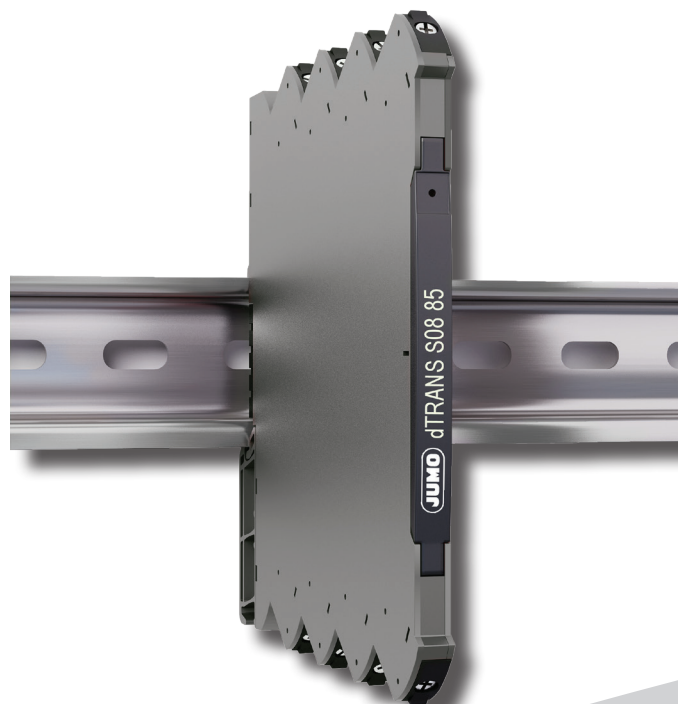


JUMO dTRANS S08 85

Loop powered signal isolator

707285



Operating Manual

70728500T90Z001K000

V1.00/EN/00699058



Loop powered signal isolator

JUMO dTRANS S08 85

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Warning



GENERAL

To avoid the risk of electric shock and fire, the safety instructions of this guide must be observed and the guidelines followed. The specifications must not be exceeded, and the device must only be applied as described in the following. Prior to the commissioning of the device, this installation guide must be examined carefully. Only qualified personnel (technicians) should install this device. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired. Until the device is fixed, do not connect hazardous voltages to the device.



**HAZARDOUS
VOLTAGE**

To avoid explosion and serious injury: Modules having mechanical failures must be returned to JUMO GmbH & Co. KG for repair or replacement.

Repair of the device must be done by JUMO GmbH & Co. KG only.

In applications where hazardous voltage is connected to in-/outputs of the device, sufficient spacing or isolation from wires, terminals and enclosure - to surroundings (incl. neighboring devices), must be ensured to maintain protection against electric shock.



CAUTION

Potential electrostatic charging hazard. To avoid the risk of explosion due to electrostatic charging of the enclosure, do not handle the units unless the area is known to be safe, or appropriate safety measures are taken to avoid electrostatic discharge.

Symbol identification



Triangle with an exclamation mark: Read the manual before installation and commissioning of the device in order to avoid incidents that could lead to personal injury or mechanical damage.



The CE mark proves the compliance of the device with the essential requirements of the directives.



Ex devices have been approved acc. to the ATEX directive for use in connection with installations in explosive areas.

Safety instructions

Receipt and unpacking

Unpack the device without damaging it and check whether the device type corresponds to the one ordered. The packing should always follow the device until this has been permanently mounted.

Environment

Avoid direct sun light, dust, high temperatures, mechanical vibrations and shock, and rain and heavy moisture. If necessary, heating in excess of the stated limits for ambient temperatures should be avoided by way of ventilation.

The device can be used for Measurement Category II and Pollution Degree 2.

The device is designed to be safe at least under an altitude up to 2 000 m.

Mounting

Only technicians who are familiar with the technical terms, warnings, and instructions in the manual and who are able to follow these should connect the device.

Should there be any doubt as to the correct handling of the device, please contact your local distributor or, alternatively,
JUMO GmbH & Co. KG
www.jumo.net

Mounting and connection of the device should comply with national legislation for mounting of electric materials, i.e. wire cross section, protective fuse, and location. Descriptions of input / output and supply connections are shown in this installation guide and on the side label.

The device is provided with field wiring terminals and shall be supplied from a Power Supply having double / reinforced insulation. A power switch should be easily accessible and close to the device. The power switch shall be marked as the disconnecting unit for the device.

JUMO dTRANS T/S08 must be mounted on a DIN rail according to EN 60715.

UL installation

Use 60/75°C copper conductors only.

Wire size. AWG 26-12

UL file number E201387

The device is an Open Type Listed Process Control Equipment. To prevent injury resulting from accessibility to live parts the equipment must be installed in an enclosure.

The power Supply unit must comply with NEC Class 2, as described by the National Electrical Code® (ANSI / NFPA 70).

IECEX, ATEX installation in Zone 2

IECEX DEK 18.0006 X Ex nA IIC T4 Gc

DEKRA 18ATEX0007 X II 3G Ex nA IIC T4 Gc

For safe installation the following must be observed. The device shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.

Year of manufacture can be taken from the first two digits in the serial number.

The devices shall be installed in a suitable enclosure providing a degree of protection of at least IP54 according to EN60529, taking into account the environmental conditions under which the equipment will be used.

When the temperature under rated conditions exceeds 70°C at the cable or conduit entry point, or 80°C at the branching point of the conductors, the temperature specification of the selected cable shall be in compliance with the actual measured temperature.

Provisions shall be made to prevent the rated voltage from being exceeded by transient disturbances of more than 40%.

For installation on power rail in Zone 2, only Power rail profile (7.5 mm / 750 mm) (TN: 00697614) supplied by Power connector unit for dTRANS T/S08 XX (TN: 00697612) is allowed.

To prevent ignition of the explosive atmospheres, disconnect power before servicing and do not separate connectors when energised and an explosive gas mixture is present.

Do not mount or remove devices from the power rail when an explosive gas mixture is present.

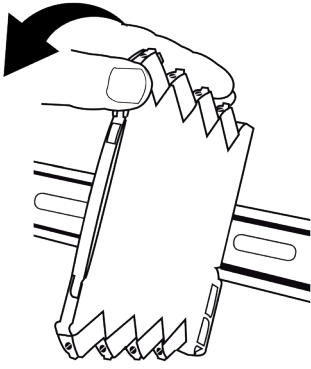
Cleaning

When disconnected, the device may be cleaned with a cloth moistened with distilled water.

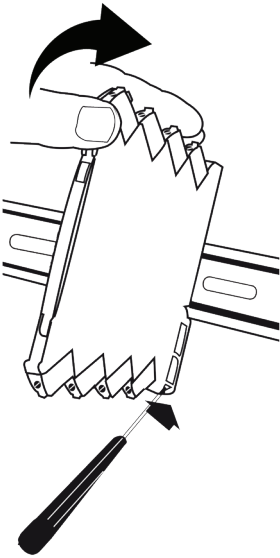
Liability

To the extent the instructions in this manual are not strictly observed, the customer cannot advance a demand against JUMO GmbH & Co. KG that would otherwise exist according to the concluded sales agreement.

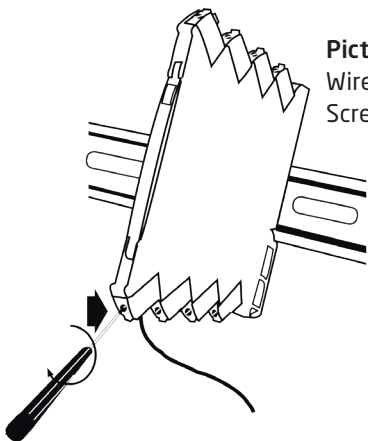
How to demount JUMO dTRANS T/S08



Picture 1:
Mounting on DIN rail.
Click the device onto the rail.

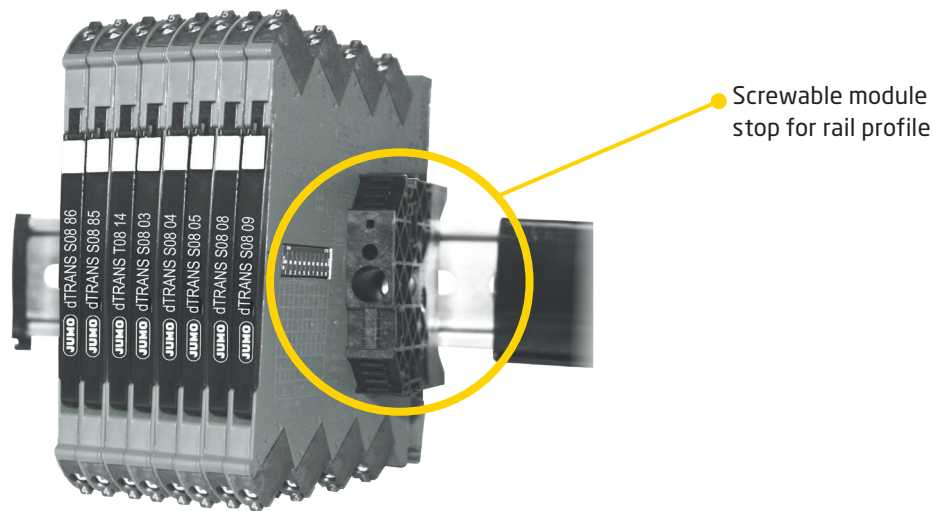


Picture 2:
Demounting from DIN rail.
First, remember to demount the connectors with hazardous voltages.
Detach the device from the DIN rail by lifting the bottom lock.



Picture 3:
Wire size AWG 26-12 / 0.13 x 2.5 mm² stranded wire.
Screw terminal torque 0.5 Nm.

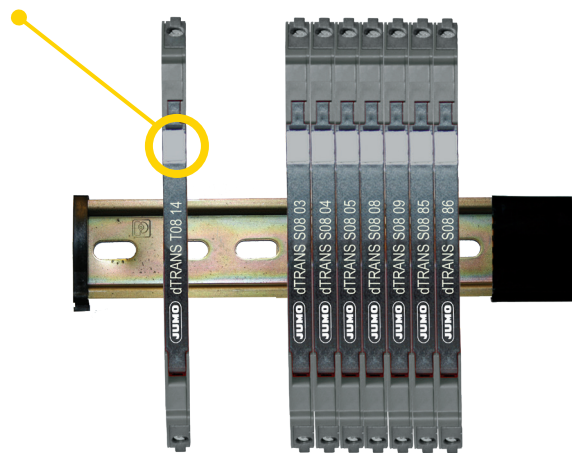
Installation on DIN rail



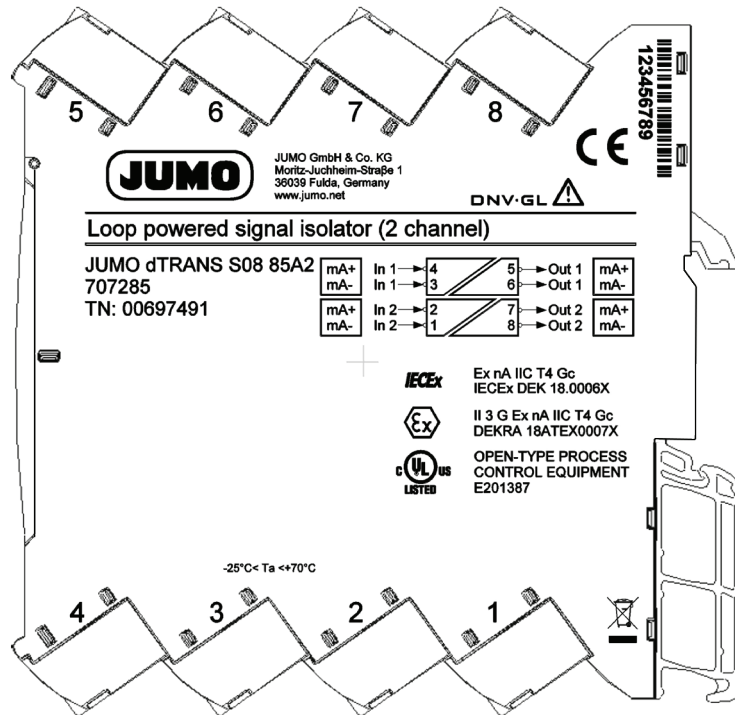
JUMO dTRANS S08 85 must be supported by a module stop for marine applications (TN: 00697615).

Marking

The front cover of the JUMO dTRANS T/S08 series has been designed with an area for affixation of a click-on marker. The area assigned to the marker measures 5 x 7.5 mm. Markers from Weidmüller's MultiCard System, type MF 5/7.5, are suitable.



Side label



JUMO dTRANS S08 85

Loop powered signal isolator

- 1 or 2 channel input loop-powered isolator
- Signal 1:1 functional range 0...23 mA
- Low input voltage drop and fast response time
- Excellent accuracy and high load stability
- Slimline 6mm housing

Application

- 1:1 input loop powered isolator of current signals in the range 0(4)...20 mA.
- JUMO dTRANS S08 85 is an easy mounting DIN rail unit.
- A very competitive choice in terms of both price and technology for galvanic isolation of current signals.
- Provides surge suppression and protects control systems from transients and noise.
- JUMO dTRANS S08 85 eliminates ground loops and can be used for measuring floating signals.
- The device can be mounted in Safe area or in Zone 2 and Cl. 1 Div 2. area.

Technical characteristics

- JUMO dTRANS S08 85 is powered by the analogue input current signal loop.
- Low input voltage drop, typ 1.35V + V_{out}.
- Excellent conversion accuracy, better than 0.1% in the range 0...20.5 mA.
- Functional range is 0...23 mA which means that JUMO dTRANS S08 85 is NAMUR NE43 Compliant.
- Inputs and outputs are floating and galvanically separated.
- The output is voltage limited to 17.5 VDC.
- High galvanic isolation of 2.5 kVAC.
- Fast response time < 5 msec.
- Excellent signal/noise ratio > 60 dB.

Mounting / installation

- DIN rail mounting with up to 330 channels per metre.
- Extended operating temperature range from -25...+70°C.

Order

Type	Product name	Description	Order code
707285	JUMO dTRANS S08 85A1	Loop powered signal isolator (1 channel)	00697490
707285	JUMO dTRANS S08 85A2	Loop powered signal isolator (2 channel)	00697491

Accessories

TN: 00697615 = Screwable module stop for rail profile

Technical data

Environmental conditions:

Operating temperature -25°C to +70°C
Storage temperature -40°C to +85°C
Calibration temperature. 20...28°C
Relative humidity < 95% RH (non-cond.)
Protection degree IP20
Installation in pollution degree 2 & overvoltage category II.

Mechanical specifications:

Dimensions (HxWxD) 113 x 6.1 x 115 mm
Weight approx. 70 g
DIN rail type. DIN EN 60715 - 35 mm
Wire size. 0.13...2.5 mm² / AWG 26...12 stranded wire
Screw terminal torque. 0.5 Nm
Vibration. IEC 60068-2-6
2...25 Hz. ±1.6 mm
25...100 Hz ±4 g

Common electrical specifications:

Max. required power. 30 mW per channel
Isolation voltage, test. 2.5 kVAC
Isolation voltage working. 300 VAC (reinforced) /
250 VAC (Zone 2, Div. 2)
Signal dynamics, input / output Analog signal chain
Signal / noise ratio. > 60 dB
Response time (0...90%, 100...10%) < 5 ms
Cut- off frequency (3 dB) 100 Hz

Input and output specifications:

Signal range, input to output 0...20.5 mA
Signal conversion 1:1
Measurement range 0...23 mA
Start up current, typ. 10 uA
Current input overload, max 50 mA
Input to output voltage drop, typ. 1.35 V + (0.015 x V_{out})
(V_{out} = I_{out} x R_{output load})
Input voltage drop (Unit voltage drop) + V_{out}
Output load, max. 600 Ω
Output load stability. < 0.01% of span / 100 Ω
Voltage limit 17.5 V

Accuracy values		
Input type	Absolute accuracy	Temperature coefficient
mA	$\leq \pm 10 \mu\text{A} + 0.05\%$ of max. value of selected span	$\leq \pm 2 \mu\text{A} / ^\circ\text{C}$
EMC - immunity influence. < $\pm 0.5\%$ of span		
Extended EMC immunity: NAMUR NE 21, A criterion, burst < $\pm 1\%$ of span		

*of span = 0...20 mA

Observed authority requirements:

EMC. 2014/30/EU
 LVD. 2014/35/EU
 RoHS. 2011/65/EU

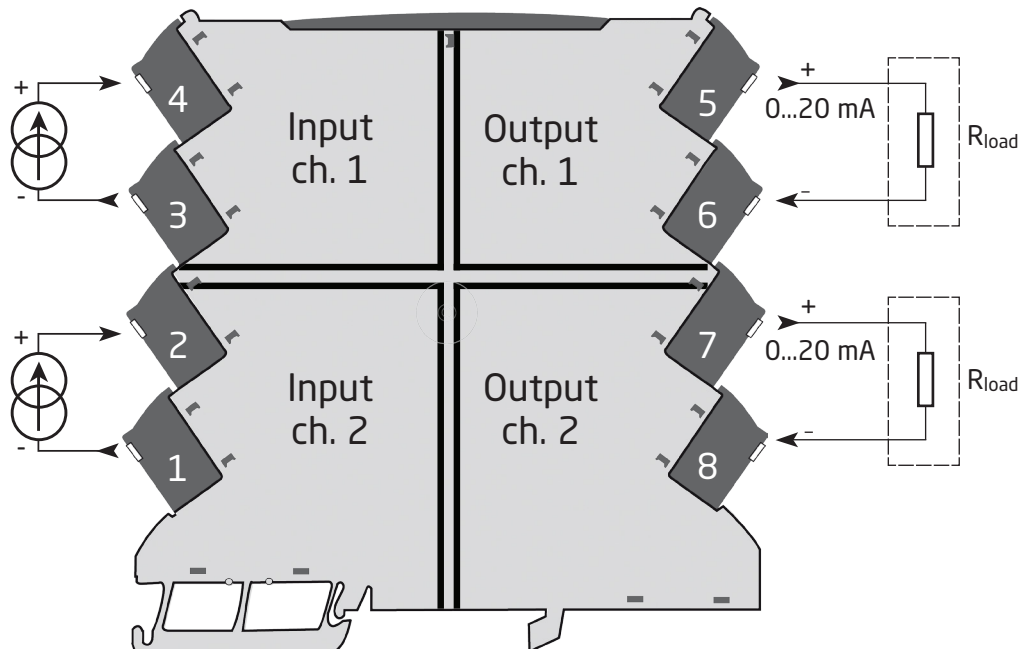
Approvals:

DNV-GL, Ships & Offshore DNVGL-CG-0339
 UL, Standard for Safety UL 61010-1
 Safe Isolation. EN 61140

I.S. / Ex approvals:

ATEX 2014/34/EU. DEKRA 18ATEX0007 X
 IECEx. DEK 18.0006 X

Connections





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