Signal Isolator v5 BSI139

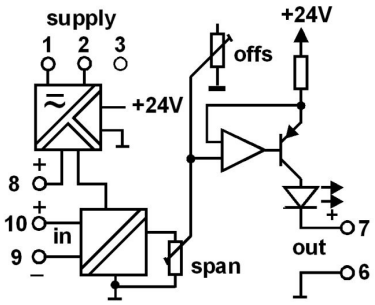
DESCRIPTION

The BSI139 is a isolating transmitter designed for factory set input output combinations providing true 3-way galvanic isolation up to 2000V rms. The power supply (ac or dc) is magnetically coupled to both the input and the output circuit section separately, achieving power/input/output isolation. Input signals are transferred optically to the output stage. The standard Signal Isolator will accept DC voltage or current input signals directly (0.1V up to 100V, 1mA up to 100mA). The BSI139 also accepts a wide variety of different sensors and signals using optional input conditioning card. Final calibration is trimmed using the front accessible 'offs' and 'span' 15-turn trim adjustments. The output signal level is indicated by a green LED on front of the module, giving a clear indication of module function, signal presence and loop condition for current outputs. Various power supply choices are available ranging from 240Vac down to 8Vdc. All supply models contain a dual output for power isolation. Reverse or direct action are factory configured. Special requirements for input/output response time variation can be accommodated by optional "customised response" or "output ramp" models. Surge protection for power supply and input is standard with all Series 100 modules.

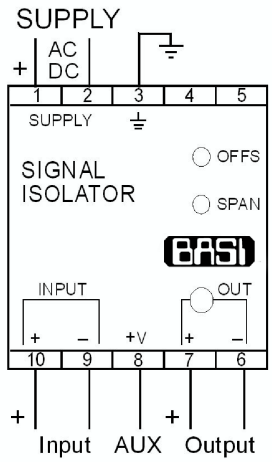
General Specifications

Size:	52 W x 70 H x 110 D (mm).
Housing material:	ABS.
Mounting:	DIN-Rail, gear plate.
Termination:	Screw terminals on front Terminal covers standard.
Protection class:	IP40.
Weight:	0.300 kg.
Accuracy:	0.15% of span.
Front 'OFFS' adjust:	±20% typical.
Front 'SPAN' adjust:	±20% typical.
Linearity:	0.15% of span above 0.2mA.
Repeatability:	0.1% of span.
Response time:	0.5 sec for T90 standard. Faster or slower response on request
Temperature effect:	Typically 0.02% of span/C.
Operating temp. range:	-10...+60C.
Storage temp. range:	-20...+70C.
Output loop drive:	10mA into 0 - 2kΩ, 20mA into 0 - 1kΩ, 50mA into 0 - 400Ω Higher output drive on request.
Output load change effect:	less than 0.2% up to maximum load stated.
Input/output isolation:	>2kV rms.
Power requirements:	3W.
Electromagnetic compatibility:	Complies with CE
Optional input specifications:	All specifications quoted in this general section are for the standard inputs only. Specifications for the optional inputs are available upon request.

Block Diagram



Connection Diagram



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

TYPE NO. DESIGNATION

Power Supply:

1 = 90-280Vac 50/60Hz (65-280Vdc).
*) 3 = 16-48Vac 50/60Hz (10-60Vdc)
*) 4 = 415V, 50Hz ±10%.
*) 6 = 8 - 60Vdc.
*) 9 = Other (Specify).

Input:

01 = 0 – 100mV (1MΩ).
02 = 0 – 200mV (1MΩ).
03 = 0 – 500mV (1MΩ).
04 = 0 – 1V (1MΩ).
05 = 0 – 2V (1MΩ).
06 = 0 – 5V (1MΩ).
07 = 0 – 10V (1MΩ).
08 = 0 – 100V (1MΩ).
09 = 1 – 5V (1MΩ).
11 = 0 – 1mA (1KΩ).
12 = 0 – 5mA (220Ω).
13 = 0 – 10mA (100Ω).
14 = 0 – 20mA (51Ω).
15 = 0 – 50mA (20Ω).
# 16 = 4 – 20mA (51Ω).
17 = 10 – 50mA (20Ω).
*) 19 = Other. (Specify 100Vdc or 100mA max)

Input Options (input continued)

*) 21 = DC voltage up to 2kV.
*) 22 = DC millivolt, <100mVdc.
*) 23 = DC voltage, bipolar up to ±2kV.
*) 24 = DC current input 10A max.
*) 25 = DC current, bipolar 10A max.
*) 30 = AC voltage 10mV to 500V span.
*) 32 = True rms other than sine wave.
*) 42 = Potentiometer 3W voltage excited.
*) 61 = Adder, 2 inputs 4-20mA floating.
*) 62 = Subtracter, 2 inputs 4-20mA floating.
*) 64 = MIN selector, 2 inputs 4-20mA signal.
*) 65 = MAX selector, 2 inputs 4-20mA signal.
*) 66 = Triple input Adder (3x 4-20mA only)
*) 67 = Quad input Adder (4x 4-20mA only)
*) 68 = Add 2 floating inputs (specify In1 Cal and In2 Cal)
*) 69 = Subtract 2 floating inputs (specify In1 Cal and In2 Cal).

Specify calibration details for all optional inputs.

*) 99 = Other.

Output:

1 = 0 – 5V (50kΩ min).
2 = 0 – 10V (100kΩ min).
3 = 0 – 20mA (900Ω max).
4 = 4 – 20mA (900Ω max).
5 = 0 – 50mA (360Ω max).
6 = 10 – 50mA (360Ω max).
7 = 0 – 10mA (1.8kΩ max).
8 = 1 – 5V (50kΩ min).
*) 9 = Other (Specify).

Action:

1 = Direct.
2 = Reverse.

Options:

00 = None.
*) 01 = Customised response time (Specify).
*) 02 = Output ramp.
*) 03 = Extended range on “OFFS” and SPAN” front panel trim pots. (Specify range).
*) 06 = External ratio adjust (0.5...1.5 typical), (Specify range).
*) 07 = External Gain and Bias, (Specify range).
*) 99 = Other (Specify).

= Includes 24Vdc/22mA aux supply on terminal 8.
*) = Price Extra.