Control module CP-A CM
pluggable onto redundancy unit CP-A RU
Data sheet

CP-A CM

① Output terminals „Sense OUT“: +, +, -
② Input terminals: channel 1: 12, 11, 14 channel 2: 22, 21, 24
③ Threshold value adjustment „IN 1 <V“ for channel 1
④ Threshold value adjustment „IN 2 <V“ for channel 2
⑤ OUT: green LED - output voltage > 3 V
⑥ IN 1: green LED - threshold at channel 1 exceeded
⑦ IN 2: green LED - threshold at channel 2 exceeded
⑧ Schematic circuit diagram

Features

- Pluggable onto redundancy unit CP-A RU
- Adjustable threshold values (14-28 V) and relay outputs per input / channel

Approvals

Marks

CE

Order data

Type	Description	Order code
CP-A CM	Control module	**1SVR 427 075 R0000**

Application

The control module CP-A CM provides monitoring of the input signals of the redundancy unit CP-A RU.

Operating mode

The control module CP-A CM indicates the presence of both input voltages of the CP-A RU via LEDs and energized output relays.
The threshold values for the output relays are adjustable separately per channel from 14 to 28 V. If, by a fault (e.g. failure of a power supply, blown fuse), the voltage in a channel drops below the adjusted threshold value, the corresponding output relay de-energizes. The green LEDs “IN 1”, “IN 2” glow, if the corresponding voltage exceeds the adjusted threshold value. The green LED “OUT” glows, if the output voltage is higher than 3 V.

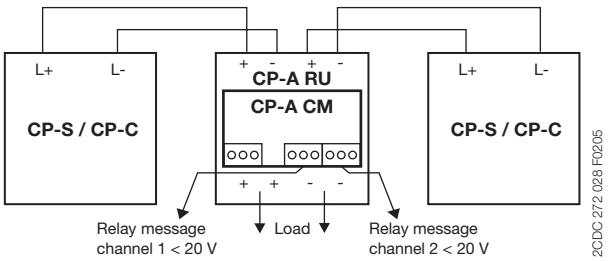
Control module CP-A CM
pluggable onto redundancy unit CP-A RU
Data sheet

Examples of application

**CP-A RU with CP-A CM for monitoring of two power supplies -
In case of fault: Fault signal**

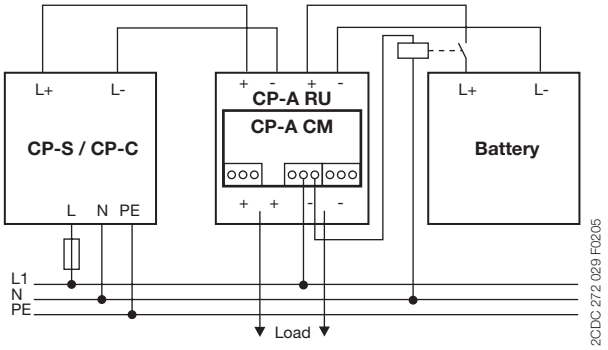
If both relays are de-energized, the voltages of both channels are below the adjusted threshold value (e.g. 20 V). This could mean, that both power supply units failed or are switched off, or that there is an overload on the secondary side. Momentary de-energization of the relays may be caused by inrush current of a connected load, during starting.

If one of the two relays de-energizes, this can indicate that the primary power supply unit failed or is switched off, and the redundant power supply is now supplying power to the load.



**CP-A RU with CP-A CM for monitoring of one power supply -
In case of fault: Transfer to an alternative power supply**

The following example of application shows transferring to an alternative power supply (in this example a battery) after a failure in the primary power supply unit.



Control module CP-A CM
pluggable onto redundancy unit CP-A RU
Data sheet

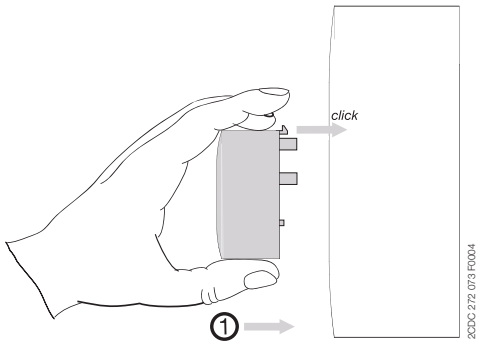
Installation

Mounting

The module is plugged and fixed as shown in the accompanying picture onto the front side of the redundancy unit CP-A RU.

Doing so, the pre-cut front foil of the redundancy unit is penetrated by the latching hooks and the plug contacts.

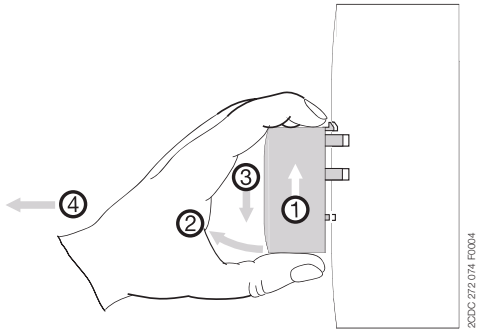
The module must not be plugged in when the power is on.



Demounting

The module is removed as shown in the accompanying picture.

The module must not be removed when the power is on.



Electrical connection - Output side [SENSE OUT ++-]

The terminals SENSE OUT + + - are situated on the + and - potential on the output side and can be used for signalling.

Electrical connection - Input side [IN 1 (11-12/14) and IN 2 (21-22/24)]

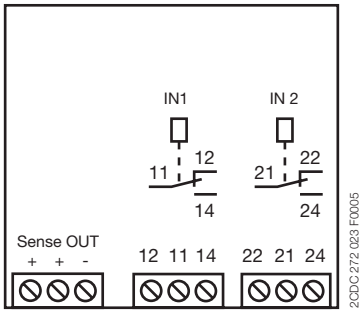
Message input 1 OK - Volt-free (dry/floating) change-over contact:

- 11-14 closed and 11-12 open,
  if the voltage in channel 1 (IN 1) of the CP-A RU exceeds the threshold value adjusted at “IN 1 <V”.
- 11-12 closed and 11-14 open,
  if the voltage in channel 1 (IN 1) of the CP-A RU drops below the threshold value adjusted at “IN 1 <V”.

Message input 2 OK - Volt-free (dry/floating) change-over contact

- 21-24 closed and 21-22 open,
  if the voltage in channel 2 (IN 2) of the CP-A RU exceeds the threshold value adjusted at “IN 2 <V”.
- 21-22 closed and 21-24 open,
  if the voltage in channel 2 (IN 2) of the CP-A RU drops below the threshold value adjusted at “IN 2 <V”.

Connecting diagram



+ + -	SENSE OUT - on the + and - potential on the output side
11-12/14	Message input 1 (IN 1) OK - Volt-free (dry/floating) change-over contact
21-22/24	Message input 2 (IN 2) OK - Volt-free (dry/floating) change-over contact

Control module CP-A CM
pluggable onto redundancy unit CP-A RU
Data sheet

Technical data

Data at T_a = 25 °C, if noting else indicated

Type			CP-A CM
Input circuit			**11-12/14, 21-22/24**
Rated input voltage U_{IN}			24 V DC
Input voltage range			13-30 V
Power consumption		at 24 V DC	approx. 1 W
Measuring circuit			**11-12/14, 21-22/24**
Monitoring function			undervoltage monitoring
Measuring voltage			rated operating voltage
Thresholds			14-28 V
Accuracy, tolerance			10 % of full-scale value
Hysteresis related to the threshold			fix 3-5 %
Maximum measuring cycle			6 ms
Output circuit			**+, +, -**
Kind and number of contacts			relays, 2 x 1 c/o contact
Contact material			AgNi
Operating principle			closed-circuit principle
Rated voltage		(IEC 60947-1, VDE 0110)	250 V
Minimum switching voltage			24 V
Maximum switching voltage			250 V
Minimum switching current			10 mA
Maximum switching current			1 A
Rated current (IEC 60947-5-1)	AC12 (resistive)	230 V	1 A
	AC15 (inductive)	230 V	1 A
	DC12 (resistive)	24 V	1 A
	DC13 (inductive)	24 V	1 A
Maximum lifetime		mechanical	30 x 10^6 switching cycles
		electrical	0.1 x 10^6 switching cycles
Short-circuit capacity / maximum fuse rating		n/c contact	2 A fast acting
		n/o contact	2 A fast acting
Indication of operational states			
IN 1: green LED		⌐¬	voltage at input 1 > than threshold 1 = no faults present
IN 2: green LED		⌐¬	voltage at input 2 > than threshold 2 = no faults present
OUT: green LED		⌐¬	U_{OUT} > 3 V = no faults present
General data			
Duty time			100 %
Dimensions		W x H x D (when mounted)	56.5 mm x 54 mm x 24 mm (2.22 inches x 2.13 inches x 0.94 inches)
Weight			0.063 kg (0.14 lb)
Degree of protection		enclosure / terminals	IP 20 / IP 20
Material of enclosure			UL94V0
Protection class			II
Mounting, mounting position			plugged onto redundancy unit
Fastening			snap-on mounting, without any tool

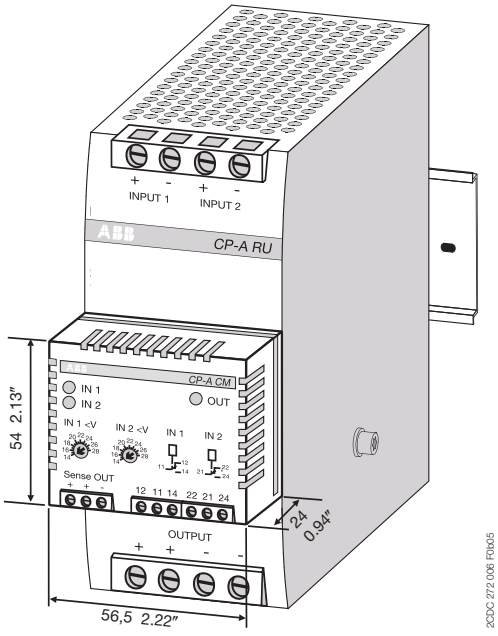
Control module CP-A CM
pluggable onto redundancy unit CP-A RU
Data sheet

Technical data (continued)

Electrical conection		
Wire size	fine-strand with wire end ferrule	0.2-2.5 mm² (22-14 AWG)
	fine-strand without wire end ferrule	0.2-2.5 mm² (22-14 AWG)
	rigid	0.2-4 mm² (22-12 AWG)
Stripping lenght		7.5 mm (0.295 inches)
Torque		0.4-0.6 Nm
Environmental data		
Temperature range	operation	-25...+70 °C
	storage	-40...+85 °C
Humidity	(IEC 60068-2-3)	93 % at 40 °C, no condensation
Climatic category	(EN 60721)	3K3
Vibration	(IEC 68-2-6)	1-57 Hz, amplitude ±0.075 mm / 57-100 Hz, 5 g
Shock	(IEC 68-2-27)	30 g all directions
Isolation data		
Rated insulation voltage (IEC 60947-1, EN 50178, VDE 0160)		250 V
Rated impulse withstand voltage U_{imp} (IEC 664, VDE 0110)	between all circuits	2.5 kV (type test)
Power-frequency withstand voltage test	between all circuits	1.2 kV AC (routine test)
Protective seperation (EN 50178)	between input and output	
Pollution degree	(EN 60950)	2
Overvoltage categorie	(EN 60950)	2

Dimensions

in mm



Subject to change without prior notice. All statements serve exclusively to describe the product and have not to be understood as assured characteristics with legal force.

Publication No. 2CDC 114 037 D0201 (03/06)

ABB STOTZ-KONTAKT GmbH

Eppelheimer Straße 82 69123 Heidelberg, Germany
Postfach 10 16 80 69006 Heidelberg, Germany
Internet http://www.abb.com/lowvoltage → Control Products → Electronic Relays
E-Mail epr-support@stotzkontakt.de

You can find the address of your local sales organisation on the ABB home http://www.abb.com/contacts → Low Voltage products