

Pluggable interface relays

Ordering details



CR-P

2CDC 291 045 F0004

Description

Interface relays are widely used in various industrial applications:

As an interface they link the electronic controlling, e.g. PLC (programmable logic controller), PC or field bus systems, to the sensor / actuator level. Here, they take on various functions: Switching of AC or DC loads with different resistive, inductive and capacitive parts, switching voltages from a few mV up to 250 V, switching currents from a few mA up to 16 A, amplification of weak control signals, electrical isolation of control and load circuits, and signal multiplying. In contrast to electronic switching devices, interface relays don't use additional internal protective circuits and thus are overload-proof against short-time variations like current or voltage peaks.

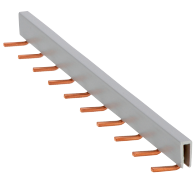
Ordering details - CR-P range

Rated control supply voltage	Outputs	Contact ratings	Type	Order code	Price	Pkg qty	Weight (1 pce)
							kg (lb)
12 V DC	1 c/o (SPDT)	250 V, 16 A	CR-P012DC1	1SVR405600R4000		10	0.014 (0.031)
24 V DC			CR-P024DC1	1SVR405600R1000			
48 V DC			CR-P048DC1	1SVR405600R6000			
110 V DC			CR-P110DC1	1SVR405600R8000			
24 V AC			CR-P024AC1	1SVR405600R0000			
48 V AC			CR-P048AC1	1SVR405600R5000			
110 V AC			CR-P110AC1	1SVR405600R7000			
120 V AC			CR-P120AC1	1SVR405600R2000			
230 V AC			CR-P230AC1	1SVR405600R3000			
12 V DC	2 c/o (SPDT)	250 V, 8 A	CR-P012DC2	1SVR405601R4000		10	0.014 (0.031)
24 V DC			CR-P024DC2	1SVR405601R1000			
48 V DC			CR-P048DC2	1SVR405601R6000			
110 V DC			CR-P110DC2	1SVR405601R8000			
24 V AC			CR-P024AC2	1SVR405601R0000			
48 V AC			CR-P048AC2	1SVR405601R5000			
110 V AC			CR-P110AC2	1SVR405601R7000			
120 V AC			CR-P120AC2	1SVR405601R2000			
230 V AC			CR-P230AC2	1SVR405601R3000			
24 V DC	2 c/o gold contact	250 V, 8 A	CR-P024DC2G	1SVR405606R1000		10	0.014 (0.031)
24 V AC			CR-P024AC2G	1SVR405606R0000			
110 V AC			CR-P110AC2G	1SVR405606R7000			
230 V AC			CR-P230AC2G	1SVR405606R3000			



CR-PLS

2CDC 291 006 F0011



CR-PJ

2CDC 291 004 F0007

Ordering details - Accessories

Version	Connection terminal	Type	Order code	Price	Pkg qty	Weight (1 pce)
						kg (lb)
	screw	CR-PLS	1SVR405650R0000			0.045 (0.099)
Logical socket with protective separation	screw	CR-PLSx	1SVR405650R0100		10	0.043 (0.095)
	spring	CR-PLC	1SVR405650R0200			0.042 (0.093)
Standard socket	screw	CR-PSS	1SVR405650R1000			0.038 (0.084)
Plastic holder for socket		CR-PH	1SVR405659R0000		10	0.002 (0.004)
Jumper bar for sockets with screw connection		CR-PJ	1SVR405658R5000			0.018 (0.040)
Marker		CR-PM	1SVR405658R0000		10	0.0002 (0.0004)

Bold printed products = stocked products

Pluggable interface relays

Technical data

Type	CR-P...1	CR-P...2	CR-M...2	CR-M...3	CR-M...4	CR-U...2	CR-U...3	
Output circuit(s)	11-12/14	11-12/14 21-22/24	11-12/14 21-22/24	11-12/14 21-22/24 31-32/34	11-12/14 21-22/24 31-32/34 41-42/44	11-12/14 31-32/34	11-12/14 21-22/24 31-32/34	
Kind of output	Relay, 1 c/o	Relay, 2 c/o	Relay, 2 c/o	Relay, 3 c/o	Relay, 4 c/o	Relay, 2 c/o	Relay, 3 c/o	
Contact material	AgNi	AgNi AgNi/Au 5 µm	AgNi	AgNi	AgNi AgNi/Au 5 µm	AgNi		
Rated operational voltage U _e (VDE 0110, IEC 60947-1)				250 V				
Minimum switching voltage				5 V				
Maximum switching voltage	DC	300 V DC		250 V DC				
	AC	400 V AC		250 V AC				
Minimum switching current	5 mA (AgNi), 2 mA (AgNi/Au)							
Rated free air thermal current I _{th}	16 A	8 A	12 A	10 A	6 A	10 A		
Rated operational current (IEC 60947-5-1)	AC12 (resistive) 230 V	16 A	8 A	12 A	10 A	6 A	10 A	
	AC15 (inductive) 230 V	1.5 A	1 A	1.5 A	1.5 A	1 A	1.5 A	
	DC12 (resistive) 24 V	16 A	8 A	12 A	10 A	6 A	10 A	
	DC13 (inductive) 24 V	2 A	2 A	8 A	8 A	6 A	2 A	
AC rating (UL 508)	Utilization category (Control Circuit Rating Code)					-	B 300	
	max. rated operational voltage					-	300 V AC	
	max. continuous thermal current at B 300					-	5 A	
	max. making / breaking apparent power at B 300					-	3600/360 VA	
	Utilization category General Purpose (single phase)					-	10 A, 250 V AC 10 A, 250 V AC	
	Utilization category (Resistive)	16 A, 250 V AC	8 A, 250 V AC	10 A, 250 V AC 12 A, 150 V AC	6 A, 250 V AC 10 A, 150 V AC	6 A, 250 V AC 10 A, 150 V AC	10 A, 250 V AC	-
	Minimum switching power	0.3 W (AgNi), 0.1 W (AgNi/Au)					0.3 W	
Maximum switching power AC-1	4000 VA	2000 VA	3000 VA	2500 VA	1500 VA	2500 VA		
Contact resistance	≤ 100 mΩ			≤ 100 mΩ				
Maximum switching capacity rated load AC-1	600 switching cycles/h		1200 switching cycles/h					
	without load		72000 switching cycles/h		18000 switching cycles/h		12000 switching cycles/h	
Mechanical lifetime	> 3 x 10 ⁷ switching cycles			> 2 x 10 ⁷ switching cycles				
Electrical lifetime AC1 (resistive)	> 10 ⁹ switching cycles		> 10 ⁹ switching cycles		> 10 ⁹ switching cycles		> 10 ⁹ switching cycles	
	(16 A, 250 V) : (8 A, 250 V)		(12 A, 250 V) : (10 A, 250 V)		(6 A, 250 V)		(10 A, 250 V)	
	cos φ see reduction factor F							
Response time	typ. 7 ms		typ. 13 ms (DC), 10 ms (AC)			typ. 18 ms (DC), 12 ms (AC)		
Release time	typ. 3 ms		typ. 3 ms (DC), 8 ms (AC)			typ. 7 ms (DC), 10 ms (AC)		
Isolation data								
Rated insulation voltage	400 V AC			250 V AC				
Insulation class	C250 / B400			C250 / B250		C250		
Rated impulse withstand voltage U _{imp}	between coil and contacts	5 kV AC			2.5 kV AC			
	between open contacts	1 kV AC			1.5 kV AC			
	between c/o contacts	2.5 kV AC			2.5 kV AC	2 kV AC	2 kV AC	
Clearance	between coil and contacts	≥ 10 mm		≥ 2.5 mm	≥ 1.6 mm	≥ 3 mm		
Creepage distance	between coil and contacts	≥ 10 mm		≥ 4 mm	≥ 3.2 mm	≥ 4.2 mm		
Overvoltage category	III			III	II	III		
Pollution degree	3			3	2	3		
General data								
Dimensions (W x H x D) when mounted	12.7 x 29 x 15.7 mm		21.2 x 27.5 x 35.6 mm			35 x 35 x 54.4 mm		
Weight	14 g (0.031 lb)		35 g (0.077 lb)			83 g (0.18 lb)		
Mounting	on socket (see accessories)							
Mounting position	any							
Degree of protection	IP 67			IP 40				
Electrical connection								
Connection	by socket							

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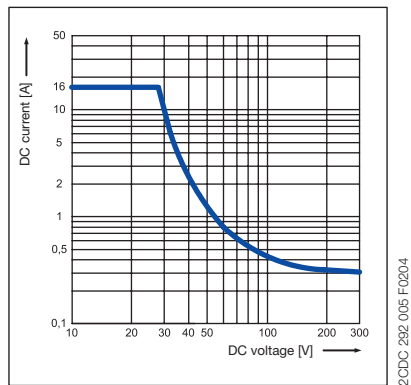
Technical data, Load limit curves

Type		CR-P...1	CR-P...2	CR-M...2	CR-M...3	CR-M...4	CR-U...2	CR-U...3	
Environmental data									
Ambient temperature range	operation DC	-40 ... +85 °C			-40 ... +70 °C				
	operation AC	-40 ... +70 °C			-40 ... +55 °C				
	storage				-40 ... +85 °C				
Vibration resistance 10-150 Hz	n/o contact	10 g		5 g			5 g		
	n/c contact	10 g	5 g	5 g			5 g		
Shock resistance	n/o contact	30 g	20 g	10 g			10 g		
	n/c contact	30 g	20 g	5 g			10 g		
Standards									
Product standard		EN 61810-1, EN 60255-23 IEC 60664-1		EN 60810-1, EN 60255-23 IEC 61810-7			EN 60255-1-00		
Low Voltage Directive					73/23/EEC				

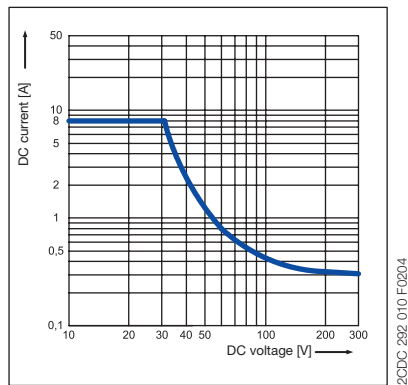
Approvals see page 5/6.

Load limit curves - Maximum switching power at resistive DC load

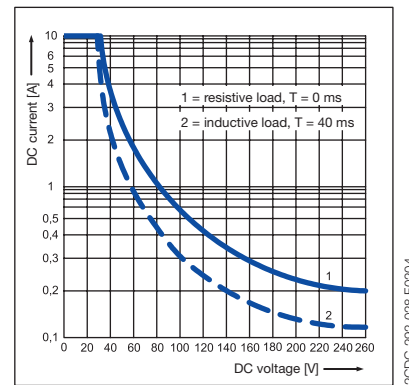
CR-P with 1 c/o contact



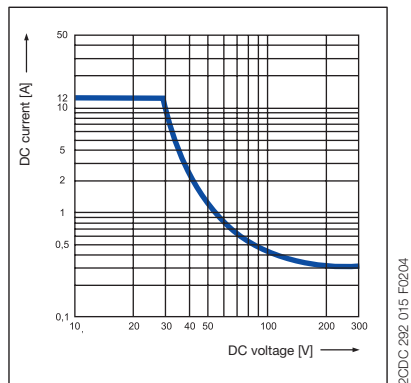
CR-P with 2 c/o contacts



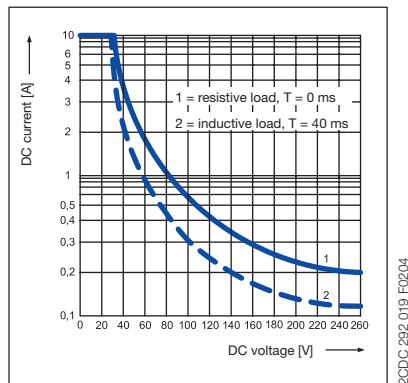
CR-U with 2 and 3 c/o contacts



CR-M with 2 c/o contacts



CR-M with 3 c/o contacts



CR-M with 4 c/o contacts

