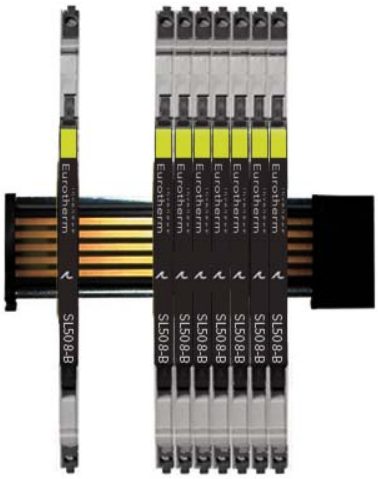
SL508-B OmniSLIM

MODEL

invensys Eurotherm



Bi-Polar Isolated Converter/ Splitter

Specification Sheet

- Conversion of voltage and current bipolar process signals to uni-/bipolar signals
- Multiple signal ranges are selectable via DIP-switches
- Splitter function: 1 signal in and 2 signals out
- Excellent accuracy, better than 0.05 % of selected range and high output load stability
- Slimline 6 mm housing

ACTION INSTRUMENTS

Applications

- The SL508-B is an isolating converter and splitter which can be used for signal conversion of standard bipolar analogue process signals into two individual unipolar analogue signals.
- The unit offers 4-port isolation and provides surge suppression and protects control systems from transients and noise.
- The SL508-B also eliminates ground loops and can be used for measuring floating signals.
- Mounting of the SL508-B can be in Safe area or in Zone 2 and Cl. 1 Div 2 area.
- The analogue output can be easily configured and programmed to be bipolar in the ranges ±10 mA and ±20 mA (*).

Technical characteristics

- Flexible 24 VDC (±30%) supply via power rail or connectors.
- Excellent conversion accuracy, better than 0.05% of selected range.
- A green front LED indicates operation status for the device.
- All terminals are protected against overvoltage and polarity error.
- Meeting the NAMUR NE21 recommendations, the SL508-B ensures top measurement performance in harsh EMC environments.
- High galvanic isolation of 2.5 kVAC.
- Fast input to output response time < 7 ms / > 100 Hz
  – 10 Hz bandwidth damping possible via DIP-switch.
- Excellent signal/noise ratio > 60 dB.

Mounting / installation / programming

- Fast and easy configuration of factory calibrated measurement ranges via DIP-switches.
- A very low power consumption allows DIN rail mounting without the need for any air gap.
- Wide temperature operation range: -25...+70°C.

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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 mm² / AWG 26...12 stranded wire
Screw terminal torque:	0.5 Nm

Common electrical specifications

Supply voltage, DC:	16.8...31.2 VDC
Internal consumption, typ./max:	0.4 W / 0.65 W
Power consumption, max:	0.8 W
Isolation voltage, test:	2.5 kVAC
Working isolation voltage:	300 VAC / 250 VAC (Ex)
MTBF, acc. to IEC 61709 (SN29500):	> 187 years
Signal / noise ratio:	> 60 dB
Cut-off frequency (3 dB):	> 100 Hz or 10 Hz (selectable via DIP-switch)
Response time (0...90%, 100...10%):	< 7 ms or < 44 ms

Accuracy values

Input type	Absolute accuracy	Temperature coefficient
All	≤ ± 0.05% of span	≤ ± 0.01% of span* / °C

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

*(of span= of the selected range)

Input specifications

Current input:

Programmable ranges:	± 10 and ± 20 mA
Functional range:	–23 ... +23 mA
Input voltage drop:	< 1 VDC @ 23 mA

Voltage input:

Programmable ranges:	± 5 and ± 10 V
Functional range:	–11.5 ... +11.5 V
Input resistance:	≥ 1 MΩ

Output specifications

Current output:

Programmable ranges:	0...20 and 4...20 mA
Functional range:	0...23 mA
*Bipolar wiring and programming set-up:	±10 and ± 20 mA
Load (max.):	23 mA / 300 Ω / per ch.
Load stability:	≤ 0.002% of span* / 100 Ω
Current limit:	≤ 28 mA

Voltage output:

Programmable ranges:	0...5, 1...5, 0...10, 2...10 V
Functional range:	0...11.5 V
Load:	> 10 kΩ

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.

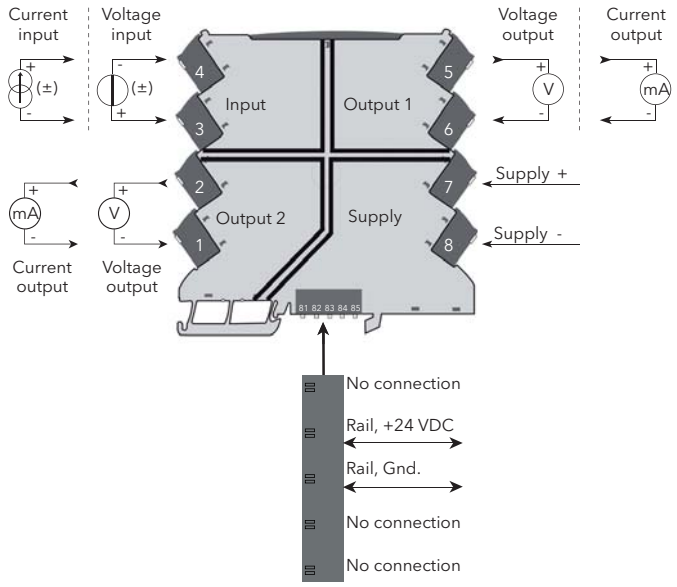
ATEX 94/9/EC:	DEKRA 13ATEX 0137X
c FM us:	3049859-2

DIP-switch configuration:

(DIP-switch positions are only read at power up) * = bipolar wiring set-up

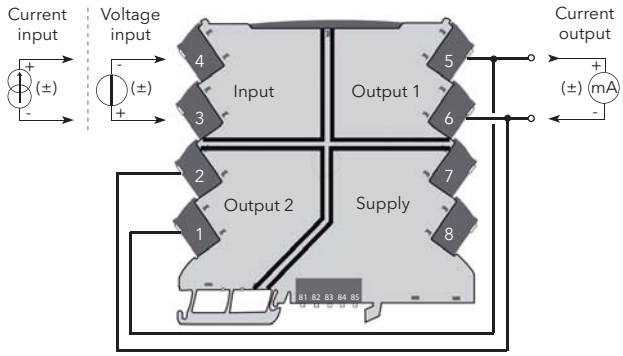
		Output ch. 1	Output ch. 2
		Current **0...20 mA**	Current **0...20 mA**
		Current **4...20 mA**	Current **4...20 mA**
Filter ON Bandwidth 10 Hz		Current **± 20 mA set-up***	Current **± 20 mA set-up***
Filter OFF Bandwidth > 100 Hz		Current **± 10 mA set-up***	Current **± 10 mA set-up***
Input Current **-10...+10 mA**		Voltage **0...10 V**	Voltage **0...10 V**
Input Current **-20...+20 mA**		Voltage **2...10 V**	Voltage **2...10 V**
Input Voltage **-5...+5 V**		Voltage **0...5 V**	Voltage **0...5 V**
Input Voltage **-10...+10 V**		Voltage **1...5 V**	Voltage **1...5 V**

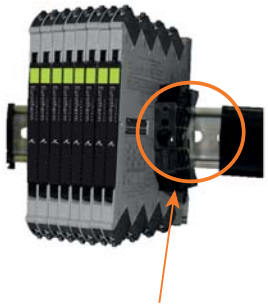
Connections

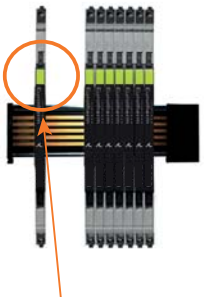


Safe Area or
Zone 2 & Cl. 1, Div. 2, gr. A-D

(*) Bipolar Input to bipolar output wiring set-up:







Installation on a 35mm DIN rail

The OmniSLIM devices must be supported by module stops - part number 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	Type
OMNISLIM	OmniSLIM Voltage/Current Conditioner

2	OmniSLIM
SL508-B	Single Channel Bi-Polar Isolator/Splitter

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)

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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