SL501 OmniSLIM

MODEL

invensys
Eurotherm

2-Wire Transmitter Isolator

Specification Sheet

- 1 or 2 channel 2-wire transmitter isolator
- Signal 1:1 functional range 3.5...23 mA
- Low channel voltage drop and fast response time
- Excellent accuracy
- Slimline 6 mm housing

Applications

- 1:1 output loop powered isolator of 2-wire transmitter 4...20 mA signals.
- SL501 is an easy mounting DIN rail unit.
- A very competitive choice in terms of both price and technology for galvanic isolation of 2-wire transmitter signals.
- Provides surge suppression and protects control systems from transients and noise.
- SL501 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

- SL501 is powered by the host loop voltage.
- Wide supply range from 6...35 V.
- Low input to output voltage drop typ. 2.5 V.
- Excellent conversion accuracy, better than 0.05% in the range 3.8…20.5 mA.
- Functional range is 3.5...23 mA which means that SL501 is NAMUR NE43 compliant.
- Inputs and outputs are floating and galvanically separated.
- High galvanic isolation of 2.5 kVAC.
- Fast response time < 5 ms.
- Excellent signal/noise ratio > 60 dB.

Mounting / installation / programming

- DIN rail mounting with up to 330 channels per metre.
- Temperature operation range is from -25...+70°C.

ACTION INSTRUMENTS

Specification

Environmental conditions

Specifications range:	–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 and measurement / 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 mm^2 / AWG 26...12 stranded wire
Screw terminal torque:	0.5 Nm

Common electrical specifications

Supply voltage:	6...35 VDC
Voltage drop, input to output, typ.:	2.5 V
Internal consumption:	50 mW per channel
Isolation voltage, test:	2.5 kVAC
Working isolation voltage:	300 VAC / 250 VAC (Ex)
Signal / noise ratio:	> 60 dB
Response time (0...90%, 100...10%):	< 5 ms
Cut-off frequency (3 dB):	100 Hz

Accuracy values

Input type	Absolute accuracy	Temperature coefficient Δ°C = [Tamb - 25°C]
mA	≤ ± 8 µA	≤ ± 0.02 µA x (Δ°C x Vsupply) @ Tamb. > 25°C ≤ ± 0.07 µA x (Δ°C x Vsupply) @ Tamb. < 25°C

Accuracy calculation example ->Tamb. = 50°C and Vsupply = 24 VDC:
Total accuracy = Absolute accuracy + Temperature coefficient
= ± (8 µA + (0.02 µA x (50-25°C x 24 V))) = ≤ ± 20 µA

EMC immunity influence:	< ±0.5% of span*
Extended EMC immunity:	
NAMUR NE 21, A criterion, burst:	< ±1% of span*

Input and Output specifications

Available input transmitter (Tx) supply:	3.5...32.5 V
Signal range, input to output:	3.8...20.5 mA
Signal conversion:	1:1
Functional range:	3.5...23 mA
Output loop current limitation, typ.:	24 mA
Current output overload, max:	50 mA

*of span = 4...20 mA

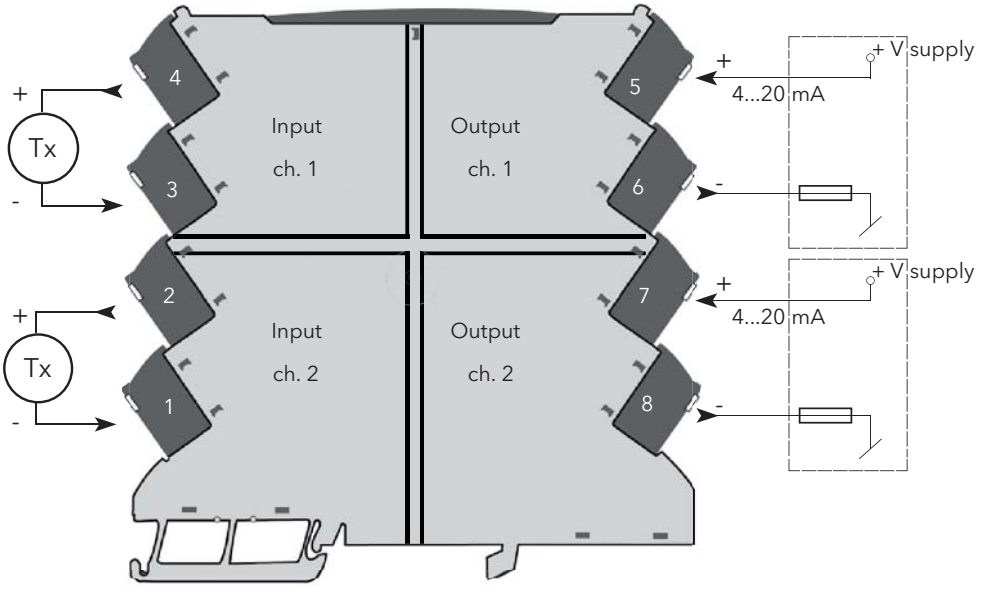
Approvals

EMC 2004/108/EC:	EN 61326-1
LVD 2006/95/EC:	EN 61010-1
UL, Standard for Safety:	UL 61010-1
Safe Isolation:	EN 61140

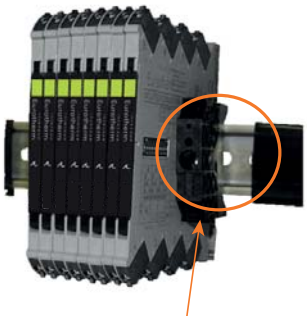
Ex / I.S.

ATEX 94/9/EC:	DEKRA 13ATEX 0137X
c FM us:	3049859-2

Connections

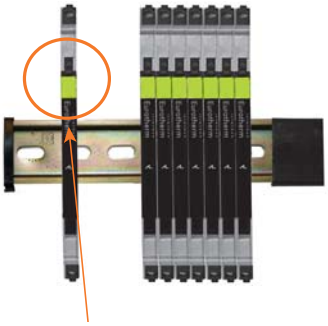


Safe Area or
Zone 2 & Cl. 1, Div. 2, gr. A-D



Installation on a 35mm DIN rail

The OmniSLIM devices must be supported by module stops - part number OMNI/ACCESS/MOD-STOP.



Marking

The front cover of the OmniSLIM units 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.

Order codes

1	2	3

1	Type
OMNISLIM	OmniSLIM Voltage/Current Conditioner

2	OmniSLIM
SL501-1	Single Channel 2-Wire Isolator Transmitter, Loop Powered
SL501-2	Dual Channel 2-Wire Isolator Transmitter, Loop Powered

3	Accessories & Spares
PSR-750X	Power rail 750mm (35x7.5mm DIN Rail)
PSR-500X	Power rail 500mm (35x7.5mm DIN Rail)
PSR-250X	Power rail 250mm (35x7.5mm DIN Rail)
PSR-CVRX	End covers for Power Rail
MOD-STOP	Module Stop
PSC-100U	Power Connector Unit (Din Rail) 2.5A max, powering up to 100 units

Eurotherm: International sales and support www.eurotherm.com

Contact Information

Eurotherm Head Office
Faraday Close, Durrington,
Worthing, West Sussex,
BN13 3PL

Sales Enquiries
T +44 (01903) 695888
F 0845 130 9936

General Enquiries
T +44 (01903) 268500
F +44 (01903) 265982

Worldwide Offices
www.eurotherm.com/global

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