AL
Replacement relay (1)		Cat. No. 8904002	
Screw type jumper rec	t		
white		_	
blue		_	
Did			





16 relay module



24 Vac/dc relay modules universal control voltage with test push button

- DC control voltage
- Positive or negative control voltage
- Status LED display
- Pluggable relay
- Test with push button and micro switch

NOTES

- The height dimension includes 35 mm DIN rail. (1) Relay model is not binding, they may be modified without prior warning. The technical
- data shown here is to be considered typical. (2) They replace XRP08124 and XRD08124 models.

VERSIONS

INPUT TECHNICAL DATA

With test push button and dip switch

Rated voltage Rated current (1 channel) Turn ON time Turn OFF time Protection circuit

136 (5.35 ii	93 (3.66 in)
CE	5 .96 in)

	POWE	R SUPPLY
A1 = +	A2 = -	negative common
A1 = -	A2 = +	positive common
A1 = ~	A2 = ~	AC power supply
AI = ~	HZ = ~	AC hower subhis



Cat. No. XRMP081CM (2)	
RMP081CM	
24 Vac/dc	± 10%
22 mA ±	± 10%
15 r	ns
5 m	IS
bridge re	ectifier

SPDT AgSnO, per 8 relé

12 Å / 250 Vac 12 Å

test button

Ρ

D

- dip-switch
- IG = master switch (disable the push button and dip-switch)

OUTPUT TECHNICAL DATA

Type and number of contacts Nominal load (resistive) Current breaking power Current of the fuse max.

GENERAL TECHNICAL DATA

Operating temperature range
Coil/contact isolation
Isolation between output terminals
Protection degree
Overvoltage category / Pollution degree
Reference Standard
Status display
Connection terminal
Housing material
Approx. weight
Mounting information

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper red

red white blue

-10+50°C
2.5 KVac / 60 s
1 KVac / 60 s (between open contact)
IP 00 IEC 529, EN60529
III / 2
IEC 664-1, DIN VDE 0110.1
green LED / yellow LED
2.5 mm ² fixed screw ty ^p e
UL94V-0 plastic material
350 g (12.36 oz)
vertical on rail adjacent without gap

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB PR/DIN/AC - PR/DIN/AS - PR/DIN/AL Cat. No. 8904001 — — — —

124

This series of products allows piloting with alternating and direct current, in which case only positive control is possible. We also recommend cutting JP jumpers if piloting takes place via low-current devices (e.g. proximity sensors).

On both versions it is possible the temporary turn on of the relay by pushing the relative button.

On model RD08124 it is possible to switch on the relays permanently with a Dip-Switch.



12 Vdc SPDT relay modules negative common

- DC control voltage
- Negative control voltage
- Status LED display
- Pluggable relay



NOTES

The height dimension includes 35 mm DIN rail. Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.

VERSIONS

BLOCK DIAGRAM



4 relay module

VEKSIUNS	Gat. No. XR041E12	Gat. No. XRU81E12	Gat. NO. XR161E12
4 relay module	R41E12		
8 relay module		R81E12	
16 relay module			R161E12
INPUT TECHNICAL DATA			
Rated voltage		12 Vdc ± 10%	
Rated current (1 channel)		22 mA ± 10%	
Turn ON time		15 ms	
Turn OFF time		5 ms	
Protection circuit	damp	bing & polarity protection	diode
OUTPUT TECHNICAL DATA			
Type and number of contacts		SPDT AgSnO ₂	
Nominal load (resistive)		12 A / 250 Vac	
Current breaking power		12 A	
Current of the fuse max.		-	
GENERAL TECHNICAL DATA Operating temperature range Coil/contact isolation Isolation between output terminals Protection degree Overvoltage category / Pollution degree Reference Standard Status display Connection terminal Housing material Approx. weight Mounting information	188 g (6.63 oz)	-10+50°C 2.5 KVac / 60 s ic / 60 s (between open cr IP 00 IEC 529, EN60529 III / 2 EC 664-1, DIN VDE 0110. green LED / yellow LED 2.5 mm ² fixed screw ty ^o e UL94V-0 plastic material 342 g (12.06 oz) ical on rail adjacent withou	1 657 g (23,17 oz)
MOUNTING ACCESSORIES Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper red white blue		PR/3/AC/ZB, PR/3/AS, Pf N/AC - PR/DIN/AS - PR Cat. No. 8904001 — — — —	

Cat. No. XR041E12 Cat. No. XR081E12 Cat. No. XR161E12



8 relay module

2 Ç 16 () ò Ģ ò Q ΰc йс Ю K (power on ĸ 0 24 24 22 161 164 162 0 0

¹⁶ relay module

12 Vdc DPDT relay modules negative common

NOTES

(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.

The height dimension includes 35 mm DIN rail.

- DC control voltage
- Negative control voltage
- Status LED display
- Pluggable relay





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0 61 () 52

ე 54

0 51

4 relay module

9 Q

VERSIONS	Cat. No. XR042E12	Cat. No. XR082E12	Cat. No. XR162E12
4 relay module	R42E12		
8 relay module		R82E12	
16 relay module			R162E12
INPUT TECHNICAL DATA			
Rated voltage	12 Vdc ± 10%		
Rated current (1 channel)	22 mA ± 10%		
Turn ON time	15 ms		
Turn OFF time	5 ms		
Protection circuit	damping & polarity protection diode		



Type and number of contacts Nominal load (resistive) Current breaking power Current of the fuse max.

- (

GENERAL	TECHNICAL	DATA

Operating temperature range Coil/contact isolation Isolation between output terminals Protection degree Overvoltage category / Pollution degree Reference Standard Status display Connection terminal Housing material Approx. weight Mounting information

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper red white

blue



070 84 Г 0 81

082

2 () ò Q Q ∄⊏ K power on ĸ k 161 164 162 °7 24 0 14 () 12 0 2 321 324 322 0 184 182

16 relay module

	2.0 11140 / 00 0	
1	KVac / 60 s (between open contact)	
	IP 00 IEC 529, EN60529	
	III / 2	
	IEC 664-1, DIN VDE 0110.1	
	green LED / yellow LED	
	2.5 mm ² fixed screw ty ^p e	

DPDT AgNi

8 A / 250 Vac

8 A

-10...+50°C

2.5 KVac / 60 s

UL94V-0 plastic material
225 g (7.94 oz) 419 g (14.78 oz) 811 g (28.60 oz)
vertical on rail adjacent without gap
PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
PR/DIN/AC - PR/DIN/AS - PR/DIN/AL
Cat. No. 8904001
_

48 Vdc DPDT relay modules negative common

- DC control voltage
- Negative control voltage
- Status LED display
- Pluggable relay





The height dimension includes 35 mm DIN rail. (1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.



4 relay	module
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VERSIONS	Cat. No. XR042E48	Cat. No. XR082E48	Cat. No. XR162E48
4 relay module	R42E48		
8 relay module		R82E48	
16 relay module			R162E48
INPUT TECHNICAL DATA			
Rated voltage	48 Vdc ± 10%		
Rated current (1 channel)	16 mA ± 10%		
Turn ON time		15 ms	
Turn OFF time		5 ms	
Protection circuit	damping & polarity protection diode		

OUTPUT TECHNICAL DATA

Type and number of contacts Nominal load (resistive) Current breaking power Current of the fuse max.

- (

GENERAL	TECHNICAL DATA	

Operating temperature range Coil/contact isolation Isolation between output terminals Protection degree Overvoltage category / Pollution degree Reference Standard Status display Connection terminal Housing material Approx. weight Mounting information

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper red white

blue

-10+50°C
2.5 KVac / 60 s
1 KVac / 60 s (between open contact)
IP 00 IEC 529, EN60529
III / 2
IEC 664-1, DIN VDE 0110.1
green LED / yellow LED
2.5 mm ² fixed screw ty ^p e
UL94V-0 plastic material
225 g (7.94 oz) 419 g (14.78 oz) 811 g (28.60 oz)
vertical on rail adjacent without gap

DPDT AgNi

8 A / 250 Vac

8 A

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
PR/DIN/AC - PR/DIN/AS - PR/DIN/AL
Cat. No. 8904053
—
—
_





16 relay module

127



110...120 Vac/dc SPDT relay modules universal control voltage

- DC and AC control voltage
- Positive or negative control voltage
- Status LED display
- Pluggable relay





NOTES

The height dimension includes 35 mm DIN rail. Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.

VERSIONS

POWER SUPPLY			
A1 = +	A2 = -	negative common	
A1 = -	A2 = +	positive common	
A1 = ~	A2 = ~	AC power supply	

Cat. No. XR041E1A Cat. No. XR081E1A Cat. No. XR161E1A

BLOCK DIAGRAM



4 relay module

V LIIOIUIIO			Out NO. ANTOILIA
4 relay module	R41E11A		
8 relay module		R81E11A	
6 relay module			R161E11A
INPUT TECHNICAL DATA			
ated voltage		110 Vdc / 120 Vac ± 10%	/ 0
ated current (1 channel)		11 mA ± 10%	
urn ON time		7 ms	
urn OFF time		3 ms	
Protection circuit		bridge rectifier	
		bridge recarior	
OUTPUT TECHNICAL DATA			
ype and number of contacts		SPDT AgNi	
Vominal load (resistive)		12 A / 250 Vac	
urrent breaking power		12 A / 250 Vac 12 A	
urrent of the fuse max.		12 A	
differit of the fuse max.			
GENERAL TECHNICAL DATA			
perating temperature range		-10+50°C	
oil/contact isolation		2.5 KVac / 60 s	
solation between output terminals	1 KV/	ac / 60 s (between open co	ontact)
rotection degree		IP 00 IEC 529, EN60529	
Ivervoltage category / Pollution degree		III / 2	
eference Standard		EC 664-1, DIN VDE 0110.	1
status display		green LED / yellow LED	
Connection terminal		2.5 mm ² fixed screw ty ^p e	
lousing material		UL94V-0 plastic material	
pprox. weight	192 g (6.76 oz)	345 g (12.18 oz)	688 g (24.29 oz)
lounting information		ical on rail adjacent without	
0		,	
MOUNTING ACCESSORIES			
ounting rail type according to IEC60715/TH35	PR/3/AC	PR/3/AC/ZB, PR/3/AS, PF	B/3/AS/7B
Nounting rail type according to IEC60715/G32		N/AC - PR/DIN/AS - PR	
Replacement relay (1)	1100	Cat. No. 8904047	DIWITE
crew type jumper red			
white		_	
blue		_	
bide			



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24 22

8 relay module

A2 A2 ♀ ♀ Δ1

161 164 162

r on

16 relay module



230 Vac SPDT relay modules

- AC control voltage
- Status LED display
- Pluggable relay



NOTES

The height dimension includes 35 mm DIN rail. (1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.

BLOCK DIAGRAM



4 relay module

VERSIONS	Cat. No. XR041E2A	Cat. No. XR081E2A	Cat. No. XR161E2A
4 relay module	R41E22A		
8 relay module		R81E22A	
16 relay module			R161E22A
INPUT TECHNICAL DATA			
Rated voltage		230 Vac ± 10%	
Rated current (1 channel)		10 mA ± 10%	
Turn ON time		7 ms	
Turn OFF time		2 ms	
Protection circuit		—	
OUTPUT TECHNICAL DATA			
Type and number of contacts		SPDT AgSnO ₂	
Nominal load (resistive)		12 A / 250 Vac	
Current breaking power		12 A	
Current of the fuse max.		_	
GENERAL TECHNICAL DATA			
Operating temperature range		-10+50°C	
Coil/contact isolation		2.5 KVac / 60 s	
Isolation between output terminals	1 KVa	ac / 60 s (between open co	ontact)
Protection degree		IP 00 IEC 529, EN60529	
Overvoltage category / Pollution degree		III / 2	
Reference Standard		EC 664-1, DIN VDE 0110.	1
Status display		green LED / yellow LED	
Connection terminal		2.5 mm ² fixed screw type	
Housing material		UL94V-0 plastic material	
Approx. weight	192 g (6.76 oz)	345 g (12.18 oz)	688 g (24.29 oz)
Mounting information	vert	ical on rail adjacent witho	ut gap



8 relay module



16 relay module

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper red white

blue

92 Y (0.70 02)	345 g (12.18 02)	688 g (24.29 02)
vert	ical on rail adjacent with	out gap
PR/3/AC,	PR/3/AC/ZB, PR/3/AS, F	PR/3/AS/ZB
PR/DI	N/AC - PR/DIN/AS - PF	r/din/al
	Cat. No. 8904050	
	—	
	—	
	_	



Sockets without SPDT relay 12...24 Vdc negative common

- With spring clips for 16 mm (height) relay
- With 16 or 20 poles IDC connector
- Suitable for relay with 3.5 mm pitch



NOTES

VERSIONS

The height dimension includes 35 mm DIN rail.



BLOCK DIAGRAM

4 relay module

VENJIUNJ	Ual. NO. A204124D	Uat. NO. A200124D	Ual. NO. ALTOI24D
4 relay module	Z4124D		
8 relay module		Z8124D	
16 relay module			Z16124D
INPUT TECHNICAL DATA			
Rated voltage		24 Vdc ± 10%	
Rated current (1 channel)		22 mA ± 10%	
Turn ON time		15 ms	
Turn OFF time		5 ms	
Protection circuit	damj	ping & polarity protection	diode
OUTPUT TECHNICAL DATA			
Type and number of contacts		SPDT AgSnO ₂	
Nominal load (resistive)		12 A / 250 Vac	
Current breaking power		12 A	
Current of the fuse max.		_	
GENERAL TECHNICAL DATA			
Operating temperature range		-10+50°C	
Coil/contact isolation		2.5 KVac / 60 s	
Isolation between output terminals	1 KVa	ac / 60 s (between open co	ontact)
Protection degree		IP 00 IEC 529, EN60529	
Overvoltage category / Pollution degree		III / 2	
Reference Standard	I	EC 664-1, DIN VDE 0110.	1
Status display		green LED / yellow LED	
Connection terminal		2.5 mm ² fixed screw type	
Liquing metarial	+ connetto	re flat 16 poli (8 relè) e 20 p	ooli (16 relė)
Housing material	100 a /6 60 an	UL94V-0 plastic material	657 a (00 17 a-)
Approx. weight Mounting information	188 g (6.63 oz)	342 g (12.06 oz) ical on rail adjacent witho	657 g (23,17 oz)
	Vert	icai on tali aujacent Willio	ut yap
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35	PR/3/AC	PR/3/AC/ZB, PR/3/AS, PF	R/3/ΔS/7B
Mounting rail type according to IEC60715/G32		N/AC - PR/DIN/AS - PR	
Replacement relay	11/0		
Screw type jumper red			
white			
blue		_	
5100			

Cat. No. XZ04124D Cat. No. XZ08124D Cat. No. XZ16124D



8 relay module



16 relay module



Sockets without DPDT relay 12...24 Vdc negative common

• With spring clips for 16 mm (height) relay

NOTES

VERSIONS

The height dimension includes 35 mm DIN rail.

- 16 or 20 poles IDC connector
- Suitable for relay with 5 mm pitch
- Status LED display





4 relay module

VERSIUNS	Cat. No. XZ04224D	Gat. No. XZ08224D	Cat. No. X216224D
4 relay module	Z4224D		
8 relay module		Z8224D	
16 relay module			Z16224D
INPUT TECHNICAL DATA			
Rated voltage		1224 Vdc ± 10%	
Rated current (1 channel)		22 mA ± 10%	
Turn ON time		15 ms	
Turn OFF time		5 ms	
Protection circuit	damp	bing & polarity protection	diode
OUTPUT TECHNICAL DATA			
Type and number of contacts		DPDT AgNi	
Nominal load (resistive)		8 A / 250 Vac	
Current breaking power		8 A	
Current of the fuse max.		_	
GENERAL TECHNICAL DATA			
Operating temperature range		-10+50°C	
Coil/contact isolation		2.5 KVac / 60 s	
Isolation between output terminals	1 KVa	c / 60 s (between open co	untact)
Protection degree	1100	IP 00 IEC 529, EN60529	maory
Overvoltage category / Pollution degree		III / 2	
Reference Standard		EC 664-1, DIN VDE 0110.	1
Status display		green LED / yellow LED	
Connection terminal		2.5 mm ² fixed screw ty ^p e	
	+ connettor	e flat 16 poli (8 relè) e 20 p	
Housing material		UL94V-0 plastic material	
Approx. weight	225 g (7.94 oz)	419 g (14.78 oz)	811 g (28.60 oz)
Mounting information	vert	ical on rail adjacent withou	ut gap
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35	PR/3/AC	PR/3/AC/ZB, PR/3/AS, PF	2/3/AS/7B
Mounting rail type according to IEC60715/G32		N/AC - PR/DIN/AS - PR/	
Replacement relay	FIVDI		
Screw type jumper red			
white		_	
blue		_	
Dide			

Cat. No. XZ04224D Cat. No. XZ08224D Cat. No. XZ16224D





-131 -

cabur

Super compact 24 Vac/dc relay modules universal control voltage

• 3 kV I/O isolation

- 1 kV isolation between output contact
- Fast connection whit pluggable terminals
- DC and AC control voltage
- Positive or negative control voltage

NOTES

CE

The height dimension includes 35 mm DIN rail. (1) Relay model is not binding, they may be modified without prior warning. The technical

data shown here is to be considered typical. CR4-1 and CRE4-1: relay module with SPDT, inputs and outputs with pluggable terminals. CR4-2: expansion module (4 relays with Cat. No.s

CR4-2: expansion module (4 relays with Cat. No.s **K5**...K8, contacts with Cat. No.s 51-52-54 ...81-82-84) which, combined with the CR4-1, enables 8 relays to be obtained, with SPDT in 45 mm width..





 $A=22.5\ \text{mm}$ (0.88 in) CR version, 35 mm (1.38 in) CRE version

CE

BLOCK DIAGRAM





BLOCK DIAGRAM

VERSIONS	Cat. No. XCRE41	Cat. No. XCR41	Cat. No.	XCR42
Pluggable relay	CRE4-1		-	
Fixed relay		CR4-1	CR4	-2
INPUT TECHNICAL DATA				
Rated voltage	24 Vac/d	lc ± 10%	24 Vac/dc ± 10%	
Rated current (1 channel)		± 10%	$16 \text{ mA} \pm 10\%$	
Turn ON time		ms	7 ms	
Turn OFF time		ms	3 ms	
Protection circuit		rectifier	bridge rectifier	
OUTPUT TECHNICAL DATA				
Type and number of contacts		0 per 4 relé	SPDT AgNiO per 4 relé	
Nominal load (resistive)		250 Vac	8 A / 250 Vac	
Current breaking power	200	0 VA	2000 VA	
Current of the fuse max.		_		
Operating temperature range Coil/contact isolation Isolation between output terminals	2.5 KVa 1 KVac / 60 s (bet	+50°C ac / 60 s ween open contact)	-10+50°C 3 KVac / 60 s 1 KVac / 60 s (between open contact)	
Protection degree	IP 20 IEC 52	29, EN60529	IP 00 IEC 529, EN60529	
Overvoltage category / Pollution degree		/2	III / 2	
Reference Standard		N VDE 0110.1	IEC 664-1, DIN VDE 0110.1	
Status display		/ yellow LED	green LED / yellow LED	
Connection terminal		ed screw ty ^p e	2.5 mm ² fixed screw ty ^p e	
Housing material		astic material	UL94V-0 plastic material	
Approx. weight		5.35 oz] pluggable version)	143 g (5.05 oz)	
Mounting information	vertical on rail a	djacent without gap	vertical on rail adjacent without gap	
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH		, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/	
Mounting rail type according to IEC60715/0		DIN/AS - PR/DIN/AL	PR/DIN/AC - PR/DIN/AS - PR/DIN/AL	-
Replacement relay (1)		8904042	Cat. No. 8904042	
and the second s	- red	-	—	
	- hite	-	—	
ł	blue -	_	—	

cabur

Super compact 24 Vac/dc relay modules universal control voltage

• 3 kV I/O isolation

- 1 kV isolation between output contact
- Fast connection whit pluggable terminals
- DC and AC control voltage
- · Positive or negative control voltage

NOTES

(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.

CR8-1 and CR8E-1: 8 relay module with SPST (NO),

CR8-2: expansion module (8 relays with Cat. No.s

K9....K16, contacts with Cat. No.s 91-92-94 ...161-

162-164) which, combined with the CR8-1, enables

16 relays to be obtained, with SPDT in 45 mm width.

inputs and outputs with pluggable terminals.

The height dimension includes 35 mm DIN rail.

CE

...... 108 (4.26 in) 119 (4.69 in) A = 22.5 mm (0.88 in) CR version, 35 mm (1.38 in) CRE version



BLOCK DIAGRAM





CE

VERSIONS	Cat. No. XCRE81	Cat. No. XCR81		Cat. No. XCR82
Pluggable relay	CRE8-1		-	
Fixed relay		CR8-1		CR8-2
INPUT TECHNICAL DATA				
Rated voltage	24 Vac/o	dc ± 10%	24 Vac/o	lc ± 10%
Rated current (1 channel)	16 mA	± 10%	17 mA	± 10%
Turn ON time	7	ms	7 ms	
Turn OFF time	3 ms		3 ms	
Protection circuit	bridge	bridge rectifier		rectifier
OUTPUT TECHNICAL DATA				
Type and number of contacts	SPST(NO)	per 8 relay	SPST(NO)	per 8 relay
Nominal load (resistive)	8 A / 2	250 Vac	8 A / 2	250 Vac
Current breaking power	200	AV 00	200	0 VA
Current of the fuse max.	-	_	_	_

GENERAL TECHNICAL DATA

Operating temperature range Coil/contact isolation Isolation between output terminals Protection degree Overvoltage category / Pollution degree Reference Standard Status display Connection terminal Housing material Approx. weight Mounting information

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper red white

blue

3 KVac / 60 s KVac / 60 s (between open contact) IP 20 IEC 529, EN60529 III/2 IEC 664-1, DIN VDE 0110.1 green LED / yellow LED morsetti a vite 2.5 mm² estraibili UL94V-0 plastic material 199 g (7.02 oz) (250 g [8.83 oz] pluggable version) vertical on rail adjacent without gap

-10...+50°C

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB PR/DIN/AC - PR/DIN/AS - PR/DIN/AL Cat. No. 8904042

-10+50°C
3 KVac / 60 s
1 KVac / 60 s (between open contact)
IP 00 IEC 529, EN60529
III / 2
IEC 664-1, DIN VDE 0110.1
green LED / yellow LED
morsetti a vite 2.5 mm ² estraibili
UL94V-0 plastic material
199 g (7.02 oz)
vertical on rail adjacent without gap

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB PR/DIN/AC - PR/DIN/AS - PR/DIN/AL Cat. No. 8904042





Super compact 24 Vac/dc relay modules universal control voltage

• 3 kV I/O isolation

- 1 kV isolation between output contact
- Fast connection whit pluggable terminals
- DC and AC control voltage
- Positive or negative control voltage

CE



 $A=22.5\ \text{mm}$ (0.88 in) CR version, 35 mm (1.38 in) CRE version

NOTES	RI OCK D	DIAGRAM
The height dimension includes 35 mm DIN rail. (1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.	$\begin{matrix} 1 & 2 \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & & \\ & & & \\ & & & & \\ & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & $	4 A1 A2 4 A1 A2 4 A1 A2 4 A1 A2 7 A1 A1 A1 7 A1 A1 A1 A1 7 A1 A1 A1 A1 7 A1 A1 A1 A1 A1 7 A1 A1 A1 A1 A1 7 A1
VERSIONS	Cat. No. XCRE42SC	Cat. No. XCR42SC
Pluggable relay	CRE4-2SC	
Fixed relay		CR4-2SC
-		
INPUT TECHNICAL DATA		
Rated voltage	24 Vac/o	lc ± 10%
Rated current (1 channel)		± 10%
Turn ON time	7	ms
Turn OFF time	2	ms
Protection circuit	bridge	rectifier
Type and number of contacts Nominal load (resistive) Current breaking power Current of the fuse max.	8 A / 2	i per 4 relé 250 Vac 0 VA —
GENERAL TECHNICAL DATA		5000
Operating temperature range Coil/contact isolation		+50°C ac / 60 s
Isolation between output terminals		ween open contact)
Protection degree		29, EN60529
Overvoltage category / Pollution degree		/2
Reference Standard	IEC 664-1, DI	N VDE 0110.1
Status display	green LED /	/ yellow LED
Connection terminal		2.5 mm² estraibili
Housing material		astic material
Approx. weight		uggable version)
Mounting information	vertical on rail ac	djacent without gap
MOUNTING ACCESSORIES Mounting rail type according to IEC60715/TH35		, PR/3/AS, PR/3/AS/ZB
Mounting rail type according to IEC60715/G32		DIN/AS - PR/DIN/AL
Replacement relay (1)	Cat. No.	8904052
Screw type jumper red white blue	-	- - -



PLG INTERFACE MOCIULES QUICK SELECTION TADLE These tables allow you to quickly select only the items, then check if all product's technical data meet your application requirements.

Input modules

	•				
Number of channels	Connection type	Notes	Туре	Cat. No.	Page
8 without isolation	12 Vdc	(1) (4)	IF16S7	XIF16S7	136
8 without isolation	12 Vdc	(1) (3)	IF16LS7	XIF16LS7	136
32 without isolation	12 Vdc	(1) (4)	IF416S7	XIF416S7	136
32 without isolation	12 Vdc	(1) (3)	IF416LS7	XIF416LS7	136

Output modules

Number of	Input voltage	Out	out	Notes	Туре	Cat. No.	Daga
channels	Input voltage	type / no. of contacts	rated current				Page
8	24 Vdc	SPST(NO)	8 A	(1) (3) (5)	CR8-3	XCR83	137
8	24 Vdc	SPST(NO)	8 A	(1) (3) (5)	CRE8-3	XCRE83	137
8	24 Vdc	SPDT	10 A	(1) (3) (5)	RFE8124	XRFE8124	137
8	24 Vdc	DPDT	5 A	(1) (3) (5)	RFE8224	XRFE8224	138
16	24 Vdc	SPDT	10 A	(2) (3) (5)	RFE16124	XRFE16124	139
16	24 Vdc	DPDT	5 A	(2) (3) (5)	RFE16224	XRFE16224	139

Notes

(1) suitable for PLC Siemens S7 series

(2) suitable for PLC Telemecanique

(3) with LED to display the status

(4) without LED to display the status (5) version with pluggable relay



PLC S7 300 & S7 400 Interface modules

- I/O modules
- With or without status LED display
- Fast connection







CE

(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.





VERSIONS	Cat. No. XIF16S7		Cat. No. XIF416LS7	Cat. No. XIF416S7
With LED to display the status	_		IF416LS7	
Without LED to display the status	IF16S7			IF416S7
INPUT TECHNICAL DATA				
Rated voltage	24 Vdc		24 Vdc ±	10%
Rated current (1 channel)	$5 \text{ mA} \pm 10\%$ (only with	n "Status LED" version)	5 mA \pm 10% (only with "	Status LED" version)
Turn ON time	-	_	—	
Turn OFF time	-	-	—	
Protection circuit	-		-	
OUTPUT TECHNICAL DATA				
Type and number of contacts	8 channels wi	thout isolation	4 x 8 channels without isolation	
Nominal load (resistive)	-	-	—	
Current breaking power	—		-	
Current of the fuse max.	—		_	
GENERAL TECHNICAL DATA				
Operating temperature	-10	+50°C	-10+5	0°C
Coil/contact isolation	-	_	_	
Isolation between output terminals	-	-	—	
Protection degree	IP 00 IEC52		IP 00 IEC529, EN60529	
Overvoltage category / Pollution degree	II / 2		II / 2	
Reference Standard	IEC 664-1		IEC 664-1	
Status display	LED (solo su IF16LS7)		LED (solo su lf	
Connection terminals	flat cable 16 poles male an		flat cable 16 poles male and 2.5 mm ² fixed screw ty ^e e	
Housing material	polyamide	UL94V-0	polyamide UL94V-0	
Approx. weight	_		_	
Mounting information				

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper red white

blue

PR/3/AC, PR/3/AS
PR/DIN/AC - PR/DIN/AS - PR/DIN/AL

PR/3/AC, PR/3/AS PR/DIN/AC - PR/DIN/AS - PR/DIN/AL



PLC S7 300 & S7 400 Interface modules

- Very compact dimension in CR version
- Fast connection
- Pluggable relay
- Status LED display





 $A=22.5\ \text{mm}$ (0.88 in) CR version, 35 mm (1.38 in) CRE version

BLOCK DIAGRAM

BLOCK DIAGRAM

 Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.
 Version available upon request.

NOTES

CE





VERSIONS	Cat. No. XCRE83	Cat. No. XCR83	Cat. No. XRFE8124	
Pluggable relay	CRE8-3		RFE8124	
Fixed relay		CR8-3		—
INPUT TECHNICAL DATA				
Rated voltage		dc ± 10%	24 Vac/d	
Rated current (1 channel)		± 10%		± 10%
Turn ON time		ms	15 ms 10 ms	
Turn OFF time	-	ms		
Protection circuit	bridge	rectifier	damping & polari	ty protection diode
OUTPUT TECHNICAL DATA				
Type and number of contacts	SPST(NO)	per 8 relay	SPDT AqNi	D per 8 relé
Nominal load (resistive)		250 Vac		250 Vac
Current breaking power	200	0 VA	10	Α
Current of the fuse max.	-	_	-	_
GENERAL TECHNICAL DATA				
Operating temperature range	-10	+50°C	-10	+50°C
Coil/contact isolation		c / 60 s		c / 60 s
solation between output terminals	1 KVac / 60 s (bet	ween open contact)	1 KVac / 60 s (between open contact)	
Protection degree		29, EN60529	IP 00 IEC 529, EN60529	
Overvoltage category / Pollution degree	III / 2		III	/2
Reference Standard	IEC 664-1, DIN VDE 0110.1		IEC 664-1, DIN VDE 0110.1	
Status display	green LED .	/ yellow LED	green LED /	yellow LED
Connection terminal	flat cable 1	6 poles male	flat cable 16 poles male an	d 2.5 mm ² fixed screw ty ^p e
lousing material	UL94V-0 pla	astic material	UL94V-0 pla	istic material
Approx. weight	199 g ((7.02 oz)	342 g (1	
Nounting information	vertical on rail a	djacent without gap	vertical on rail ac	ljacent without gap
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35	PR/3/AC, PR/3/AC/ZB	, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB,	PR/3/AS, PR/3/AS/ZB
Mounting rail type according to IEC60715/G32	<u> </u>		PR/DIN/AC - PR/E	DIN/AS - PR/DIN/AL
Replacement relay (1)	Cat. No. 8904042		Cat. No.	8904001
Screw type jumper red	-	_	-	-
white	-	-	-	-
blue	-	_	-	-
	-	_		_



PLC S7 300 & S7 400 **Interface modules**

- DC control voltage
- Negative control voltage
- Status LED display
- Pluggable relay
- Fast connection



NOTES	BLOCK DIAGRAM
 (1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical. (2) Version available upon request. 	16 14 2 9/11/13/15 1/3/5/7 14 14 14 14 14 14 14 14 14 14
VERSIONS	Cat. No. XRFE8224
Pluggable relay	RFE8224
Fixed relay	-

CE

INPUT TECHNICAL DATA	
Rated voltage	24 Vdc ± 10%
Rated current (1 channel)	20 mA ± 10%
Turn ON time	15 ms
Turn OFF time	5 ms
Protection circuit	damping & polarity protection diode

OUTPUT	TECHNICAL	DATA

Type and number of contacts Nominal load (resistive) Current breaking power Current of the fuse max.

GENERAL	TECHNICAL	DATA
---------	-----------	------

Operating temperature range
Coil/contact isolation
Isolation between output terminals
Protection degree
Overvoltage category / Pollution degree
Reference Standard
Status display
Connection terminal
Housing material
Approx. weight
Mounting information

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper red white

blue

vertical on rail adjacent without gap
PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
PR/DIN/AC - PR/DIN/AS - PR/DIN/AL
Cat. No. 8904002
—
—
—

DPDT AgNiO per 8 relé

5 A / 250 Vac 5 A

-10...+50°C 2.5 KVac / 60 s 1 KVac / 60 s (between open contact) IP 00 IEC 529, EN60529 III / 2 IEC 664-1, DIN VDE 0110.1 green LED / yellow LED flat cable 16 poles male and 2.5 mm² fixed screw type UL94V-0 plastic material 419 g (14.79 oz)



Telemecanique PLC interface modules

- DC control voltage
- Negative control voltage
- Status LED display
- Pluggable relay
- Fast connection



NOTES	BLOCK DIAGRAM	BLOCK DIAGRAM	
(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.	1 2 16 17 19 18 20	1 2 16 17 19 18 20	
VERSIONS	Cat. No. XRFE16124	Cat. No. XRFE16224	
Pluggable relay	RFE16124	RFE16224	
Fixed relay	_	-	
INPUT TECHNICAL DATA			
Rated voltage	24 Vdc ± 10%	24 Vdc ± 10%	
Rated current (1 channel)	20 mA ± 10%	20 mA ± 10%	
Turn ON time	15 ms	15 ms	
Turn OFF time	5 ms	5 ms	
Protection circuit	damping & polarity protection diode	damping & polarity protection diode	
Type and number of contacts Nominal load (resistive) Current breaking power Current of the fuse max.	SPDT AgNiO per 16 relé 10 A / 250 Vac 10 A —	DPDT AgNiO per 16 relé 5 A / 250 Vac 5 A —	
GENERAL TECHNICAL DATA			
Operating temperature range	-10+50°C	-10+50°C	
Coil/contact isolation Isolation between output terminals	2.5 KVac / 60 s 1 KVac / 60 s (between open contact)	2.5 KVac / 60 s 1 KVac / 60 s (between open contact)	
Protection degree	IP 00 IEC 529, EN60529	IP 00 IEC 529, EN60529	
Overvoltage category / Pollution degree	IF 00 IEC 323, EN00323 III / 2	IP 00 IEC 529, EN00529 III / 2	
Reference Standard	IEC 664-1, DIN VDE 0110.1	IEC 664-1. DIN VDE 0110.1	
Status display	green LED / yellow LED	green LED / yellow LED	
Connection terminal	flat cable 16 poles male and 2.5 mm ² fixed screw ty ^p e	flat cable 16 poles male and 2.5 mm ² fixed screw ty⁰e	
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	
Approx. weight	657 g (23.19 oz)	811 g (28.63 oz)	
Mounting information	vertical on rail adjacent without gap	vertical on rail adjacent without gap	
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
Mounting rail type according to IEC60715/G32	PR/DIN/AC - PR/DIN/AS - PR/DIN/AL	PR/DIN/AC - PR/DIN/AS - PR/DIN/AL	
Replacement relay (1)	Cat. No. 8904001	Cat. No. 8904002	
Screw type jumper red			
white	_	_	
blue	_	—	



Solid state relay modules quick selection table These tables allow you to quickly select only the items, then check if all product's technical data meet your application requirements.

Input modules

Number of channels	Input voltage	Applica Voltage	ble load Current	Notes	Туре	Cat. No.	Page
1	524 Vdc	548 Vdc	3 A	(2)	0332060	X0332060	141
1	524 Vdc	548 Vdc	500 mA	(2)	CWOT 6-2082	X766082	147
1	1224 Vdc	548 Vdc	500 mA	(2)	CWOT 6-2083	X766083	146
1	1224 Vdc	548 Vdc	2 A	(1)	CM1S024E	XCM1S024E	142
1	24 Vdc	548 Vdc	2 A	(1)	CM1S024	XCM1S024	142
1	512 Vdc	524 Vdc	5 A	(2) (4)	CKS15NA	XCKS15NA	144
1	524 Vdc	524 Vdc	30 mA	(2)	CKS1S	XCKS1S	147
1	24 Vdc	524 Vdc	5 A	(2) (4)	CKS15NB	XCKS15NB	144
1	524 Vdc	524 Vdc	5 A	(2) (5)	CKS15E	XCKS15E	145
1	1224 Vdc	12240 Vac	2 A	(1)	CM1T024E	XCM1T024E	143
1	524 Vdc	24240 Vac	4 A	(2)	0332240	X0332240	141
1	24 Vdc	48240 Vac	2 A	(1)	CM1T024	XCM1T024	143
2	1224 Vdc	1224 Vdc	2 x 2.5 A	(2)	CKS22	XCKS22	145
4	24 Vdc	548 Vdc	2 A	(1) (3) (4)	R41S24F	XR041S24F	150
4	24 Vdc	548 Vdc	2 A	(1) (3)	R42S24	XR042S24	148
4	24 Vdc	48240 Vac	2 A	(1) (3)	R42T24	XR042T24	149
8	24 Vdc	548 Vdc	2 A	(1) (3) (4)	R81S24F	XR081S24F	150
8	24 Vdc	548 Vdc	2 A	(1) (3)	R82S24	XR082S24	148
8	24 Vdc	48240 Vac	2 A	(1) (3)	R82T24	XR082T24	149
8	524 Vdc	1224 Vdc	8 x 2.5 A	(2) (5)	COP082	XCOP082	151
16	24 Vdc	548 Vdc	2 A	(1) (3) (4)	R161S24F	XR161S24F	150
16	24 Vdc	548 Vdc	2 A	(1) (3)	R162S24	XR162S24	148
16	24 Vdc	48240 Vac	2 A	(1) (3)	R162T24	XR162T24	149

Notes

(1) version with pluggable relay

(2) version with fixed relay

(3) universal control voltage, negative/positive DC command

(4) output contact with protection fuse (5) electronic output protection



Solid state 5...24 Vdc single relay

 Fixed relay Fixed relay Compact dimensions Status LED display 	C ε	77 (3.03 in)	
	CE (0.47 in) 54 (2.13 in)	CE (0.47 in) 54 (2.13 in)	
NOTES	BLOCK DIAGRAM	BLOCK DIAGRAM	
(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.			
VERSIONS	Cat. No. X0332060	Cat. No. X0332240	
Pluggable relay Fixed relay	- 0332060	- 0332240	
INPUT TECHNICAL DATA			
Input voltage	430 Vdc	430 Vdc	
Level 1 (high) input signal	> 3 Vdc	> 3 Vdc	
Level 0 (low) input signal Rated current	< 1 Vdc < 35 mA	< 1 Vdc < 35 mA	
Switching frequency	< 33 MA 100 Hz max	< 35 IIA 100 Hz max	
Connection terminals	2.5 mm ² fixed screw ty ^e e	2.5 mm ² fixed screw ty ^e e	
OUTPUT TECHNICAL DATA			
Output voltage	560 Vdc	24240 Vac (zero crossing)	
Continuous load current Max. current	3 A a 20°C (see chart) 4 A a 20°C (5 A / 5 s - 25 A / 10 ms)	4 A a 20°C (see chart)	
Leakage current 0 signal	1 mA	5 A a 20°C (6 A / 5 s - 25 A / 10 ms) 5 mA	
OFF/ON switching time		5 IIIA —	
Protection circuit	_	10 ms max	
Connection terminals	2.5 mm ² fixed screw type	2.5 mm ² fixed screw type	
GENERAL TECHNICAL DATA			
Operating temperature	-2060°C (see chart) 4 KVac / 60 s	-2060°C (see chart) 4 KVac / 60 s	
I/O isolation bobina/contatti Protection degree	4 KVac 7 60 S IP 00 IEC529, EN60529	IP 00 IEC529, EN60529	
Reference Standard	IEC 664-1, DIN VDE 0110.1	IEC 664-1, DIN VDE 0110.1	
Pollution degree	2	2	
Overvoltage category			
Modello del relé (1) Status display	OPT022 LED	OPTO22 LED	
Housing material	Polyamide UL94V-0	Polyamide UL94V-0	
Pesoapprossimativo	36 g (1.27 oz)	36 g (1.27 oz)	
Mounting information	su guida, distanziare 4 mm dai componenti adiacenti	su guida, distanziare 4 mm dai componenti adiacenti	
MOUNTING ACCESSORIES			
Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1)	PR/3/AC, PR/3/AS PR/DIN/AC - PR/DIN/AS - PR/DIN/AL	PR/3/AC, PR/3/AS PR/DIN/AC - PR/DIN/AS - PR/DIN/AL —	
Screw type jumper red white blue			
	() () () () () () () () () ()	() Y HO 2 1 20 30 40 50 60 70 80 90 100 Ambient Temperature (°C)	





Solid state 12-24 Vdc single relay

• Low cost • For DC load (S version) • Pluggable relay 75 (2.96 in) • Screw type jumper available Status LED display 16 (0.63 in) 68 CE (1 wi is Th be P F



	(0.00 lif) 68 (2.68 in)	(0.00 iii) 68 (2.68 in)
NOTES	BLOCK DIAGRAM	BLOCK DIAGRAM
Relay model is not binding, they may be modified hout prior warning. The technical data shown here o be considered typical.		
s series can be mounted without any spacing ween adjacent components.		
VERSIONS	Cat. No. XCM1S024	Cat. No. XCM1S024E
uggable relay	CM1S024	CM1S024E
xed relay	-	-
INPUT TECHNICAL DATA		
put voltage	24 Vdc (19.228.8 Vdc)	12-24 Vdc (1030 Vdc)
evel 1 (high) input signal	> 19.2 Vdc	> 10 Vdc
evel 0 (low) input signal	< 1 Vdc	< 6 Vdc
ated current (1 channel)	< 20 mA	< 26 mA
requenza di commutazione	100 Hz max	100 Hz max
onnection terminals	2.5 mm ² fixed screw ty ^p e	2.5 mm ² fixed screw ty ^p e
OUTPUT TECHNICAL DATA		
Dutput voltage	350 Vdc	560 Vdc
Continuous load current	2.5 A a 40°C (see chart)	2 A a 40°C (see chart)
Nax. current	4 A / 5 s - 20 A / 10 ms	3 A / 5 s - 10 A / 10 ms
eakage current 0 signal	0.1 mA	1 mA
OFF/ON switching time	100 µs / 1 ms	100 µs / 1 ms
rotection circuit	diodo	diodo
onnection terminals	2.5 mm ² fixed screw ty ^p e	2.5 mm ² fixed screw ty ^o e
GENERAL TECHNICAL DATA		
perating temperature	-2060°C (see chart)	-2060°C (see chart)
0 isolation bobina/contatti	2.5 KVac / 60 s	4 KVac / 60 s
rotection degree	IP 00 IEC529, EN60529	IP 00 IEC529, EN60529
leference Standard	IEC 664-1, DIN VDE 0110.1	IEC 664-1, DIN VDE 0110.1
ollution degree	3	3
Vervoltage category	II	
Nodello del relé (1)	HF JGX-40F	ELCO SSR91-60B
tatus display	LED	LED
lousing material	Polyamide UL94V-0	Polyamide UL94V-0
pprox. weight		_
lounting information	vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES		
Nounting rail type according to IEC60715/TH35	PR/3/AC, PR/3/AS	PR/3/AC, PR/3/AS
Nounting rail type according to IEC60715/G32		
Replacement relay (1)	Cat. No. 8904404	Cat. No. 8904402
crew type jumper black	Cat. No. XCMB16B	Cat. No. XCMB16B
white		
blue		
	A	1



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Solid state 12-24 Vdc single relay

 single relay Low cost For AC load (T version) Pluggable relay Screw type jumper available Status LED display 	75 (2.96 in)	75 (2.96 in)
	C C (0.63 in) 68 (2.68 in)	CE
NOTES (1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical. This series can be mounted without any spacing between adjacent components.		BLOCK DIAGRAM
VERSIONS	Cat. No. XCM1T024	Cat. No. XCM1T024E
Pluggable relay Fixed relay	CM1T024 —	CM1T024E
INPUT TECHNICAL DATA Input voltage Level 1 (high) input signal Level 0 (low) input signal Rated current (1 channel) Frequenza di commutazione Connection terminals	24 Vdc (19.228.8 Vdc) > 19.2 Vdc < 1 Vdc < 20 mA 100 Hz max 2.5 mm ² fixed screw ty ^e e	12-24 Vdc (1030 Vdc) > 10 Vdc < 6 Vdc < 26 mA 100 Hz max 2.5 mm ² fixed screw ty ^e e
OUTPUT TECHNICAL DATA Output voltage Continuous load current Max. current Leakage current 0 signal OFF/ON switching time	48240 Vac (zero crossing) 2.5 A a 40°C (see chart) 4 A / 5 s - 20 A / 10 ms 1.5 mA 10 ms / 10 ms max.	20240 Vac (zero crossing) 2 A a 40°C (see chart) 3 A / 5 s - 10 A / 10 ms 2 mA 10 ms / 10 ms max.
Protection circuit Connection terminals GENERAL TECHNICAL DATA Operating temperature	2.5 mm ² fixed screw ty ^e e -2060°C (see chart)	2.5 mm² fixed screw ty⁰e -2060°C (see chart)
I/O isolation bobina/contatti Protection degree Reference Standard Pollution degree Overvoltage category Modello del relé (1) Status display Housing material	2.5 KVac / 60 s IP 00 IEC529, EN60529 IEC 664-1, DIN VDE 0110.1 3 III HF JGX-40F LED Polyamide UL94V-0	4 KVac / 60 s IP 00 IEC529, EN60529 IEC 664-1, DIN VDE 0110.1 3 III ELCO SSR91-60B LED Polyamide UL94V-0
Approx. weight Mounting information	vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCESSORIES Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper black white blue	PR/3/AC, PR/3/AS 	PR/3/AC, PR/3/AS
	C 3 2 1 20 30 40 50 60 70 80 90 100 Ambient Temperature (°C)	(O) 20 20 30 40 50 60 70 80 90 100 Ambient Temperature (°C)

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Solid state 12-24 Vdc single relay with fuse

- 5 A / 24 Vdc rated current
- Common negative or positive input
- Overload, short-circuit protected output with replaceable fuse

CE

- Status LED display, reverse polarity protection
- 6 mm wide
- Plug-in jumper available

91 (3.59 in) 100 (3.94 in) 6 (0.24 in)



		(0	(0.2 ,		
NOTES		BLOCK DIAGRAM	BLOCK DIAGRAM		
(1) (1) The fast blow-out fuse is calibrated to p the output stage of the module and it is conn in series to the positive pole; it is possible to re the fuse with lower rated current values, select protect also the load and its wires; a fuse hax current rating higher than 5 A does not prote output against short circuit and overloads. (2) In order to assure the IP20 protection degre ast module must be protected and insulated the CK/PT end section.	ected place ted to ring a ct the e, the	$\begin{array}{c} A1 & QY & A2 & QY \\ +/- & & -/+ \\ & & -/+ \\ & & & -/+ \\ & & & & -/+ \\ \hline \\ 14 & & - & & -/+ \\ \hline \\ 14 & & - & & -/+ \\ \hline \\ 14 & & - & & -/+ \\ \hline \\ \hline \\ 14 & & - & & -/+ \\ \hline \\ $	$\begin{array}{c} A1 QY \qquad A2 QY \\ +/- \qquad -/+ \qquad -/+$		
VERSIONS		Cat. No. XCKS15NA	Cat. No. XCKS15NB		
Pluggable relay		-	-		
Fixed relay		CKS15NA	CKS15NB		
INPUT TECHNICAL DATA					
Input voltage		4.512 Vdc	1930 Vdc		
Level 1 (high) input signal		≥4.5 Vdc	$\ge 20 \text{ Vdc}$		
Level 0 (low) input signal		≤4 Vdc	≤18 Vdc		
Rated current		≤5 mA @ 12 Vdc	≤ 5 mA @ 24 Vdc		
OUTPUT TECHNICAL DATA Output voltage	L	5.260 Vdc, max. 100 V (peak)	5.260 Vdc, max. 100 V (peak)		
Continuous load current		5 A / 24 Vdc @ 25°C	5 A / 24 Vdc @ 25°C		
Max. current		7.5 A / 1 s, 25 A / 50 ms	7.5 A / 1 s, 25 A / 50 ms		
Min. applicable load		5.2 V / 10 mA	5.2 V / 10 mA		
Leakage current 0 signal		25 µA @ 60 Vdc between 13 and 14	25 µA @ 60 Vdc between 13 and 14		
Isolation between open contacts		3 KVac / 60 s	3 KVac / 60 s		
Protection fuse (1)		F 5 A	F 5 A		
GENERAL TECHNICAL DAT	Α				
Operating temperature		-20+60°C	-20+60°C		
I/O isolation		3 KVac / 60 s	3 KVac / 60 s		
Max. switching frequency		400 Hz max.	400 Hz max.		
Protection degree		IP20 IEC529 EN60529	IP20 IEC529 EN60529		
Reference Standard		IEC 664-1, EN50081-1	IEC 664-1, EN50081-1		
Pollution degree		2	2		
Overvoltage category					
Connection terminals		2.5 mm ² (AWG 14), AWG26-14 spring type	2.5 mm ² (AWG 14), AWG26-14 spring type		
Housing material		Polyamide UL94V-0	Polyamide UL94V-0		
Approx. weight		32 g (1.13 oz)	32 g (1.13 oz)		
Nounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap		
MOUNTING ACCESSORIES	;				
Mounting rail type according to IEC60715/TH3 Mounting rail type according to IEC60715/0	,	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB —	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB —		
Replacement relay (1)					
Plug-in jumper	white	Cat. No. PTCCK42 (42 poles)	Cat. No. PTCCK42 (42 poles)		
Marking tags	blue blank	CNU/8/030 Cat. No. NU008	CNU/8/030 Cat. No. NU008		
p	rinted rinted	CNU/8/CK15/10 Cat. No. N8CK21510 CNU/8/CK15/20 Cat. No. N8CK21520	CNU/8/CK15/10 Cat. No. N8CK21510 CNU/8/CK15/20 Cat. No. N8CK21520		
End plate	Inteu	Cat. No. XCKPT	Cat. No. XCKPT		
Line plato					

CE


🔹 cabur

91

100

K2 QY

24

LOAD 2

4.4 A

10 mA

2

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

Cat. No. PTCCK42 (42 poles)

CNU/8/030 Cat. No. NU008

CNU/8/CK15/10 Cat. No. N8CK21510

Cat. No. XCKPT

(3.94 in)

Ð

±1

(3.59 in)

- 94

+ 57

Cat. No. XCKS22

CKS22

MOUNTING ACCESSORIES

Solid state 12-24 Vdc

Mounting rail type according to IEC60715/TH35-7,5 Mounting rail type according to IEC60715/G32 Replacement relay (1) Plug-in jumper white

blue Marking tags blank printed printed End plate

145

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

Cat. No. PTCCK42 (42 poles)

_

CNU/8/030 Cat. No. NU008

CNU/8/CK15/10 Cat. No. N8CK21510

CNU/8/CK15/20 Cat. No. N8CK21520

Cat. No. XCKPT

Solid state 12-24 Vdc single relay with electronic SPDT

- 10...40 Vdc rated voltage
- Output with SPDT simulation
- Output voltage 5...48 Vdc 500 mA
- Max switching frequency 1 KHz
- I/O isolation 3.75 KV

CE



cabur

79 (3.11 in)

84

(3.31 in)

6.2

(0.24 in)

Signal optoisolators

• Suitable for isolation and transmission of digital signal with high frequency

CE

- Status LED display
- 5, 12 and 24 rated voltage
- I/O isolation





CE

NOTES

(1) Version available upon request. CKS1S can isolate I/O high frequency signal circuits (encoders, counters etc.) to eliminate influence of different ground reference voltages and ground loops, thus reducing EMI noise influence on signal transmission of sensitive signals; it is always recommended to use balanced type shielded cables (two signal wires + shield); at transmission frequencies higher than 25 Hz the LED light appears constant, it is to be intended as "transmission ON" signal.





BLOCK DIAGRAM

IN

¢

VERSIONS	Cat. No. XCKS1S	Cat. No. X766082
	CKS1S	CW0T 6-2082
INPUT TECHNICAL DATA		
Input signal	330 Vdc	4.528 Vdc
Level 1 (high) input signal (ON)	≥ 3 Vdc	>4.2 Vdc
Level 0 (low) input signal (OFF)	≤ 3 Vdc	<2.7 Vdc
Rated current	≤ 10 mA @ 24 Vdc	0.1 mA

OUTPUT TECHNICAL DATA		
Output signal	330 Vdc	548 Vdc
Continuous load current	80 mA / 30 Vdc @ 25°C	10500 mA
Min. applicable load	10 mV / 2 mA	-
Switching delay	_	12 µs ON / 12 µs OFF

GENERAL TECHNIC	CAL DATA		
Operating temperature		-20+60°C	-25+60°C
I/O isolation		3 KVac / 60 s	3.75 KVac / 60 s
Max. switching frequency		100 kHz max. duty cycle 50/50, 70/30 max	<20 KHz
Protection degree		IP 20 IEC529 EN60529	IP 20 IEC529 EN60529
Reference Standard		IEC 664-1, EN50081-1	IEC 664-1, DIN VDE
Pollution degree		2	2
Overvoltage category			
Connection terminals		2.5 mm ² (AWG 14), AWG26-14 spring type	2.5 mm ² , AWG26-14 a vite
Housing material		Polyamide UL94V-0	PPE
Approx. weight		32 g (1.13 oz)	29 g (1.02 oz)
Mounting information		vertical on rail adjacent without gap	vertical on rail adjacent without gap
MOUNTING ACCE	SSORIES		
Mounting rail type according to IE	EC60715/TH35-7,5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail type according to	o IEC60715/G32	— · · · · · · · · · · · · · · · · · · ·	— · · · · · · · · · · · · · · · · · · ·
Replacement relay (1)			—
Plug-in jumper	_	Cat. No. PTCCK42 (42 poles)	_
	white	—	—
	blue	—	—
Marking tags	blank	CNU/8/030 Cat. No. NU008	-
	printed	—	—
	printed	—	—
End plate		Cat. No. XCKPT	_



Solid state 24 Vdc relay modules

• For DC load • Pluggable relay •Status LED display



NOTES

(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.

BLOCK DIAGRAM



4 relay module

A2 0

8 relay module

Ä

power on

4

⊖ 81 (-) 0 82 (nc)

VERSIONS	Cat. No. XR042S24	Cat. No. XR082S24	Cat. No. XR162S24	
4 relay module	R42S24			
8 relay module		R82S24		
16 relay module			R162S24	
INPUT TECHNICAL DATA				
Input voltage		24 Vdc (19.228.8 Vdc)		
Level 1 (high) input signal		> 19.2 Vdc		
Level 0 (low) input signal		< 1 Vdc		
Rated current (1 channel)		< 20 mA		
Switching frequency		100 Hz max		
OUTPUT TECHNICAL DATA				
Output voltage		350 Vdc		
Continuous load current		2.5 A a 40°C (see chart)		
Max. current		4 A / 5 s - 20 A / 10 ms		
Leakage current 0 signal		0.1 mA		
OFF/ON switching time	100 µs / 1 ms			
Protection circuit	diodo			
Current of the fuse max.	—			
GENERAL TECHNICAL DATA				
Operating temperature range		-2060°C (see chart)		

207 g (7.31 oz)



A2 A2 ♀ ♀ 16 A1 Q 14 ⊾ ➡ □ ''er power on 0 21 (−) 0 12 (nc) 0 14 0 24 (+) 0 22 (nc) 0 161 162 〇 164

16 relay module



Mounting information

MOUNTING ACCESSORIES

Isolation between output terminals

Overvoltage category / Pollution degree

I/O isolation

Protection degree

Reference Standard

Connection terminal

Housing material

Approx. weight

Status display

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
PR/DIN/AC - PR/DIN/AS - PR/DIN/AL	
Cat. No. 8904404	
—	
—	

2.5 KVac / 60 s

1 KVac / 60 s (between open contact)

IP 00 IEC 529, EN60529

III / 2

IEC 664-1, DIN VDE 0110.1

green LED / yellow LED 2.5 mm² fixed screw type

UL94V-0 plastic material

379 g (13.38 oz)

vertical on rail adjacent without gap

756 g (26.69 oz)



Solid state 24 Vdc relay modules

- For AC load
- Pluggable relay
- Status LED display



NOTES

(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.

REACK F	JIAGKAN	
		A1 A1 A2 A2 power on

4 relay module

4 relay module 8 relay module 16 relay module InPUT TECHNICAL DATA Input voltage Level 1 (high) input signal Level 0 (low) input signal Rated current (1 channel) Switching frequency OUTPUT TECHNICAL DATA Output voltage Continuous load current Max. current Leakage current 0 signal OFF/ON switching time	R42T24	1		
16 relay module INPUT TECHNICAL DATA Input voltage Level 1 (high) input signal Level 0 (low) input signal Rated current (1 channel) Switching frequency OUTPUT TECHNICAL DATA Output voltage Continuous load current Max. current Leakage current 0 signal				
INPUT TECHNICAL DATA Input voltage Level 1 (high) input signal Level 0 (low) input signal Rated current (1 channel) Switching frequency OUTPUT TECHNICAL DATA Output voltage Continuous load current Max. current Leakage current 0 signal		R82T24		
Input voltage Level 1 (high) input signal Level 0 (low) input signal Rated current (1 channel) Switching frequency OUTPUT TECHNICAL DATA Output voltage Continuous load current Max. current Leakage current 0 signal			R162T24	
Level 1 (high) input signal Level 0 (low) input signal Rated current (1 channel) Switching frequency OUTPUT TECHNICAL DATA Output voltage Continuous load current Max. current Leakage current 0 signal				
Level 0 (low) input signal Rated current (1 channel) Switching frequency OUTPUT TECHNICAL DATA Output voltage Continuous load current Max. current Leakage current 0 signal		24 Vdc (19.228.8 Vdc)		
Rated current (1 channel) Switching frequency OUTPUT TECHNICAL DATA Output voltage Continuous load current Max. current Leakage current 0 signal		> 19.2 Vdc		
Switching frequency OUTPUT TECHNICAL DATA Output voltage Continuous load current Max. current Leakage current 0 signal		< 1 Vdc		
OUTPUT TECHNICAL DATA Output voltage Continuous load current Max. current Leakage current 0 signal		< 20 mA		
Output voltage Continuous load current Max. current Leakage current 0 signal		100 Hz max		
Output voltage Continuous load current Max. current Leakage current 0 signal				
Continuous load current Max. current Leakage current 0 signal		48240 Vac (zero crossing	n)	
Max. current Leakage current 0 signal		2.5 A a 40°C (see chart))/	
Leakage current 0 signal		4 A / 5 s - 20 A / 10 ms		
		1.5 mA		
	10 ms / 10 ms max.			
Protection circuit	_			
Current of the fuse max.		—		
GENERAL TECHNICAL DATA				
Operating temperature range		-2060°C (see chart)		
I/O isolation bobina/contatti		2.5 KVac / 60 s		
Protection degree	1 KV	/ac / 60 s (between open co	ntact)	
Reference Standard		IP 00 IEC 529, EN60529		
Pollution degree		III / 2		
Overvoltage category		IEC 664-1, DIN VDE 0110.1		
Modello del relé (1)		green LED / yellow LED		
Status display		2.5 mm ² fixed screw type		
Housing material		UL94V-0 plastic material		
Approx. weight (4/8/16 relé)	207 g (7.31 oz)	379 g (13.38 oz)	756 g (26.69 oz)	
Mounting information	Ve	rtical on rail adjacent withou	t gap	
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35				
Mounting rail type according to IEC60715/G32	PR/3/40	PR/3/AC/78 PR/3/AS PR	/3/AS/7B	
Replacement relay (1)		, pr/3/AC/ZB, pr/3/AS, pr Nn/AC - pr/Din/AS - pr/		
Screw type jumper		C, PR/3/AC/ZB, PR/3/AS, PR DIN/AC - PR/DIN/AS - PR/ Cat. No. 8904405		



8 relay module



16 relay module



149



Solid state 24 Vdc relay modules with fuse

- For DC load
- Protection fuse on output
- Pluggable relay

Status LED display



NOTES

(1) Relay model is not binding, they may be modified without prior warning. The technical data shown here is to be considered typical.

(2) The fuse must be dimensioned according to load. The fuse must be dimensioned according to load. The max, value of 6.3 A is referred to EN60127-complying fuses and the homologation rated cur-rent of the fuse-holder. Fuses of a higher value may damage the fuse-holder and module.

VERSIONS

	BLOCK I	DIAGRAM	
14 11 1			2

4 relay module

VENJIUNJ	Gal. NO. ANU41324F	Ual. NU. ANUO1324F	Gal. NO. AN101324F	
4 relay module	R41S24F			
8 relay module		R81S24F		
16 relay module			R161S24F	
INPUT TECHNICAL DATA				
Input voltage		24 Vdc (19.228.8 Vdc)	
Level 1 (high) input signal		> 19.2 Vdc		
Level 0 (low) input signal		< 1 Vdc		
Rated current (1 channel)		< 20 mA		
Switching frequency		100 Hz max		
OUTPUT TECHNICAL DATA				
Output voltage		350 Vdc		
Continuous load current		2.5 A a 40°C (see chart)		
Max. current	4 A / 5 s - 20 A / 10 ms			
Leakage current 0 signal	0.1 mA			
OFF/ON switching time	100 µs / 1 ms			
Protection circuit	diodo			
Current of the fuse max.		—		
GENERAL TECHNICAL DATA				
Operating temperature range		-2060°C (see chart)		
I/O isolation		2.5 KVac / 60 s		
Isolation between output terminals	1 KVa	ac / 60 s (between open c	ontact)	
Protection degree		IP 00 IEC 529, EN60529		
Overvoltage category / Pollution degree		III / 2		
Reference Standard	I	EC 664-1, DIN VDE 0110.	1	
Status display		green LED / yellow LED		
Connection terminal		2.5 mm ² fixed screw type		
Housing material		UL94V-0 plastic material		
Approx. weight	207 g (7.31 oz)	379 g (13.38 oz)	756 g (26.69 oz)	
Mounting information	vert	tical on rail adjacent witho	ut gap	
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35	PR/3/AC.	PR/3/AC/ZB. PR/3/AS. PF	R/3/AS/ZB	

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Replacement relay (1) Screw type jumper

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB PR/DIN/AC - PR/DIN/AS - PR/DIN/AL Cat. No. 8904404

150

Cat. No. XR041S24F Cat. No. XR081S24F Cat. No. XR161S24F



8 relay module



16 relay module





93 (3.74 in)

70

(2.76 in)

70

(2.76 in)

Solid state 24 Vdc relay modules with electronic protection

- Rated current output 8 x 2.5 A / 5 33 Vdc
- Short circuit, overload, over temperature, overvoltage output protection
- 12-24 Vdc negative common input, 8 status LED K1 and K8
- 8 output status LED, input/output anti polarity inversion diodes CE
- 70 mm wide

Replacement relay (1) Screw type jumper

NOTES

- (1) Maximum output current of each channel depends on surrounding air temperature, on the number of output contemporarily active and on the current flowing through them; the given value is measured with 4 active outputs and 4 not active.
- (2) All outputs are overcurrent and overtemperature; when ovd or ovt protections cuts off the output current, the output display led turns off or reduce its light depending on ovd degree; the output turns on automatically when the ovd or ovt are removed.

VERSIONS	Cat. No. XCOP082			
4 relay module				
8 relay module	COP082			
16 relay module				
INPUT TECHNICAL DATA				
Input voltage	5-24 Vdc (range 4.232 Vdc) negative common			
Level 1 (high) input signal	> 3.5 Vdc			
Level 0 (low) input signal	< 3.5 Vdc			
Rated current (1 channel)	5 mA ±10%.			
Switching frequency	500 Hz			
OUTPUT TECHNICAL DATA				
Output voltage	12-24 Vdc, (range 532 Vdc) negative common			
Continuous load current	8 x 2.5 A @ 25°C (1)			
Max. current	4.4 A			
Leakage current 0 signal	25 µA max @ 24Vdc			
OFF/ON switching time	200 Hz (Ton < 500 μs / Toff < 500 μs) (2)			
Protection circuit	electronic against short circuit / overload / overtemperature			
Min. applicable load	5.2 Vdc/ 100 mA			
GENERAL TECHNICAL DATA				
Operating temperature range	-2060°C (see chart)			
I/O isolation	2.5 KVac / 60 s			
Isolation between output terminals	1 KVac / 60 s (between open contact)			
Protection degree	IP 00 IEC 529, EN60529			
Overvoltage category / Pollution degree	III / 2			
Reference Standard	IEC 664-1, DIN VDE 0110.1			
Status display	green LED / yellow LED			
Connection terminal	2.5 mm ² fixed screw type			
Housing material	UL94V-0 plastic material			
Approx. weight				
Mounting information	vertical on rail adjacent without gap			
MOUNTING ACCESSORIES				
Mounting rail type according to IEC60715/TH35	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB			
Mounting rail type according to IEC60715/G32	PR/DIN/AC - PR/DIN/AS - PR/DIN/AL			

BLOCK DIAGRAM



Passive interface modules selection table

These tables allow you to quickly select only the items, then check if all product's technical data meet your application requirements.

Sub-D / Terminal modules

Version	Dimensions AxBxC	Tipology	Туре	Cat. No.	Page
9 poles	37x66x93	(6)	ISD09FM	XISD09FM	153
	37x66x93	(5)	ISD09PF	XISD09PF	153
	37x66x93	(8)	ISD09PM	XISD09PM	153
15 poles	47x66x93	(6)	ISD15FM	XISD15FM	153
	47x66x93	(5)	ISD15PF	XISD15PF	153
	47x66x93	(8)	ISD15PM	XISD15PM	153
25 poles	70x66x93 70x66x93 80x66x93 70x66x93 80x66x93 57x80x93 57x80x93	(6) (5) (7) (8) (8) (7) (5) (11) (8) (11)	ISD25FM ISD25PF ISD25PFL ISD25PM ISD25PML CPD25F CPD25M	XISD25FM XISD25PF XISD25PFL XISD25PM XISD25PML XCPD25F XCPD25M	153 153 154 153 154 155 155
37 poles	107x66x93 107x66x93 109x66x93 107x66x93 109x66x93 109x66x93 77x80x93 77x80x93	(6) (5) (7) (8) (8) (7) (5) (11) (8) (11)	ISD37FM ISD37PF ISD37PFL ISD37PM ISD37PML CPD37F CPD37M	XISD37FM XISD37PF XISD37PFL XISD37PM XISD37PML XCPD37F XCPD37M	153 153 154 153 154 155 155
50 poles	92x80x93	(5) (11)	CPD50F	XCPD50F	155
	92x80x93	(8) (11)	CPD50M	XCPD50M	155

Flat / Terminal modules

Version	Dimensions AxBxC	Tipology	Туре	Cat. No.	Page
10 poles	42x66x93	(8)	IF10PMS	XIF10PMS	156
	42x66x93	(8) (7)	IF10PML	XIF10PML	156
14 poles	48x66x93	(8)	IF14PMS	XIF14PMS	156
	48x66x93	(8) (7)	IF14PML	XIF14PML	156
16 poles	58x66x93	(8)	IF16PMS	XIF16PMS	156
	58x66x93	(8) (7)	IF16PML	XIF16PML	156
20 poles	70x66x93	(8)	IF20PMS	XIF20PMS	156
	70x66x93	(8) (7)	IF20PML	XIF20PML	156
	47x80x93	(8) (11)	CPC20M	XCPC20M	157
26 poles	86x66x93	(8)	IF26PMS	XIF26PMS	156
	86x66x93	(8) (7)	IF26PML	XIF26PML	156
	57x80x93	(8) (11)	CPC26M	XCPC26M	157
34 poles	107x66x93	(8)	IF34PMS	XIF34PMS	156
	107x66x93	(8) (7)	IF34PML	XIF34PML	156
	70x80x93	(8) (11)	CPC34M	XCPC34M	157
40 poles	122x66x93	(8)	IF40PMS	XIF40PMS	156
	122x66x93	(8) (7)	IF40PML	XIF40PML	156
	77x80x93	(8) (11)	CPC40M	XCPC40M	157
50 poles	92x80x93	(8) (11)	CPC50M	XCPC50M	157
60 poles	107x80x93	(8) (11)	CPC60M	XCPC60M	157
64 poli	117x80x93	(8) (11)	CPC64M	XCPC64M	157
	92x80x93	(8) (11)	CPD50M	XCPD50M	155

Legenda

- (1) common anode
- (2) common cathode
- (3) with common terminal
- (4) single diode(5) female connector
- (6) female + male connector

Diode-holder modules

Version	Dimensions AxBxC	Tipology	Туре	Cat. No.	Page
8 diodes	25x60x76	(4)	CDM08CS	XCDM08CS	159
	45x65x93	(1)	CDM08AC	XCDM08AC	160
	45x65x93	(2)	CDM08CC	XCDM08CC	160
16 diodes	50x65x93	(4)	CDM16CS	XCDM16CS	159
	92x65x93	(1)	CDM16AC	XCDM16AC	160
	92x65x93	(2)	CDM16CC	XCDM16CC	160
24 diodes	71x65x93	(4)	CDM24CS	XCDM24CS	159
	137x65x93	(1)	CDM24AC	XCDM24AC	160
	137x65x93	(2)	CDM24CC	XCDM24CC	160
	137x65x93	(2)	CDM24CC	XCDM24CC	160

Lamp testing modules

Version	Dimensions AxBxC	Tipology	Туре	Cat. No.	Page
8 diodes	45x65x93 45x65x93 45x65x93	(1) (2)	CLT08AC CLT08CC	XCLT08AC XCLT08CC XCLP08CC	161 161 162
16 diodes	92x65x93 92x65x93 92x65x93	(1) (2)	CLT16AC CLT16CC CLP16CC	XCLT16AC XCLT16CC XCLP16CC	161 161 162

Component-holder modules

Version	Dimensions AxBxC	Tipology	Туре	Cat. No.	Page
4 components	25x66x93	(9)	CCM04SF	XCCM04SF	158
8 components	25x66x93	(10)	CCM08SV	XCCM08SV	158
8 components	47x66x93	(9)	CCM08SF	XCCM08SF	158
10 components	38x66x93	(3)	CCM08CV	XCCM08CV	158
12 components	70x66x93	(9)	CCM12SV	XCCM12SV	158
16 components	47x66x93	(10)	CCM16SV	XCCM16SV	158
24 components	70x66x93	(10)	CCM24SV	XCCM24SV	158

- (7) with LED
- (8) male connector
- (9) single component with Faston terminals
- (10) single component with terminal blocks
- (11) compact dimensions

Passive interfaces (D-Sub/Terminals modules) ISD series





NOTES

BLOCK DIAGRAM

These modules allow the transferiring to the terminals of the deriving signals on a cable with D-Sub connector type The numeration is "pin-to-pin".



VERSIONS	DIMENSIONS	m	ale		female	male	+ female
	(A x B x C)	Item	Cat. No.	Item	Cat. No.	Item	Cat. No.
9 poles	37x66x93 (1.46x2.60x3.66 in)	ISD09PM	XISD09PM	ISD09PF	XISD09PF	ISD09FM	XISD09FM
15 poles	47x66x93 (1.85x2.60x3.66 in)	ISD15PM	XISD15PM	ISD15PF	XISD15PF	ISD15FM	XISD15FM
25 poles	70x66x93 (2.76x2.60x3.66 in)	ISD25PM	XISD25PM	ISD25PF	XISD25PF	ISD25FM	XISD25FM
37 poles	107x66x93 (4.21x2.60x3.66 in)	ISD37PM	XISD37PM	ISD37PF	XISD37PF	ISD37FM	XISD37FM
GENERAL TE	CHNICAL DATA						
Rated voltage		050 Vac	; / 075 Vdc	050	Vac / 075 Vdc	050 V	ac / 075 Vdc
Rated current		2 A	max.	2 A max.		2 A max.	
Operating temperature		-20.	.+60°C	-:	20+60°C	-20)+60°C
Protection degree		IP00 IEC5	29; EN60529	IPOO IE	EC529; EN60529	IPOO IEC	529; EN60529
Reference Standard		IEC 664-1; [DIN VDE 0110.1	IEC 664-	1; DIN VDE 0110.1	IEC 664-1	DIN VDE 0110.1
Pollution degree			2		2		2
Overvoltage category							
Housing material		polyamic	le UL94V-0	polya	amide UL94V-0	polyar	nide UL94V-0
Connection terminal blocks		2.5 mm ² fixed so	crew type (AWG 14)	2.5 mm ² fixe	ed screw type (AWG 14)	2.5 mm ² fixed	screw type (AWG 14)
Mounting information		vertical on rail a	djacent without gap	vertical on ra	ail adjacent without gap	vertical on rail	adjacent without gap

			MU	UNIIN	G /	AUUESSUKIES	
Mou	nting	rail	type	accordir	ng to	IEC60715/TH35	
						15000315/000	

Mounting rail type according to IEC60715/G32 Jumper bridge black

PR/3/AC - PR/3/AS PR/DIN/AC - PR/DIN/AS - PR/DIN/AL



Passive interfaces (D-Sub/Terminals modules) ISD series

• With LED to display the status



NOTES

BLOCK DIAGRAM

These modules allow the transferiring to the terminals of the deriving signals on a cable with D-Sub connector type $% \left({\frac{{{\left({{{\left({{{\left({{{\left({{{\left({{{{}}}} \right)}} \right)}} \right.} \right)}_{0,0}}} \right)} \right)} = 0} \right)$

The numeration is "pin-to-pin" (1) The LEDs are predisposed for a nominal voltage of 24 Vdc and

negative common.



VERSIONS	DIMENSIONS	n	nale		fe male	
	(A x B x C)	Item	Cat. No.	Item	Cat. No.	
25 poles	80x66x93 (3.15x2.60x3.66 in)	ISD25PML	XISD25PML	ISD25PFL	XISD25PFL	
37 poles	109x66x93 (4.30x2.60x3.66 in)	ISD37PML	XISD37PML	ISD37PFL	XISD37PFL	
GENERAL	TECHNICAL DATA					
Rated voltage			1224 Vdc	±10% (1)		
Rated current			2 A	max.		
Operating temperature		-20+60°C				
Protection degree			IP00 IEC52	9; EN60529		
Reference Standard			IEC 664-1; DI	N VDE 0110.1		
Pollution degree				2		
Overvoltage category						
Housing material			polyamide	e UL94V-0		
Connection terminal block	S	2.5 mm ² fixed screw type (AWG 14)				
Mounting information			vertical on rail ad	jacent without gap)	
MOUNTIN	IG ACCESSORIES					

MOUNTING ACCESSORIES	
Mounting rail type according to IEC60715/TH35	
Mounting rail type according to IEC60715/G32	
Jumper bridge	black

PR/3/AC - PR/3/AS PR/DIN/AC - PR/DIN/AS - PR/DIN/AL



Passive interfaces (D-Sub/Terminals modules) CPD series

Compact dimensions



NOTES						BLO	CK D)IA (GR/	M				
These modules allow the transferirng to the terminals of the deriving signals on a cable with D-Sub connector type. The numeration is "pin-to-pin". (1) Version available upon request		2 0	9	15 O 	25 O	37 O	50 O 		2 0 –	9 0 	15 O	25	37 O	50 O
	1	2	9	15	25	37	50	1	2	9	15	25	37	50

VERSIONS	DIMENSIONS		male		fe male	
	(A x B x C)	Item	Cat. No.	ltem	Cat. No.	
25 poles	57x80x93 (2.24x3.15x3.66 in)	CPD25M	XCPD25M	CPD25F	XCPD25F	
37 poles	77x80x93 (3.03x3.15x3.66 in)	CPD37M	XCPD37M	CPD37F	XCPD37F	
50 poles	92x80x93 (3.62x3.15x3.66 in)	CPD50M	XCPD50M	CPD50F	XCPD50F	
GENERAL TE	CHNICAL DATA					
Rated voltage			050 Vac	/ 075 Vdc		
Rated current			2 A	max.		
Operating temperature			-20	+60°C		
Protection degree			IP00 IEC52	9; EN60529		
Reference Standard			IEC 664-1; DI	N VDE 0110.1		
Pollution degree				2		
Overvoltage category						
Housing material		polyamide UL94V-0				
Connection terminal blocks		2.5 mm ² fixed screw type (AWG 14)				
Mounting information			vertical on rail ad	jacent without ga	p	
MOUNTING	ACCESSORIES					

MOUNTING ACCESSORIES	
Mounting rail type according to IEC60715/TH35	PR/3/AC - PR/3/AS
Mounting rail type according to IEC60715/G32	PR/DIN/AC - PR/DIN/AS - PR/DIN/AL
Jumper bridge black	_



Passive interfaces (I.D.C./Terminal blocks) IF series

• Available with LED to display the status



С

B

NOTES

The modules allow the transfering to the terminals the deriving signals on Flat-cable through the employment of IDC ribbon cable connectors (with insulation displacement).

The numeration is "pin-to-pin".

 Version available upon request
 The LEDs are predisposed for a nominal voltage of 24 Vdc and negative common





VERSIONS	S DIMENSIONS		male			fe male	
	(A x B x C)	Item		Cat. No.	Item		Cat. No.
10 poles	42x66x93 (1.65x2.60x3.66 in)	IF10PMS	(1)	XIF10PMS	IF10PML	(1)	XIF10PML
14 poles	48x66x93 (1.89x2.60x3.66 in)	IF14PMS	(1)	XIF14PMS	IF14PML	(1)	XIF14PML
16 poles	58x66x93 (2.28x2.60x3.66 in)	IF16PMS		XIF16PMS	IF16PML		XIF16PML
20 poles	70x66x93 (2.76x2.60x3.66 in)	IF20PMS		XIF20PMS	IF20PML		XIF20PML
26 poles	86x66x93 (3.39x2.60x3.66 in)	IF26PMS		XIF26PMS	IF26PML		XIF26PML
34 poles	107x66x93 (4.21x2.60x3.66 in)	IF34PMS		XIF34PMS	IF34PML		XIF34PML
40 poles	122x66x93 (4.80x2.60x3.66 in)	IF40PMS		XIF40PMS	IF40PML		XIF40PML
G	ENERAL TECHNICAL DATA						

Ò

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Rated voltage	050 Vac / 075 Vdc	1224 Vdc ±10% (2)
Rated current	750 mA max.	750 mA max.
Operating temperature	-20+60°C	-20+60°C
Protection degree	IP00 IEC529; EN60529	IP00 IEC529; EN60529
Reference Standard	IEC 664-1; DIN VDE 0110.1	IEC 664-1; DIN VDE 0110.1
Pollution degree	2	2
Overvoltage category		ll
Housing material	polyamide UL94V-0	polyamide UL94V-0
Connection terminal blocks	2.5 mm ² fixed screw type (AWG 14)	2.5 mm ² fixed screw type (AWG 14)
Mounting information	vertical on rail adjacent without gap	vertical on rail adjacent without gap

MOUNT	ing a	CCESS	SORIES

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Jumper bridge black

PR/3/AC - PR/3/AS PR/DIN/AC - PR/DIN/AS - PR/DIN/AL



Passive interfaces (I.D.C./Terminal blocks) CPC series

Compact dimensions



NOTES

The modules allow the transferring to the terminals of the deriving signals on Flat-cable through the employment of IDC ribbon cable connectors (with insulation displacement). The numeration is "pin-to-pin".

	BLOCK DIAGRAM									
	2	20	26	34	40	50				
1	2	∎ 20	26	34	4 0	5 0				

Cat. No. XCPC20M XCPC26M XCPC34M XCPC40M XCPC50M XCPC60M XCPC64M

VERSIONS	DIMENSIONS	without LED
	(A x B x C)	Item
20 poles	47x80x93 (1.85x3.15x3.66 in)	CPC20M
26 poles	57x80x93 (2.24x3.15x3.66 in)	CPC26M
34 poles	70x80x93 (2.76x3.15x3.66 in)	CPC34M
40 poles	77x80x93 (3.03x3.15x3.66 in)	CPC40M
50 poles	92x80x93 (3.62x3.15x3.66 in)	CPC50M
60 poles	107x80x93 (4.21x3.15x3.66 in)	CPC60M
64 poles	117x80x93 (4.61x3.15x3.66 in)	CPC64M

GENERAL TECHNICAL DATA	
Rated voltage	050 Vac / 075 Vdc
Rated current	750 mA max.
Operating temperature	-20+60°C
Protection degree	IP00 IEC529; EN60529
Reference Standard	IEC 664-1; DIN VDE 0110.1
Pollution degree	2
Overvoltage category	I
Housing material	polyamide UL94V-0
Connection terminal blocks	2.5 mm ² fixed screw type (AWG 14)
Mounting information	vertical on rail adjacent without gap
MOUNTING ACCESSORIES	

INIUUN I	ING	APPE220KIE2

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Jumper bridge black

PR/3/AC - PR/3/AS PR/DIN/AC - PR/DIN/AS - PR/DIN/AL

Component-holders modules CCM series

Compact dimensions

Available with fast-on connection







NOTES

The component-holders modules allow the montage of electronic components (diodes, resistors, capacitors etc.) according to customer needs.

They are available with connections with terminal blocks or Faston, and with holes of different diameters for the terminals of the components. (1) Version available upon request; for info call our sales dept., local agent or representative

C O	2 0 0 0	6 0 0 0 0	8 0 0 0	
0 0 0	000	0005	00007	

BLOCK	DIAGRAM

16 0	15 ()	14 0	13 0	12 0	11 0	10 	9	16 Y	15 Y	14 Y			11 Y	10 Y	9 Y
000	000														
o o o	o o	o o	o o	o o	o o	o o	o o	o o	o o	o o	o o	o o	o o	o o	
					6		08		2	Д З	4	⊥ ₅	6		لر 8

VERSIONS	DIMENSIONS	with common terminal			single with terminals			single with Faston		
	(A x B x C)	Item	Cat.	No.	ltem		Cat. No.	Item		Cat. No.
4 components	25x66x93 (0.98x2.60x3.66 in)		_			_		CCM04SF		XCCM04SF
8 components	25x66x93 (0.98x2.60x3.66 in)		—		CCM08SV		XCCM08SV		—	
8 components	47x66x93 (1.85x2.60x3.66 in)		—			—		CCM08SF		XCCM08SF
8 components	25x55x93 (0.98x2.17x3.66 in)	CCM08CV	XCCM	08CV		_			_	
12 components	70x66x93 (2.76x2.60x3.66 in)		—			_		CCM12SF (1)		XCCM12SF
16 components	47x66x93 (1.85x2.60x3.66 in)	CCM16CV	XCCM	16CV	CCM16SV		XCCM16SV		_	
24 components	70x66x93 (2.76x2.60x3.66 in)		_		CCM24SV	(1)	XCCM24SV		—	
GENERAL TE	CHNICAL DATA									
Rated voltage			0230 V ±10%			0230 V ±	:10%	0	230 V ±10	%
Rated current		4 A	max. (on the common)		2 A	A max. (on the	common)	2 A max. (on the common)		
Operating temperature			-20+60°C			-20+6	0°C	-20+60°C		
Protection degree		IPO	00 IEC529; EN60529		IP00 IEC529; EN60529			IP00 IEC529; EN60529		0529
Reference Standard		IEC 6	64-1; DIN VDE 0110.1		IEC 664-1; DIN VDE 0110.1			IEC 664-1; DIN VDE 0110.1		0110.1
Pollution degree			2			2			2	
Overvoltage category			I							
Housing material		ţ	olyamide UL94V-0			polyamide Ul	_94V-0	polya	mide UL94	V-0
Connection terminal blocks		2.5 mm ²	fixed screw type (AWG 14	1)	2.5 mm	² fixed screw	type (AWG 14)	2.5 mm ² fixe	d screw typ	e (AWG 14)
Mounting information		vertical o	on rail adjacent without ga	р	vertical	on rail adjace	ent without gap	vertical on ra	il adjacent	without gap

MOUNTING ACCESSORIES	5
Mounting rail type according to IEC60715/TH35	
Mounting rail type according to IEC60715/G32	
Jumper bridge	black

The PMC series has changed its Cat. No. into	CCM series, these are the cross reference list.
Old item	New item
PMC0001	CCM08CV
PIMC0002	CCM08SV
PIMC0003	CCM16SV
PIMC0004	CCM24SV
PM00005	CCM04SF
PIMIC0006	CCM08SF
PMC0007	CCM12SF



Diode-holder modules with single diodes CDM series





NOTES

BLOCK DIAGRAM



VERSIONS	DIMENSIONS	single diode		
	(A x B x C)	Item	Cat. No.	
8 diodes	25x60x76 (0.98x2.36x3.66 in)	CDM08CS	XCDM08CS	
16 diodes	50x65x93 (1.97x2.56x3.66 in)	CDM16CS	XCDM16CS	
24 diodes	71x65x93 (2.80x2.56x3.66 in)	CDM24CS	XCDM24CS	

GENERAL TECHNICAL DATA	
Rated voltage	0230 V ±10%
Rated current	1 A max.
Diode type	1N4007
Repetitive peak reverse voltage	1000 V
Operating temperature	-20+60°C
Protection degree	IP00 IEC529; EN6052
Reference Standard	IEC 664-1; DIN VDE 011
Pollution degree	2
Overvoltage category	II
Housing material	polyamide UL94V-0
Connection terminal blocks	2.5 mm ² fixed screw ty ^p e (A
Mounting information	vertical on rail adjacent with

black

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Jumper bridge

29 10.1 1 AWG 14) hout gap

PR/3/AC - PR/3/AS PR/DIN/AC - PR/DIN/AS - PR/DIN/AL

Diode-holder modules with common terminal **CDM series**



NOTES

Jumper bridge

BLOCK DIAGRAM



VERSIONS	DIMENSIONS	comm	on anode	common	cathode	
	(A x B x C)	Item	Cat. No.	Item	Cat. No.	
8 diodes	45x65x93 (1.77x2.56x3.66 in)	CDM08AC	XCDM08AC	CDM08CC	XCDM08CC	
16 diodes	92x65x93 (3.62x2.56x3.66 in)	CDM16AC	XCDM16AC	CDM16CC	XCDM16CC	
24 diodes	137x65x93 (5.39x2.56x3.66 in)	CDM24AC	XCDM24AC	CDM24CC	XCDM24CC	
	CHNICAL DATA					
Rated voltage		0230 V ±10%				
Rated current		1 A max.				
Operating temperature		1N4007				
Diode type		1000 V				
Repetitive peak reverse voltage	9	-20+60°C				
Protection degree		IP00 IEC529; EN60529				
Reference Standard			IEC 664-1; DI	N VDE 0110.1		
Pollution degree			1	2		
Overvoltage category				1		
Housing material			polyamide	e UL94V-0		
Connection terminal blocks		2.5 mm ² fixed screw type (AWG 14)				
Mounting information			vertical on rail adj	acent without gap		
MOUNTING A	ACCESSORIES					

Mounting rail type according to IEC60715/TH35		PR/3/AC - PR/3/AS
Mounting rail type according to IEC60715/G32		PR/DIN/AC - PR/DIN/AS - PR/DIN/AL
Jumper bridge	black	_

LED testing modules CLT series

- Compact dimensions
- Integrated limitation resistence
- Suitable only for LED without resistance limiter



NOTES

BLOCK DIAGRAM

- Led test can be performed through a negative signal on the common output
- (2) Led test can be performed hrough a positive signal on the common input

1A 2A 3A 4A 5A 6A 7A 8A 15A 16A U U U U U U U U U U U U V V V V V V V V V V V V V V V V V V V	
1C 2C 3C 4C 5C 6C 7C 8C 15C 16C (C 1A 2A 3A 4A 5A 6A 7A 8A 15A 16A C

VERSIONS	DIMENSIONS	common	negative (1)	common	positive (2)	
	(A x B x C)	Item	Cat. No.	Item	Cat. No.	
8 channels	45x65x93 (1.77x2.56x3.66 in)	CLT08AC	XCLT08AC	CLT08CC	XCLT08CC	
16 channels	92x65x93 (3.62x2.56x3.66 in)	CLT16AC	XCLT16AC	CLT16CC	XCLT16CC	
GENERAL TE	CHNICAL DATA					
Rated voltage		24 Vdc max. 30 Vdc				
Corrente singolo canale		5 mA @ 24 Vdc				
Diodes utilizzati			1N4	007		
Resistenza di limitazione		4,7 KΩ 1/4 W ±5%				
Repetitive peak reverse voltag	e	700 V				
Operating temperature			-20	+45°C		
Housing material			polyamide	e UL94V-0		
Protection degree			IP 00 IEC52	9, EN60529		
Connection terminal blocks		2.5 mm ² fixed screw type				
Mounting information			vertical on rail adj	acent without gap		
MOUNTING	ACCESSORIES					

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/1H35	
Mounting rail type according to IEC60715/G32	
Jumper bridge	black

PR/3/AC – PR/3/AC/ZB – PR/3/AS – PR/3/AS/ZB PR/DIN/AC - PR/DIN/AS - PR/DIN/AL

-161-

Lamp testing modules CLT series

Compact dimensions



NOTES

With AC input, the diodes rectify the current and the power will be halved.

(1) Led test can be performed through a negative signal on the common output

(2) Led test can be performed hrough a positive signal on the common input

10 20 30 40 50 60 70 80 150 160 0 0 0 0 0 0 0 0 0 0 7 7 7 7 7 7 7 7 7
1A 2A 3A 4A 5A 6A 7A 8A 15A 16A C

BLOCK DIAGRAM

VERSIONS	DIMENSIONS	commo	n negative (1)	common p	ositive (2)
	(A x B x C)	Item	Cat. No	. Item	Cat. No.
8 channels	45x65x93 (1.77x2.56x3.66 in)			CLP08CC	XCLP08CC
16 channels	92x65x93 (3.62x2.56x3.66 in)			CLP16CC	XCLP16CC
GENERAL T	ECHNICAL DATA				
Rated voltage			230	Vac/dc	
Rated current (1 channel)		100 mA @ 120 Vac/dc;			
			50 mA @	230 Vac/dc	
Diode type		1N4007			
Limitation resistence		0			
Repetitive peak reverse volta	age		7	00 V	
Operating temperature			-20.	+45°C	
Housing material			polyami	de UL94V-0	
Protection degree			IP 00 IECS	29, EN60529	
Connection terminal blocks			2.5 mm ² fi	ked screw type	
Mounting information			vertical on rail a	djacent without gap	
ΜΟΠΝΤΙΝΟ	ACCESSORIES				
	AUUEJJUNIEJ				

black

Mounting rail type according to IEC60715/TH35 Mounting rail type according to IEC60715/G32 Jumper bridge

PR/3/AC – PR/3/AC/ZB – PR/3/AS – PR/3/AS/ZB PR/DIN/AC - PR/DIN/AS - PR/DIN/AL

_



• Terminal blocks having a rated current of 24 A and 250 Vac rated voltage

- · Four slots for four parallel connections
- · Available with and without LED status display
- 6 mm wide





NOTES

1) Modules without output status LED display allow the distribution of any voltage up to 250 V

- 2) Modules with output status LED display allow the distribution of 12-24 Vac/dc voltage and are available on request; modules suitable for 48 Vac/dc, 120 Vac/dc with status LED display are available upon request
- (3) In order to assure the IP20 protection degree, the last module must be protected and insulated using the CK/PT end section

MOUNTING ACCESSORIES



A1 94 A2 94

BLOCK DIAGRAM



VERSIONS Item Cat. No. Item Cat. No. Status signal on input and output side CKFAA **XCKFAA** Status signal on input side CKFAX XCKFAX **INPUT TECHNICAL DATA** Input voltage 12 - 24 Vac/dc Rated current (1 channel) ≤10 mA @ 24 Vdc ≤24 Vac/dc Bridge voltage Distributable current to the bridge ≤24 A **OUTPUT TECHNICAL DATA** Output voltage 5 - 24 Vac/dc (2) ≤10 mA @ 24 Vdc Rated current (1 channel) ≤24 Vac/dc Distributable voltage to the bridge ≤24 A Distributable current to the bridge **GENERAL TECHNICAL DATA** Operating temperature -20-+60°C I/O isolation 3 kVac / 60 s Isolation between terminals 3 kVac / 60 s Protection degree (3) IP20 IEC529 EN60529 Reference Standard IEC 664.1, EN50081-1 Pollution degree 2 Overvoltage category Connection terminals 2.5 mm² AWG26-14 spring type Housing material polyamide UL94V-0 Approx. weight 24 g (0.85 oz) 40 g (1.41 oz) Mounting information adjacent without gap

APPLICATIONS

The use of the CKF modules for the connection and distribution of the common input and output supplies allows of to feed a maximum number of modules which is limited by the 24 A maximum current allowed by its 2.5mm2 (AWG 26-14) terminal blocks: calculation of the distributed maximum current must consider the maximum simultaneous activation of all relays; if the distributed current exceeds 24 A, it will be necessary to divide it on more CKF modules.

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

Mounting rail type according to IEC60715/TH35	-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB			
Mounting rail type according to IEC60715/G32		—			
Jumper bridge		PTC/CK/42	Cat. No. PTCCK42 (42 poles)		
End section		CK/PT	Cat. No. XCKPT		
Marking tags	blank	CNU/8/030	Cat. No. NU008		
	printed	CNU/8/023	Cat. No. N8023		
	printed	CNU/8/024	Cat. No. N8024		



Modular diodes-holder modules CKD series

- Easily expandable modules by means of a jumper
- Jumper insertion possibility on each of the 4 levels
- 6 mm wide







NOTES

- (1) In this model 1N4007 type diodes are mounted, their maximum average forward rectifier current is 1 A @ 50°C and 0.75 A @ 100°C. A model with BY255 type diodes and with an average forward rectifier current of 3 A @ 50°C, is also available but only upon request
- also available but only upon request
 (2) In order to assure the IP20 protection degree, the last module must be protected and insulated using the CK/PT end section







VERSIONS	Item	Cat. No.	Item		Cat. No.	Item		Cat. No.
Single diode	CKD3CS	XCKD3CS		—			_	
Common anode diodes array			CKD4AC		XCKD4AC		_	
Common cathode diodes array			CKD4CC		XCKD4CC		_	
Lamp / LED test circuits				—		CKD2LT		XCKD2LT
GENERAL TECHNICAL DATA								
Rated voltage				230 Vac/dc				
Rated current		\leq 1 A @ 25°C (diode type 1N4007) (1)						
Repetitive peak reverse voltage		1000 V						
Distributable voltage to the bridge		≤ 230 Vac/dc						
Distributable current to the bridge		≤ 24 A						
Operating temperature		-20 - + 60 °C						
Protection degree (3)		IP20 IEC529 EN60529						
Reference Standard		IEC 664.1, EN50081-1						
Pollution degree		2						
Overvoltage category		II.						
Connection terminals		2.5 mm ² , AWG26-14 spring type						
Housing material	polyamide UL 94V0							
Approx. weight	27 g (0.95 oz)							
Mounting information	adjacent without gap							
MOUNTING ACCESSORIES								

Mounting rail type according to IEC60)715/TH35	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB		
Mounting rail type according to IEC60)715/G32		—	
Jumper bridge		PTC/CK/42	Cat. No. PTCCK42 (42 poles)	
End section		CK/PT	Cat. No. XCKPT	
Marking tags	blank	CNU/8/030	Cat. No. NU008	
	printed	CNU/8/CKD	Cat. No. N8CKD020	
	printed			



NOTES

(1) Maximum height of the components measured between the circuit and the cover

MOUNTING ACCESSORIES

Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/G32

Material Colour

Jumper bridge

	52.5 <u>80</u>
9	S●

PR/3/AC, PR/3/AS







B125 C050	CH electronic housings With the CH (Cabur Housing) series containers, Cabur proposes a modular
C010	system which allows you to obtain boxes with four width sizes 17.5 mm - 35
C225	mm - 45 mm - composed by 10 easy-to-assemble parts.
C325	The CS can have a maximum size of 102 x 74 mm and can be inserted on
S000	4 small columns formed in the base which holds it in position.
CA00	Additional anchorage of the CS is possible with a 2.2 x 4.5 mm self-
C000	threading screw to be screwed into the central column, also allowing small
CF00	CS to be mounted.
	The conductors are connected with 2.5 mm pluggable terminals, which are
	readily available.
	16 connection poles which can be used with pitch of 5.08 on each side and 10 on the front side.
	The CH-S front closure, with panel opening, provides access to the internal
	circuit for work on the potentiometers, jumpers and micro-switches.
	The side covers are availbale with ventilating holes or closed, and are pre-
	cutted with 5.08 mm pitch, to make possible an easy cut into necessary
	lenght with a pair of scissors, for an easy fit to final dimensions.
	The following are required for a composition of a housing::

APPLICATIONS

• 1 CH-B12.5 base 12.5 mm wide

• 1 cover (4 sizes available)

CH-C5	5 mm wide
CH-C10	10 mm wide
CH-C22.5	22.5 mm wide
CH-C32.5	32.5 mm wide

(by adding together the width of the base 12.5 mm with the width of the cover chosen from the 4 available, the total width of the housing is obtained)

• 1 front closure in two versions:

	CH-S CH-CF	with panel opening fixed
2 side closures in two versions:	CH-C CH-CA	without vents with vents

					CH-C
12.1 mm 1	1			1	2
19.1 mm 1	1			1	2
31.6 mm 1		1		1	2
41.6 mm 1			1	1	2

red white blue

Housing for custom applications CK series



6 mm wide, expandable modules

- 6 spring-clamp 2,5 mm² / AWG 26 ÷ 14 terminal blocks
- Jumper insertion possibility on each of the 4 levels
- Hinged front cover access to the printed circuit board



NOTES

- (1) 6 spring-clamp terminal blocks included with solder contact
- (2) In order to assure the IP20 protection degree, the last module must be protected and insulated using the CK/PT end section

VERSIONS



TENOIONO		Rom		Uu
standard base		CKB (1)		
base element with ground contact		CKBG (1)		
expansion module		CKBX2 (1)		
end section		CK/PT		
front hinge cover		CK/S		
printed circuit board		CK/PCB		8
GENERAL TECHNICAL DAT	FA			
Rated voltage of each terminal block			230 Vac/dc ± 10%	
Rated current of each terminal block			≤ 24 A	
Operating temperature			-40+ 100°C	
Protection degree (2)			IP20 IEC529 EN60529	
Connection terminals		2.5 r	nm ² , AWG26-14 spring type	
Housing material			polyamide UL 94V0	
Approx. weight				
Marking tags	blank			
	printed	CNU/8/		ue)
0			on rail	
MOUNTING ACCESSORIE	S			
0 11 0		PR/3/AC, PI	1/3/AC/ZB, PR/3/AS, PR/3/AS/	ZB
0 11 0			_	
Jumper bridge	red		—	
	standard base base element with ground contact expansion module end section front hinge cover printed circuit board GENERAL TECHNICAL DAT Rated voltage of each terminal block Rated current of each terminal block Operating temperature Protection degree (2) Connection terminals Housing material Approx. weight Parallel bridge Marking tags Mounting information MOUNTING ACCESSORIE Mounting rail type according to IEC60715/T	standard base base element with ground contact expansion module end section front hinge cover printed circuit board GENERAL TECHNICAL DATA Rated voltage of each terminal block Rated current of each terminal block Operating temperature Protection degree (2) Connection terminals Housing material Approx. weight Parallel bridge Marking tags blank printed Mounting information MOUNTING ACCESSORIES Mounting rail type according to IEC60715/TH35-7.5 Mounting rail type according to IEC60715/TH35-7.5	standard baseCKB (1)base element with ground contactCKBG (1)expansion moduleCKBZ (1)end sectionCK/PTfront hinge coverCK/Sprinted circuit boardCK/PCBCBENERAL TECHNICAL DATARated voltage of each terminal blockOperating temperatureProtection degree (2)Connection terminals-2.5 mHousing materialApprox. weight20 g (ClPratlel bridgePTC/CK/42Mounting informationCNU/8/030Mounting rail type according to IEC60715/TH35-7.5PR/3/AC, PFMounting rail type according to IEC60715/G32	standard base CKB (1) base element with ground contact CKBG (1) expansion module CKBX2 (1) end section CK/PT front hinge cover CK/S printed circuit board CK/PCB BENERAL TECHNICAL DATA Rated voltage of each terminal block 230 Vac/dc ± 10% Rated voltage of each terminal block ≤ 24 A Operating temperature -40+ 100°C Protection degree (2) IP20 IEC529 EN60529 Connection terminals 2.5 mm², AWG26-14 spring type Housing material Polyamide UL 94V0 Approx. weight 20 g (CKB, CKBG), 15 g (CKX2, CK/PT) 20 g (CKPT, 1 g (CK/S), 5 g (CK/PCB) PTC/CK/42 Cat. No. PTCCK42 (42 pol) Marking tags blank printed On rail Mounting information on rail Mounting rail type according to IEC60715/TH35-7.5 PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/

white

blue



APPLICATIONS

With the CK series modular housings, Cabur offers a modular system that provides housings with increasing dimensions in width for simple components as diodes, resistors or more complex circuits with or without the support of a printed circuit board. For the composition of an housing the following items are necessary:

- a base support element, available in two versions: CKB and CKBG; the latter is provided with an electric metal contact on the DIN rail that allows to connect the internal circuit to the ground. Ground contact towards the DIN rail can carry an impulsive current value of 5 KA (8/20 peak). Both models have an external width of 6 mm and internal width of 5 mm; they are also equipped with 6 springclamp terminal blocks and 4 slots for the insertion of a jumper;
- one or more CKBX2 type expansion modules similar to the base support element, having therefore an external width of 6 mm and a central slot that allows the housing of the bulky components with a height exceeding the overall height of the base support element; the expansion module is also equipped with 6 spring-clamp terminal blocks and 4 slots for the insertion of a jumper;
- the CK/S front cover, granting access to the interior of the product, is also available. Once in open position it has such a dimension in order to guarantee a IPXXB degree of protection, even when it is not employed;
- in order to assure the IPXXB protection degree, the last module must be protected and insulated using the CK/PT end section;
- the CK/PCB printed circuit board is also available; it is useful in low volume custom applications where a special pcb is not designed and also where one requires a prototype without tooling a special printed circuit board.

Ground contact on CKBG



CKBX2



Cat. No. XCKB

XCKBG

XCKX2

XCKPT

8901028

XCKS







Plug-in jumper for CK series

Notes:

- (1) Example of a pre-cut 9 position jumper
- (2) CK/PT end section must be mounted on last module to assure IP20 protection degree
- (3) 32 A is the maximum current; however this value is limited by the rated current of the spring-clamp terminal blocks down to 24 A; for instance, having a jumper of 11 poles (1 for common and 10 for distribution) a current of 2.4 A can be distributed on every poles



VERSIONS	Item	Cat. No.
	PTC/CK/42	PTCCK42
GENERAL TECHNICAL DATA		
Protection degree (2)	IP20 IEC529; EN60529	
Number of poles	42	
Pitch	6 mm (0.24 in)	
Rated current carrying capacity of jumper (3)	32 A	
Insulation color	_	
Material	tin copper alloy	
Approx. weight	27 g (0.95 oz) (42 poles)	

Plug-in jumper for CW..7 series



VERSIONS	Item	Cat. No.	Item	Cat. No.	Item	Cat. No.
	CWBK 7-0802	X766802	CWBK 7-0803	X766803	CWBK 7-0804	X766804
GENERAL TECHNICAL DATA						
Protection degree	IP20 IEC529; EN60529		IP20 IEC529; EN60529		IP20 IEC529; EN60529	
Number of poles	16		16		16	
Pitch	6.2 mm (2.44 in)		6.2 mm (2.44 in)		6.2 mm (2.44 in)	
Rated current carrying capacity of jumper	16 A		16 A		16 A	
Insulation color	red		white		blue	
Material	—		—		_	
Approx. weight	4 g (0.14 oz)		4 g (0.14 oz)		4 g (0.14 oz)	

Plug-in jumper for CWRE series

VERSIONS	Item	Cat. No.
	CWBK 7-0813	X766813
GENERAL TECHNICAL DATA		
Protection degree	IP20 IEC529; EN60529	
Number of poles	16	
Pitch	6.2 mm (2.44 in)	
Rated current carrying capacity of jumper	16 A	
Insulation color	blue	
Material	—	
Approx. weight	6 g (0.21 oz)	



◆ cabur Screw type jumper for JVS series 303 Notes: Suitable for JVS protection devices VERSIONS Item Cat. No. Item Cat. No. Item Cat. No. JGB2P XJGB2P JGB3P XJGB3P JGB4P XJGB4P **GENERAL TECHNICAL DATA** Protection degree Number of poles IP20 IEC529; EN60529 IP20 IEC529; EN60529 IP20 IEC529; EN60529 2 3 4 18 mm (0.71 in) Pitch 18 mm (0.71 in) 18 mm (0.71 in) Rated current carrying capacity of jumper 100 A 100 A 100 A

T2 copper

silver plated

Screw type jumper for CM series

Insulation color Material

Treatment



T2 copper

silver plated

VERSIONS	Item		Cat. No.	Item		Cat. No.
	XCMB16B		XCMB16B	XCMB27B		XCMB27B
GENERAL TECHNICAL DATA						
Protection degree		IP20 IEC529; EN60529			IP20 IEC529; EN60529	
Number of poles		8			8	
Pitch		16 mm (0.63 in)			27 mm (1.06 in)	
Rated current carrying capacity of jumper		10 A @ 250 V			10 A @ 250 V	
Insulation color		black			black	
Material		—			—	
Approx. weight		3 g (0.10 oz)			3 g (0.10 oz)	

T2 copper

silver plated



Marking system CNU/8 series

Notes:

These are the tags suited to be used for the marking of the terminals on CK series, supplied in tables of 100 elements. They are manufactured in white polyamide and are provided with black printing; to be applied directly into position either before or after assembling the relays to the din rail. They have a 6 mm standard pitch and are 8 mm high. In the table below the types suited to be used with CK interface modules are listed; they are available in numbers or symbols marking patterns. For the complete range, please refer to the terminal blocks catalogue on the accessories section.

•	KI	104		101	102	-	KID	104	101	10	-	K10	104	101	102	-	K10	154	101	10		-	+	-	+	+	-	+	-	+	•	c	C	c	c	c	c	C	c	
•	10		18	91	92	+	ю		91	9	٠	13	-	91	92	+	10	-	91	92		K17	174	171-181	184	KIB	K17	174	175-181	18	c	120	190	140	150	HC	170	180	190	
1	10	-			82	-	10	-	81		-	10	-	-	82	-	-		81	. 82	16	K15	154	-	164	K16	K15	154	155-985	16	A	124	134	-	15A	-	174	-	154	1
]	K7	74	T	71	12	+	KT	74	71	7	٠	107	74	71	n	+	KT	74	71	72		K13	134	131-941	144	K14	K13	134	135-MI	14	c	x	x	*	sc	80	ĸ	80	*	
1	KS	64		61	62	-	10		61	6	-	10	64	61	62	-	KS		61	62	12	K11	114	115-121	124	K12	K11	114	115-121	12	•	24	34	*	-	-	78	-	-	
]	KS	54	1	51	52	+	KS	54	51	5		85	54	51	52	+	KS	54	51	53		-	-	81-181	104	K10	13	-	#1-581	10		c	c	c	c	c	c	c	c	n
]	KA	-44	T	41	42	-	-	41	41		-	- 164	44	41	42	-	-	-	41	-		107	74	71-81		10	67	74	71-81		c	120	130	140	15C	-	170	180	190	1
1	ю	34	19	31	32	+	ю	34	31	3		10	34	31	32	+	ю	H	31	31		ю	54	51-62	64	-	15	54	51-62	-		12A	13A	144	15A	-	174	-	-	
J	K2	24	13	21	22	-	KZ	24	21	z	-	102	24	21	22	-	K2	M	21	22		ю	H	21-41	44	-	10	34	31-41			*	×	*	sc	6C	rc	80	*	1
Î	K1	14		11	12	+	К1	18	11	1		KI	14	11	12	+	Kt	14	-11	12	2	K1	14	11-21	24	K2	KI	54	11-21	24		24	AC	-	SA	-	74	-	94	1
Na		* 1610		11	12	+	KI		11	1	÷	KI N8CK			12	+	KI	14	11	1	r N	кя 18СК2			M	K2	KI	54	11-21	24	N	** 18CKE	••• 0020			SA SA	SA BA	SA 6A 7A	5A 6A 7A 8A	5A 6A 7A 8A 5A

Marking	Type of card (100 elements)	Cat. No.
Tags suited for CKR16 for the marking of 2 modules from 1 to 10 channels	CNU/8/CK16/10	N8CK1610
Tags suited for CKR16 for the marking of 2 modules from 11 to 20 channels	CNU/8/CK16/20	N8CK1620
Tags suited for CKR25 & CKS21U for the marking of 2 modules from 1 to 18 channels	CNU/8/CK25/18	N8CK2518
Tags suited for CKS15 to for the marking of 2 modules from 1 to 10 channels	CNU/8/CK15/10	N8CK1510
Tags suited for CKS15 for the marking of 2 modules from 11 to 20 channels	CNU/8/CK15/20	N8CK1520
Tags suited for CKD for the marking of 2 modules from 1 to 20 diodes	CNU/8/CKD	N8CKD020
N°. 100 tags with "+" symbol	CNU/8/023	N8023
N°. 100 tags with "" symbol	CNU/8/024	N8024
N°. 100 tags with "~" symbol	CNU/8/026	N8026
N°. 100 blank tags	CNU/8/030	NU008

DIN rail clamp





BLOCK DIAGRAM



VERSIONS	Item CDIN-2	Item (CDIN-4	Cat. No. XCDIN-4	
GENERAL TECHNICAL DATA				
Type of material	P13-FE00		P13-FE00	
Treatment	black passivated		aluminium	
Mounting information				
Mounting rail type according to IEC60715/TH35-7.5	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB		PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	

Mounting rail type according to IEC60715/1H35-7.5 Mounting rail type according to IEC60715/G32

DD/2/AC	PR/3/AC/ZB,	DD/2/AC	DD/2/AC/7D
FN/3/AU,	FN/3/AU/2D,	FN/3/M3,	F N/ 3/ M3/ LD

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Mounting rails

- according to IEC 60715/TH35 7,5
- according to IEC 60715/TH35 15
- supports for TH/35 type rail



DESCRIPTION	TYPE / CAT. NO.	BLOCK DIAGRAMS
IEC 60715/TH35 - 7.5 rail	PR/3/AC	_
of passivated steel	Cat. No. PR003	
IEC 60715/TH35 - 7.5 rail	PR/3/AC/ZB	
of white zinc-plated steel "SENDZMIR" system	Cat. No. PR903	
IEC 60715/TH35 - 7.5 rail	PR/3/AS	
of passivated steel with slots	Cat. No. PR005	
IEC 60715/TH35 - 7.5 rail	PR/3/AS/ZB	A In M
of white zinc-plated steel "SENDZMIR" system with slots	Cat. No. PR905	75. 24 1 100 4 7 75. 24 1 100 4 7 75 24 1 100 4 7 75 24 1 100 4 7 7
IEC 60715/TH35 - 15 rail	PR/3/PP	0.31 35*na r=0.8 0.31 35*na r=0.8
of passivated steel	Cat. No. PR007	
IEC 60715/TH35 - 15 rail	PR/3/PP/ZB	
of white zinc-plated steel "SENDZMIR" system	Cat. No. PR907	
IEC 60715/TH35 - 15 rail	PR/3/PA	I Ph III
of passivated steel with slots	Cat. No. PR006	
IEC 60715/TH35 - 15 rail	PR/3/PA/ZB	11 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1 1 2 1
of white zinc-plated steel "SENDZMIR" system with slots	Cat. No. PR906	

Support for IEC 60715/TH35 rail of nickel plated steel and with rapid mounting system 4 MA

Support for IEC 60715/TH35 rail of nickel plated steel and with rapid mounting system 5 MA

ACI121017

Cat. No. Z121017

ACI121019

Cat. No. Z121019

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Mounting rails

- according to IEC 60715 "G32" type rail
- according to IEC 60715/TH15 5.5



DESCRIPTION	TYPE / CAT. NO.	IMAGES
IEC 60715 "G32" type rail	PR/DIN/AC	
of passivated steel	Cat. No. PR001	
IEC 60715 "G32" type rail of white zinc-plated steel	PR/DIN/AC/ZB	
"SENDZMIR" system	Cat. No. PR901	
IEC 60715 "G32" type rail	PR/DIN/AS	
of passivated steel with slots	Cat. No. PR004	
IEC 60715 "G32" type rail of white zinc-plated steel	PR/DIN/AS/ZB	115
"SENDZMIR" system with slots	Cat. No. PR904	15-ge-roze r r 15-ge-roze r r 165-2g 5 6+aa 32+aa r r=2 32+aa r = 2
IEC 60715 "G32" type rail	PR/DIN/AL	
of aluminium	Cat. No. PR002	
IEC 60715/TH15 – 5.5 rail	PR/2/AC	•
of passivated steel		
	Cat. No. PR009	
IEC 60715/TH15 – 5.5 rail	PR/2/AC/ZB	
of white zinc-plated steel "SENDZMIR" system	Cat. No. PR909	
IEC 60715/TH15 – 5.5 rail of passivated steel with slots	PR/2/AS	
	Cat. No. PR010	
IEC 60715/TH15 – 5.5 rail	PR/2/AS/ZB	
of white zinc-plated steel "SENDZMIR" system with slots	Cat. No. PR910	$r_1 = 0.5$ $r_2 = 0.2$ $r_3 = 0.5$ $r_2 = 0.2$ $r_3 = 0.5$ $r_2 = 0.2$

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Z4124D	XZ04124D	130
Z4224D	XZ04224D	131
Z8124D	XZ08124D	130
Z8224D	XZ08224D	131 :