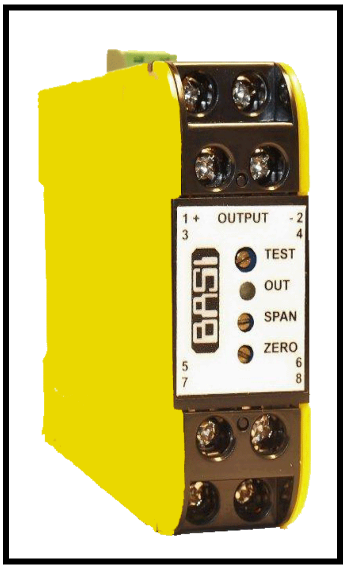
Signal Isolator v1 BSI282

DESCRIPTION

The Signal Isolator BSI282 is an isolating converter providing true 3-way galvanic isolation up to 2kV rms The BSI282 produces an isolated unipolar output signal from an input signal. The BSI282 comes in four, coding plug selectable models to accept either: Process, mV, Bipolar or Bipolar mV input signals. No special tools or components are required for range changing in the field. A 20Vdc/22mA sensor supply is available at the input section, this can be useful for loop powered field transmitters. Final calibration is trimmed using the front accessible zero and span 15-turn trim adjustments. Maximum current drive is 20mA and maximum voltage drive is 20V. The wide swing ac/dc power supply's cover all popular requirements. All units are fitted with a 500msec filter that can be link changed to 5 or 50msec for fast response. Surge protection for power supply and input is standard with all BASI modules.



General Specifications

Size:	23.5W x 71.5H x 109D (mm).
Mounting:	Clip for 35mm DIN-Rail.
Housing material:	ABS.
Connection:	Screw terminals.
Weight:	120 g.
Protection class:	IP40.
Input/Output:	Programmable - see table 2 overleaf.
Accuracy error:	<0.1%.
Linearity error:	<0.1%.
Long term drift:	<0.10%.
Ambient operating range:	-10...+60°C.
Temperature drift error:	0.01% per °C.
Supply voltage:	85-265Vac 50/60Hz (90–280Vdc) 16-42Vac 50/60Hz (10-60Vdc) .
Output drive:	10mA into 0 - 2kΩ, 20mA into 0 - 1kΩ.
Response time:	Programmable - see table 2 overleaf.
Input impedance:	Current 51 Ω 2M7 Ω (10V/5V range). 560k Ω (2V/1V range). 140kΩ (250-1000mV ranges). 30kΩ (40-200mV ranges).
Front Zero adjust:	+20/ -10% typical.
Front Span adjust:	±25% typical.
Noise immunity:	130dB CMRR.
Supply/Input/Output Isolation:	>2kV r.m.s.
Auxiliary Output:	20Vdc with 22mA drive (Suitable for 2-wire transmitter supply).
Electromagnetic compatibility:	Complies with EN 50081-1, EN 50082-2, EN 61010-1

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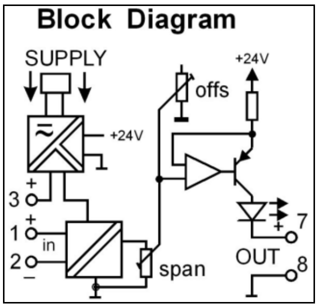
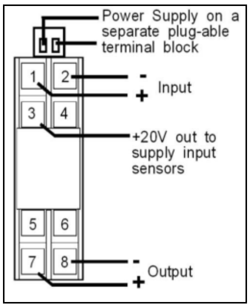




Connections

When externally sourced signals are used terminal 1 is the positive input. When a 2-wire field transmitter is used,terminal 3 is a 20V power supply used to supply the loop current.

For input / output combinations refer to TYPE NO. DESIGNATION overleaf.

BASI

TYPE NO. DESIGNATION

BSI282 – X X X X 0

Power Supply:

1 = 85-265Vac 50/60Hz (90–280Vdc) 2 = 16-42Vac 50/60Hz (10-60Vdc) .

Input (Specify required range from selected table):

1 = Process Signals, Table 1 (4-20mA default).
2 = Millivolt Signals, Table 2 (0-75mV default).
3 = Bipolar Signals, Table 3 (+/-10V default).
4 = Bipolar Millivolt Signals, Table 4 (+/-75mV default).

Output (Specify required range):

0 = Table 5 (4-20mA default).

Action:

1 = Direct. 2 = Reverse.

Response time Table 0

	LK1/6	LK1/7
5ms		
50ms	X	
500ms		X

Process input Table 1

	LK1					
Input	**1**	**2**	**3**	**4**	**5**	**8**
4-20mA	X	X	X			X
0-20mA	X	X	X		X	
0-10mA	X	X	X	X	X	
0-1V	X		X		X	
0-2V	X				X	
0-5V			X		X	
1-5V			X			X
0-10V					X	
Other non-standard						
0-0.5V	X		X	X	X	
0-2.5V			X	X	X	
0-4V			X			
0-6V				X		
0-7.5V				X	X	

Millivolt input Table 2

	LK1					
Input	**1**	**2**	**3**	**4**	**5**	**8**
0-40mV	X		X	X		
0-50mV	X		X	X	X	
0-75mV	X		X			
0-100mV	X		X		X	
0-150mV	X			X	X	
0-200mV	X				X	
0-250mV			X	X	X	
0-400mV			X			
0-500mV			X		X	
0-600mV				X		
0-750mV				X	X	
0-1000mV					X	

Bipolar input Table 3

	LK1					
Input	**1**	**2**	**3**	**4**	**5**	**8**
+/-20mA	X	X	X		X	
+/-10mA	X	X	X	X	X	
+/-1V	X		X		X	
+/-2V	X				X	
+/-5V			X		X	
+/-10V					X	

Bipolar Millivolt input Table 4

	LK1					
Input	**1**	**2**	**3**	**4**	**5**	**8**
+/-20mV	X		X	X		
+/-25mV	X		X	X	X	
+/-40mV	X		X			
+/-50mV	X		X		X	
+/-60mV	X			X		
+/-75mV	X			X	X	
+/-100mV	X				X	
+/-125mV			X	X	X	
+/-200mV			X			
+/-250mV			X		X	
+/-300mV				X		
+/-500mV					X	

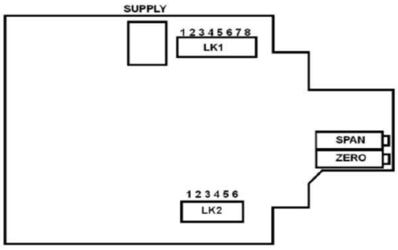
Output Table 5

	LK2					
Output	**1**	**2**	**3**	**4**	**5**	**6**
4-20mA	X		X			
0-20mA		X				
0-10mA				X		
0-5V		X				X
1-5V	X		X			X
0-10V		X			X	

To change ranges

1. Unplug supply plug.
2. Remove terminal covers.
3. Slightly depress lid to base clips and withdraw from housing.
4. Set coding plugs as required.
5. Reassemble unit and connect power.
6. Adjust SPAN and ZERO pots to recalibrate.
7. Change the label information to the new input/output values.

Coding Plug Location Diagram



BASI Instrument AB **Tel: +46 40-880 09** **Fax: +46 40-92 98 77**
P.O. Box 53 **SE-275 06 VOLLSJÖ…..SWEDEN** **E-mail: sales@basi.se**