

SLO 24CRAI

SL-series type plug-in relay, 1 NC 1,8A/250 VDC

Typically used

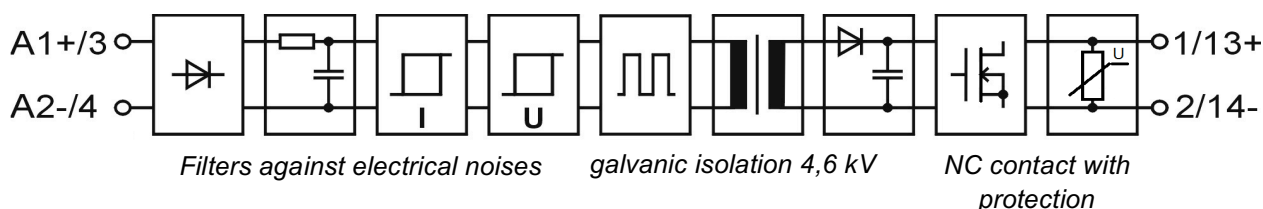
- Control of solenoid valves
- High DC voltage applications such as:
 - o Power network control equipment
 - o Control systems for hydroelectric generators

Main features

- Normal closed function without external power supply connection
- For resistive and inductive loads
- 10-year warranty
- cULus Listed, CE (EMC and LVD)
- Integrated status LED



Functional block diagram



Main specifications

| | | | |
|----------------------------|---------|-----------|---------|
| Breakdown voltage I/O | minimum | 4600 | VAC rms |
| Air/creepage distances I/O | minimum | 8 | mm |
| Capacitance I/O | typical | 3 | pF |
| Material of the casing | PBT | UL 94 V-0 | |
| Colour of the casing | | Red | |
| Weight | typical | 43 | g |
| Temperature range: | | | |
| Storage | range | -40...+85 | °C |
| Operation | range | -25...+75 | °C |

Electrical specifications ($T_A = 25\text{ °C}$)

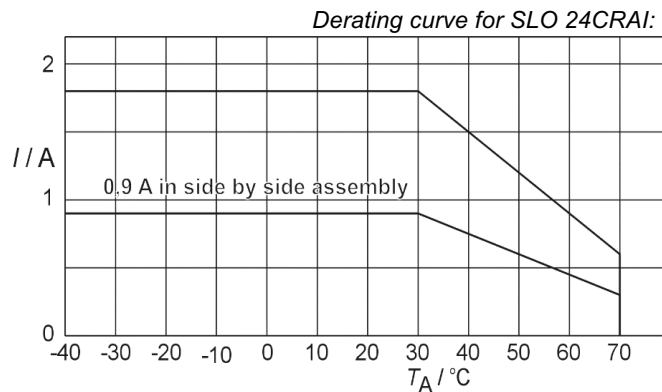
| Primary | | | | Secondary | | | |
|----------------------------------|---------|-----|-----|----------------------------------|---------|-----|------------------|
| Input voltage | nominal | 24 | VDC | Load voltage | minimum | 0 | VDC |
| Input current at nominal voltage | typical | 9 | mA | | nominal | 250 | VDC |
| | maximum | 10 | mA | | maximum | 300 | VDC |
| Input voltage range (abs.) | minimum | 16 | VDC | Load current | maximum | 1,8 | A |
| | maximum | 32 | VDC | Load current | maximum | 12 | A (10 ms) |
| Input impedance | typical | 2,4 | kΩ | Voltage drop | typical | 0,4 | V (1,8 A) |
| Switch-on voltage * | typical | 15 | VDC | Switch-on delay (at 24 V input) | typical | 0,5 | ms |
| | maximum | 16 | VDC | | maximum | 1 | ms |
| Switch-off voltage * | typical | 12 | VDC | Switch-off delay (at 24 V input) | typical | 0,5 | ms |
| | minimum | 10 | VDC | | maximum | 1 | ms |
| | | | | Inductive load, L/R | maximum | 10 | ms (250 V, 1,8) |
| | | | | | maximum | 100 | ms (24 V, 1,8) |
| | | | | Switching frequency | maximum | 1 | kHz |

Ambient temperature (T_A) means the temperature immediate in vicinity of relays, where the air flow meets the relays.

* In the operational temperature range -25 °C...+75 °C the switch-on voltage is 16 VDC maximum and the switch-off voltage is 10 VDC minimum.

Deratings

Allowed load is derated to 1/2 linearly from +30 °C to +75 °C ambient temperature. When relays are mounted together as a bank the maximum load current for long period of time should be restricted in total to 50 % of the current from the curve. I.e. all relays at 50 % load continuously or 50 % of the relays at 100 % load continuously or all relays at 100 % load 50 % of the time. This restriction does not apply if there is at least 12,5 mm gap between relays. These deratings apply when assembled to the horizontal and vertical rail.



Derating when switching inductive loads

This relay is meant for resistive and inductive loads. The surge current is not allowed to exceed the specification. For reasons of heat dissipation, when the load will be switched frequently, the average current over a reasonable time should not exceed the specification for continuous operation.

Maximum inductances (L/R values) and switching frequency at L/R value. If the L/R value is for instance 0,1 x L/R max, allowed switching frequency is 10 Hz.

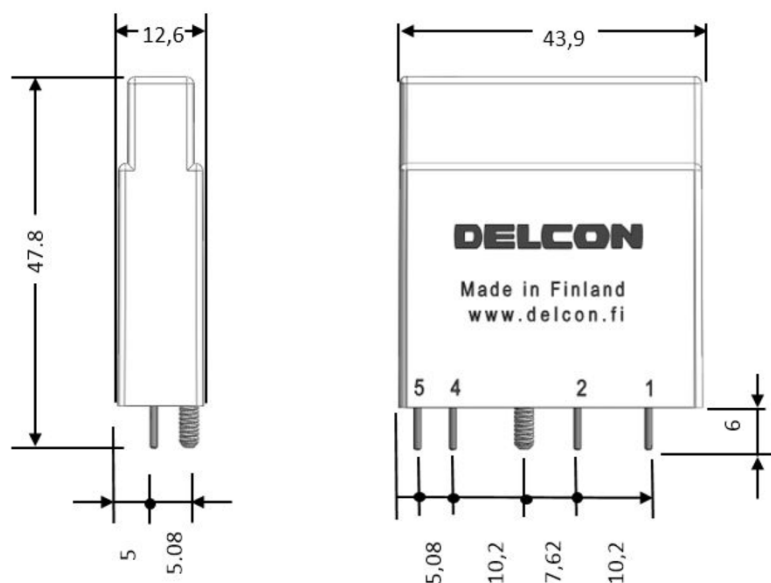
Fusing

To protect relay against short circuit and overload a fast fuse with the correct rating for the load and the capacity of the relay should be chosen. Note that when overload current is not large it is possible that the fuse will not protect the relay because of the tolerance on the fuse rating.

Assembly

All MOS 1... -mounting sockets, all MB/MBS 8/16... -mounting bases (check voltage limitations for the bases). The recommended installation is to the horizontal rail for better cooling of the relays.

Mechanical dimensions



SLO xxx -relay (plug-in), dimensions in mm, nominal.

Related products for SLOxxx relays

DIN-rail sockets for single relays

MOS 1GN
MOS 1CCN

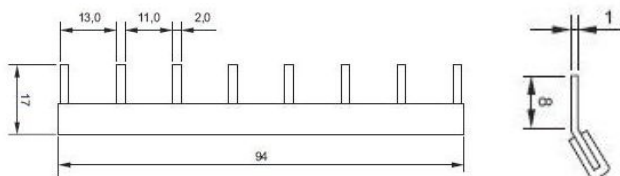
screw terminals
spring terminals



Jumper bars for cross-connecting relays in parallel

JUMPER 8-13
JUMPER 16-13

Chaining Jumper for 8 relays
Chaining Jumper for 16 relays



DIN-rail mounting bases with easy PLC connection

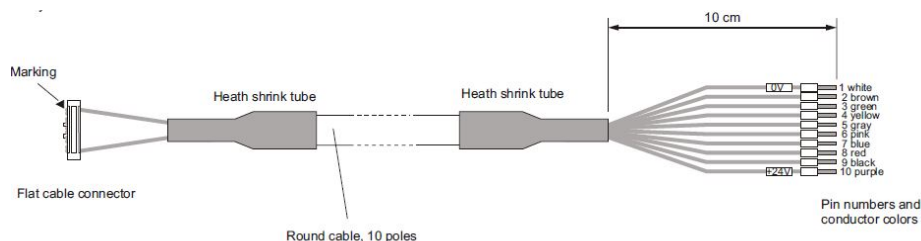
MBS 8BIOP
MBS 8BIOPCC

for 8 relays, screw terminals
for 8 relays, spring terminals



RC10X-xxx

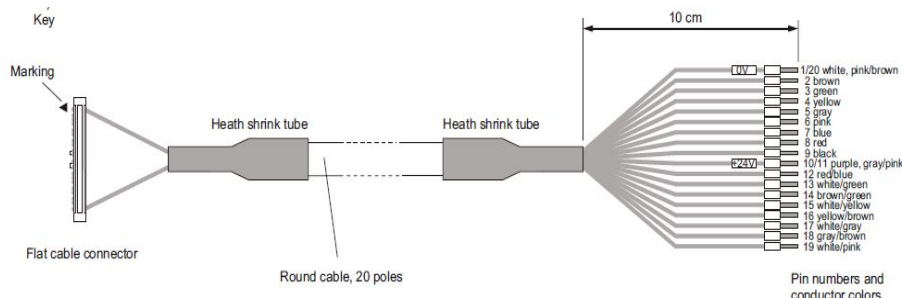
applicable 10-pole round cable (xxx = length /cm, in 50 cm steps)
Connection to PLC with colour coded single wires with ferrules



MBS 16BIOP
MBS 16BIOPCC

for 16 relays, screw terminals
for 16 relays, spring terminals

RC20X-xxx

applicable 20-pole round cable (xxx = length/cm, in 50 cm steps)
Connection to PLC with colour coded single wires with ferrules

PCB sockets
PC0 1N


Installed pin connectors:



4 3 2 1

PCU 1N


Installed pin connectors:

5 4 3 2 1

Approvals

| | |
|---|---|
|  | Certificate: E162828 |
|  | Fulfil main requirements of the EMC-directive 2004/108/EC. The secondary side of the relay has designed to operate up to specified low voltage levels, thus the relay does not comply with the high test voltages specified in the EN61000-4-5 standard. Fulfil requirements of the low voltage directive (LVD) 2006/95/EC. |

Guarantee

This solid state I/O relay type made by Delcon Oy is guaranteed free from design and manufacturing defects for a period of 10 years from the production date. The guarantee liability is limited to replacement of defective material and related shipping charges. Defective products must be returned to the manufacturer for evaluation. This guarantee does not cover damage due to incorrect use or electrical overload.