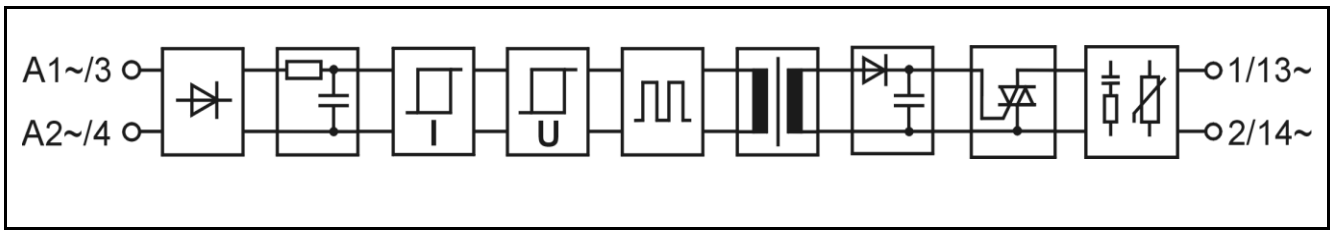
## SLO A120TR

SL-series plug-in output relay

## Main features

- Solid state output relay
- cULus Listed, CE (EMC and LVD)
- Integrated status LED
- For static AC-loads

## Functional block diagram




## Main specifications

| | | | |
|---|---|---|---|
| Breakdown voltage I/O | minimum | 4300 | VAC rms |
| Air/creepage distances I/O | minimum | 8 | mm |
| Capacitance I/O | typical | 3 | pF |
| Material of the casing | PBT | UL 94V-0 | |
| Colour of the casing | | Black | |
| Weight | typical | 40 | g |
| Temperature range: | | | |
| Storage | range | -40...+70 | °C |
| Operation | range | -25...+70 | °C |

## Electrical specifications ($T_A$ = 25 °C)

| **Primary** | | | | **Secondary** | | | |
|---|---|---|---|---|---|---|---|
| Input voltage | nominal | 120 | VAC | Load voltage | minimum | 0 | VAC |
| Input current at nominal voltage | typical | 5 | mA | | nominal | 240 | VAC |
| | maximum | 6 | mA | | maximum | 265 | VAC |
| Input voltage range (abs.) | minimum | 95 | VAC | Load current | maximum | 1 | A |
| | maximum | 140 | VAC | Load current | maximum | 90 | A (20 ms) |
| Input impedance | typical | 24 | kΩ | Voltage drop | typical | 1 | V |
| Switch-on voltage * | typical | 80 | VAC | Switch-on delay | typical | 20 | ms |
| | maximum | 95 | VAC | | maximum | - | ms |
| Switch-off voltage | typical | 60 | VAC | Switch-off delay | typical | 50 | ms |
| | minimum | 45 | VAC | | maximum | - | ms |
| | | | | Load power factor, cos Φ | | 0...1 | |
| | | | | dv/dt, off-state | typical | 200 | V/µs |
| | | | | Leakage current (off-state) | typical | 1,5 | mA |

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…+70 °C the switch-on voltage is 102 VAC maximum (120 VAC - 15 %).

Delcon Oy
Veikkointie 4
FI-03100 NUMMELA
Finland

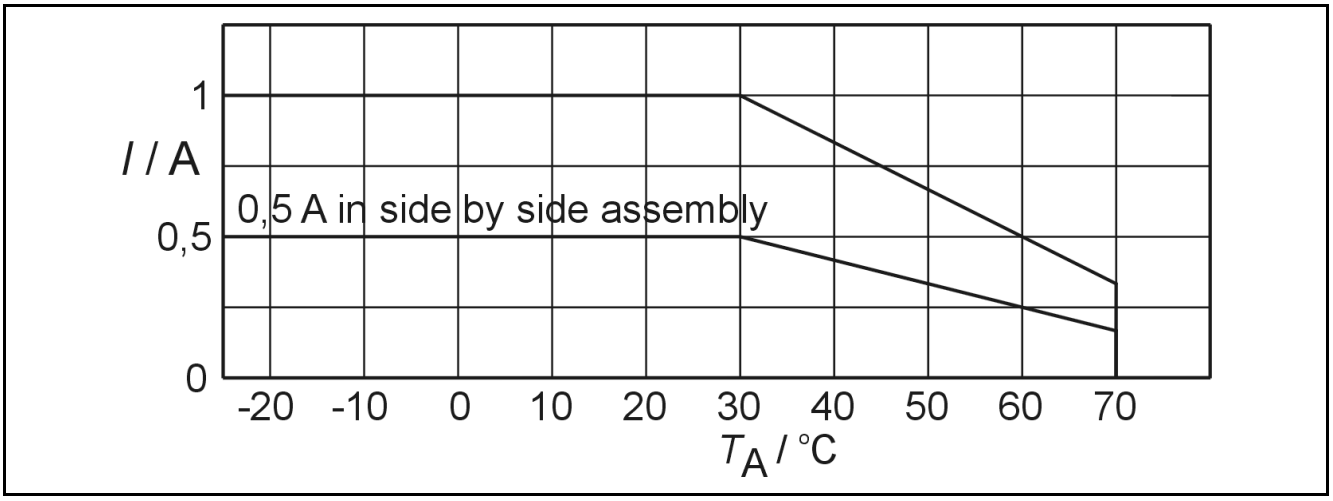
www.delcon.fi
sales@delcon.fi
Tel. +358 9 7771180

## Limitations

| Ambient temperature ($T_A$) | Limitations |
|---|---|
| -25 °C...+40 °C | Allowed maximum load current is 50 % of the curve below when assembled side by side. |
| +40 °C...+55 °C | Only every other relay should be in on-state at current which is 50 % or less of the curve below when assembled side by side. |
| +55 °C...+70 °C | If relays are most of the time on, there should be a gap in both sides at least 12,5 mm. Notice also the curve below. |

## Deratings

Allowed load is derated to 1/3 linearly from +30 ºC to +70 ºC ambient temperature. Derating curve for the relay when there is at least 12,5 mm gap between relays. These deratings apply when assembled to the horizontal rail. If assembled to the vertical rail, must be taken care that the relays do not heat up too much.




Derating curve for SLO A120TR.

## Derating when switching inductive loads

There is no need to derate solid state output relay using a triac switch. The relay is indifferent to the power factor of the load. Calculation should be made however that the surge current does not 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.

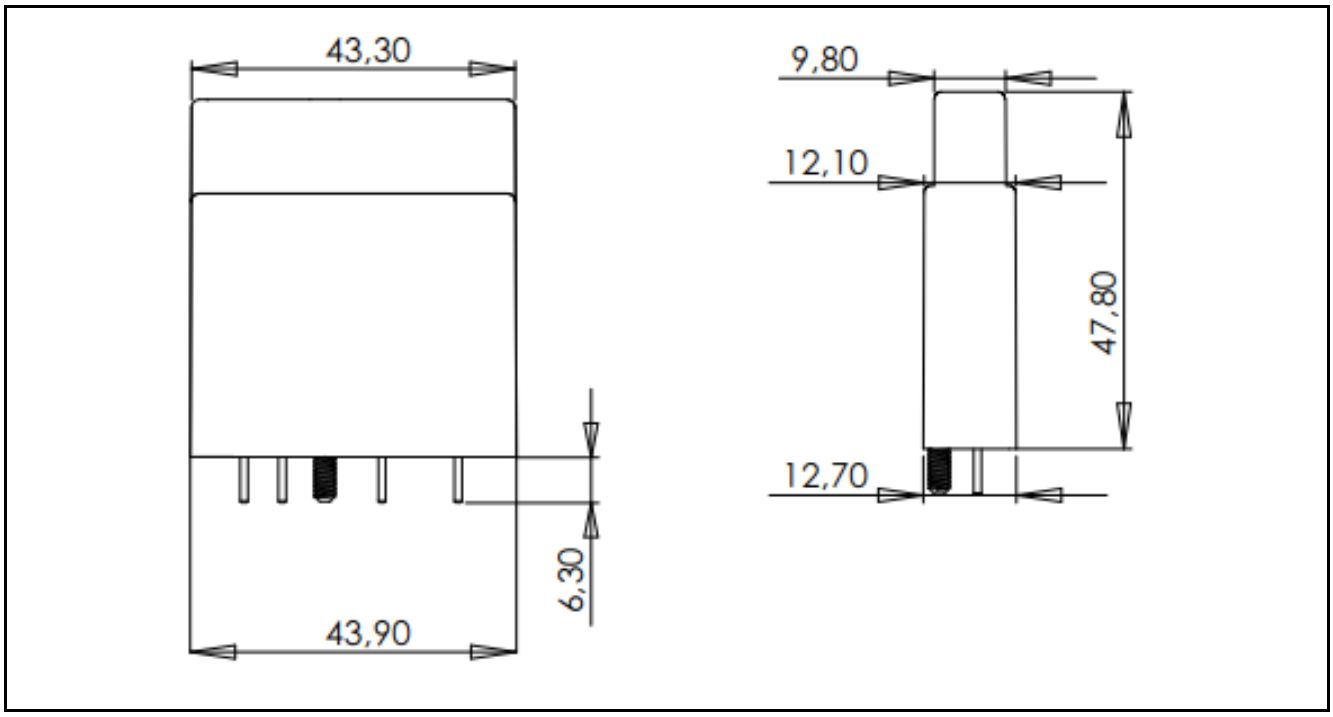
## Fusing

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.

## Assembling

All MOS 1... -mounting sockets. The recommended installation is to the horizontal rail for better cooling of the relays.

## Mechanical dimensions




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

## Approvals

| | |
|---|---|
| c UL us LISTED 3HMB IND. CONT. EQ. | Certificate: E162828 |
| CE | Fulfils main requirements of the EMC-directive 2004/108/EC.<br>Fulfils 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 manufacturing 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.

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