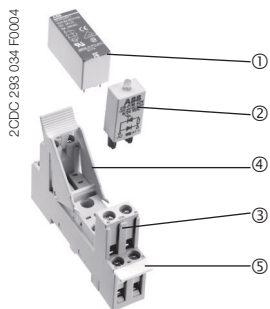


Pluggable interface relays CR-P

Pcb relays

Data sheet



CR-P

- ① Interface relay
- ② Pluggable function module
- ③ Socket
- ④ Holder
- ⑤ Marker

Features

- 9 different supply voltages:
DC versions: 12 V, 24 V, 48 V, 110 V
AC versions: 24 V, 48 V, 110 V, 120 V, 230 V
- Output contacts: 1 c/o (16 A) or 2 c/o (8 A)
- Cadmium-free contact material
- Width on socket: 15,5 mm
- Suited for logical and standard sockets
- Pluggable function modules: reverse polarity protection, LED indication, RC element, overvoltage protection

Approvals



Marks



Ordering data

Type	Supply voltage	Order code
1 c/o contact: 250 V, 16 A		
CR-P012DC1	12 V DC	1SVR 405 600 R4000
CR-P024DC1	24 V DC	1SVR 405 600 R1000
CR-P048DC1	48 V DC	1SVR 405 600 R6000
CR-P110DC1	110 V DC	1SVR 405 600 R8000
CR-P024AC1	24 V AC	1SVR 405 600 R0000
CR-P048AC1	48 V AC	1SVR 405 600 R5000
CR-P110AC1	110 V AC	1SVR 405 600 R7000
CR-P120AC1	120 V AC	1SVR 405 600 R2000
CR-P230AC1	230 V AC	1SVR 405 600 R3000
2 c/o contacts: 250 V, 8 A		
CR-P012DC2	12 V DC	1SVR 405 601 R4000
CR-P024DC2	24 V DC	1SVR 405 601 R1000
CR-P048DC2	48 V DC	1SVR 405 601 R6000
CR-P110DC2	110 V DC	1SVR 405 601 R8000
CR-P024AC2	24 V AC	1SVR 405 601 R0000
CR-P048AC2	48 V AC	1SVR 405 601 R5000
CR-P110AC2	110 V AC	1SVR 405 601 R7000
CR-P120AC2	120 V AC	1SVR 405 601 R2000
CR-P230AC2	230 V AC	1SVR 405 601 R3000

Ordering data - Accessories

Type	Version	Connection	Order code
Logical sockets			
CR-PLS	with safety isolation	screw	1SVR 405 650 R0000
CR-PLSx		screw	1SVR 405 650 R0100
CR-PLC		spring	1SVR 405 650 R0200
Standard socket			
CR-PSS	Standard socket	screw	1SVR 405 650 R1000
Accessories for CR-P sockets			
CR-PH	Plastic holder		1SVR 405 659 R0000

Bold printed products = stocked products. Packing unit = 10 pieces.
Sockets and pluggable function modules see separate data sheets.

Pluggable interface relays CR-P

Pcb relays

Data sheet

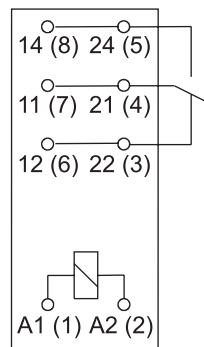
Application

Interface relays are electromechanic and electronic input and output modules for electrical isolation, leveling, noise suppression or signal amplification between control unit and process.

Operating mode

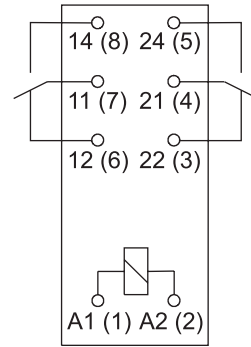
When power supply is applied, the output contacts get closed. When power supply is switched off, the contacts fall back into their starting position.

Position of connecting terminals



CR-P with 1 c/o contact

A1-A2 Supply voltage
11(21)-12(22)/14(24) Relay output



CR-P with 2 c/o contacts

A1-A2 Supply voltage
11-12/14 Relay outputs
21-22/24

Technical data

Input circuit - Coil data A1-A2

	Rated voltage	Rated voltage frequency	Make voltage (at 20 °C)	Maxium voltage (at 55 °C)	Break voltage	Rated power	Coil resistance (at 20 °C)	Tolerance of coil resistance
DC coils	12 V DC	-	8.4 V DC	30.6 V DC	$\geq 0.1 U_n$	0.4-0.48 W	360 Ω	$\pm 10\%$
	24 V DC	-	16.8 V DC	61.2 V DC	$\geq 0.1 U_n$	0.4-0.48 W	1440 Ω	$\pm 10\%$
	48 V DC	-	33.6 V DC	122.4 V DC	$\geq 0.1 U_n$	0.4-0.48 W	5700 Ω	$\pm 10\%$
	110 V DC	-	77 V DC	280 V DC	$\geq 0.1 U_n$	0.4-0.48 W	25200 Ω	$\pm 10\%$
AC coils	24 V AC	50 / 60 Hz	19.2 V AC	28.8 V AC	$\geq 0.15 U_n$	0.75 VA	400 Ω	$\pm 10\%$
	48 V AC	50 / 60 Hz	38.4 V AC	57.6 V AC	$\geq 0.15 U_n$	0.75 VA	1550 Ω	$\pm 10\%$
	110 V AC	50 / 60 Hz	88 V AC	132 V AC	$\geq 0.15 U_n$	0.75 VA	8900 Ω	$\pm 10\%$
	120 V AC	50 / 60 Hz	96 V AC	144 V AC	$\geq 0.15 U_n$	0.75 VA	10200 Ω	$\pm 10\%$
	230 V AC	50 / 60 Hz	184 V AC	276 V AC	$\geq 0.15 U_n$	0.75 VA	38500 Ω	$\pm 10\%$

Pluggable interface relays CR-P

Pcb relays

Data sheet

Technical data

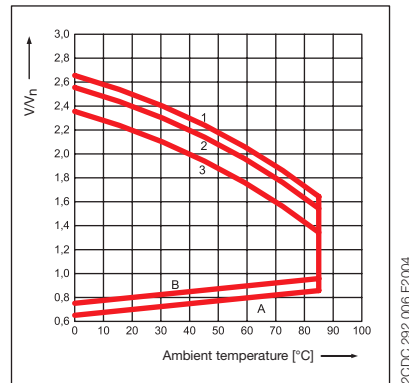
Type		CR-P...1	CR-P...2
Output circuit(s) - Relay contact(s)		11-12/14	11-12/14, 21-22/24
Number of contacts		1 c/o contact	2 c/o contacts
Contact material		AgNi	
Rated voltage acc. to VDE 0110, IEC 60947-1		250 V	
Min. switching voltage		5 V	
Max. switching voltage		DC	300 V DC
		AC	400 V AC
Min. switching current		5 mA	
Rated current		16 A	8 A
Rated operating current acc. to IEC 60947-5-1		AC12 (resistive) 230 V	16 A
		AC15 (inductive) 230 V	6 A
		DC12 (resistive) 24 V	16 A
		DC13 (inductive) 24 V	2 A
Min. switching power		0.3 W	
Max. switching power AC1		4000 VA	2000 VA
Contact resistance		≤ 100 mΩ	
Max. switching capacity		rated load AC1	600 switching cycles / h
		without load	72000 switching cycles / h
Max. lifetime		mechanical	> 3 x 10 ⁷ switching cycles
		electrical AC1 (resistive)	> 0,7 x 10 ⁵ switching cycles (16 A, 250 V)
		cos φ	> 10 ⁵ switching cycles (8 A, 250 V)
Response time		typ. 7 ms	
Release time		typ. 3 ms	
Isolation data			
Rated insulation voltage		400 V AC	
Insulation class		C250 / B400	
Rated impulse withstand voltage U _{imp} between		coil and contacts	5 kV AC
		contacts	1 kV AC
		c/o contacts	-
Clearance / creepage distance between coil and contacts		≥ 10 mm / ≥ 10 mm	
General data			
Dimensions (L x W x H)		29 x 12.7 x 15.7 mm	
Weight		14 g (0.031 lb)	
Mounting position		any	
Degree of protection		IP 67	
Temperature range		operation DC	-40...+85 °C
		AC	-40...+70 °C
		storage	-40...+85 °C
Connection		by socket	
Mounting		on socket (see accessories)	
Vibration resistance (10-150 Hz) n/o, n/c		10 g / 5 g	
Shock resistance		30 g	20 g
Standards			
Product standard		EN 61810-1, EN 60255-23, IEC 60664-1	
Low Voltage Directive		73/23/EEC	

Pluggable interface relays CR-P

Pcb relays

Data sheet

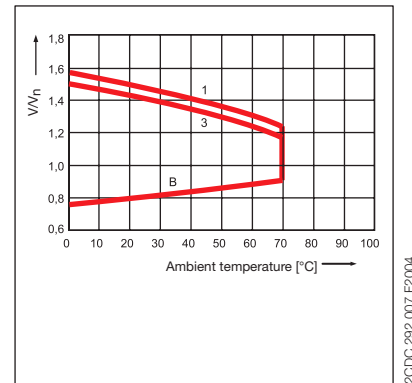
Operating range of DC coil



Relation between switching voltage and ambient temperature:

A unloaded contacts, coil temperature = ambient temperature
 B continued with I_n (16 A at CR-P ... 1 / 8 A at CR-P ... 2) loaded contacts, coil heated with $1,1 \times V_n$

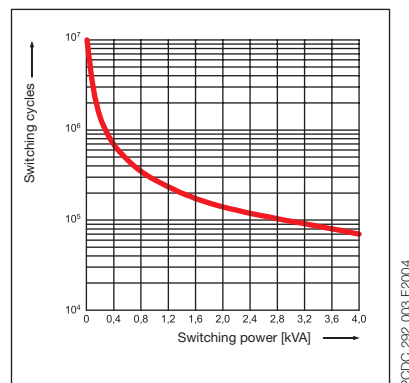
Operating range of AC coil



Permitted overload on coil:

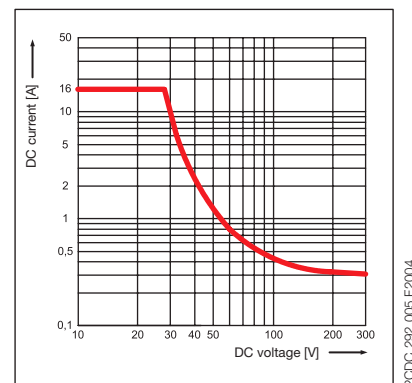
- 1 at unloaded contacts
- 2 at 50 % rated load
- 3 at rated load

Electrical lifetime at resistive AC load

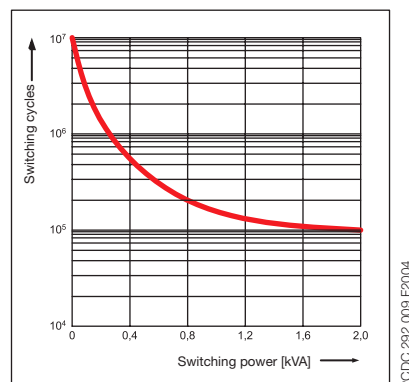


Versions with 1 c/o contact (CR-P ... 1)

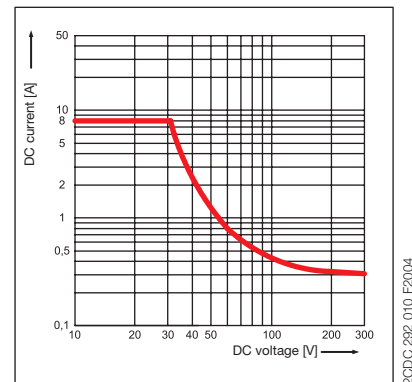
Maximum switching power at resistive DC load



Versions with 1 c/o contact (CR-P ... 1)



Versions with 2 c/o contacts (CR-P ... 2)



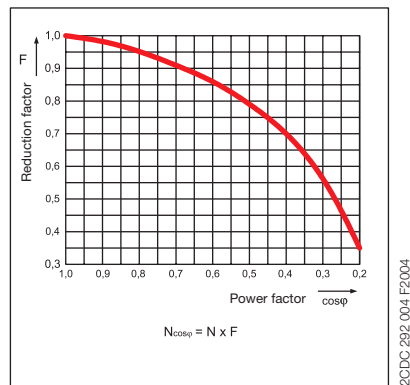
Versions with 2 c/o contacts (CR-P ... 2)

Pluggable interface relays CR-P

Pcb relays

Data sheet

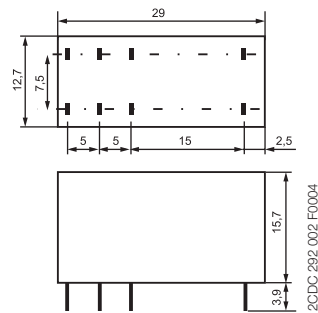
Reduction factor F at inductive AC load



Versions with 1 or 2 c/o contacts
(CR-P ... 1 and CR-P ... 2)

Dimensions

in mm



Accessories

Sockets: see data sheet 2CDC 117 004 D02xx
Pluggable function modules: see data sheet 2CDC 117 007 D02xx



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