

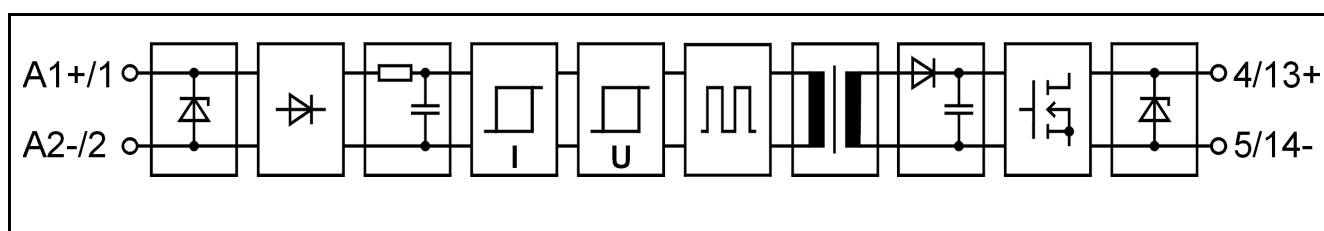
EXI 48CH

EXI-series plug-in input relay for hazardous locations

Main features

- Solid state input relay for hazardous locations
- Non-sparking device, type of protection nA
- cULus Listed HazLoc, ATEX, IECEx, CE (EMC and LVD)
- Integrated status LED
- Used with mechanical limit switches and also with long signal cables

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 (Sabic Innovative Plastics, Valox 420SEO) | |
| Colour of the casing | | Gray | |
| Weight | typical | 40 | g |
| Temperature range: | | | |
| Storage | range | -40...+70 | °C |
| Operation | range | -25...+70 | °C |

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

| Primary | | | | Secondary | | | |
|----------------------------------|---------|----|-----|-----------------------------|---------|-----|-----|
| Input voltage | nominal | 48 | VDC | Load voltage | nominal | 28 | VDC |
| Input current at nominal voltage | typical | 6 | mA | Load current | maximum | 50 | mA |
| | maximum | 7 | mA | | typical | 0,2 | V |
| Switch-on voltage | typical | 36 | VDC | Voltage drop at 50 mA load | maximum | 0,4 | V |
| | maximum | 40 | VDC | | typical | 0,3 | ms |
| Switch-off voltage | typical | 26 | VDC | Switch-on delay | maximum | 0,5 | ms |
| | minimum | 20 | VDC | | typical | 0,3 | ms |
| | | | | Switch-off delay | maximum | 0,5 | ms |
| | | | | | typical | 1 | μA |
| | | | | Leakage current (off-state) | typical | 1 | μA |

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

Limitations

| Ambient temperature (T_A) | Limitations |
|-------------------------------|----------------|
| -25 °C...+70 °C | No limitations |

Derating when switching inductive loads

This relay is meant for PLC inputs and similar loads. A clamp diode with the load must be used when switching inductive loads.

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.

Hazardous area installation

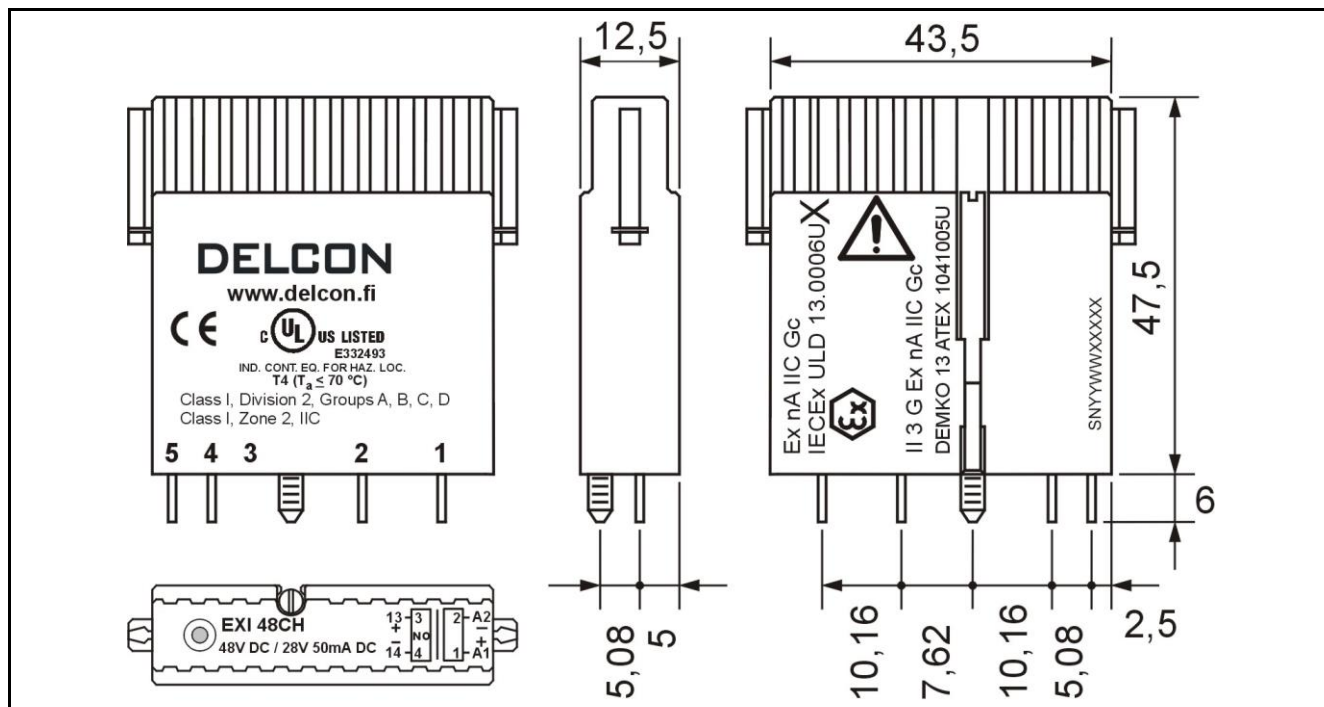
The Solid State Relays shall be installed in accordance with the ATEX directive 2014/34/EU and this specification. The relay shall be installed within a suitable Ex-certified enclosure providing protection from impact, light, solid foreign objects and water ingress to a level of at least IP54. The relay shall be derated in accordance with this specification.

The relay shall only be installed to mounting sockets MIS 1EX, MIS 1NEX, MIS 1GEX, MIS 1GNEX, MIS 1CCEX, MIS 1CCNEX, MIS 1TEX and MIS 1TNEX. Fixing with the captive screw. The recommended installation is to the horizontal rail for better cooling of the relays.

Assembling in non-hazardous locations




All MIS 1... -mounting sockets, all MB/MBS 8/16... -mounting bases. See the assembly instructions from SL-relay specifications.

Mechanical dimensions



EXI 48CH (dimensions in mm, nominal). Markings can be located differently by production lot.
Production lot number is marked to the relay (YY = year, WW = week, XXXXX = lot number).

Approvals

| | |
|---|--|
|  IND. CONT. EQ. FOR HAZ. LOC. | Class I, Division 2, Groups A, B, C, D Class I, Zone 2, IIC (when assembled to Ex-approved Delcon mounting socket) Certificate: E332493 |
| ATEX |  II 3 G Ex nA IIC Gc (when assembled to Ex-approved Delcon mounting socket) Certificate: DEMKO 13 ATEX 1041005U |
| IECEX | Ex nA IIC Gc (when assembled to Ex-approved Delcon mounting socket) Certificate: IECEX ULD 13.0006U |
|  | Fulfils main requirements of the EMC-directive 2014/30/EU. 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. Fulfils requirements of the low voltage directive (LVD) 2014/35/EU. |

Standards for Ex-approvals:

IEC 60079-0:2019- Explosive atmospheres - Part 0: Equipment - General requirements

IEC 60079-15:2019:en Electrical apparatus for explosive gas atmospheres. Part 15: Construction, test and Marking of Type of Protection "n" electrical apparatus

CENELEC EN 60079-0 1 July 2018 Explosive atmospheres - Part 0: Equipment - General requirements

CENELEC EN 60079-15 1 April 2019 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

CSA C22.2 NO 213 - NON-INCENDIVE ELECTRICAL EQUIPMENT FOR USE IN CLASS I, DIVISION 2 HAZARDOUS LOCATIONS 3rd Edition, April 2021

ANSI/ISA-12.12.01-2015 CAN/CSA C22.2 NO. 213-15, Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

Guarantee

This Ex -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.