

**DESCRIPTION**

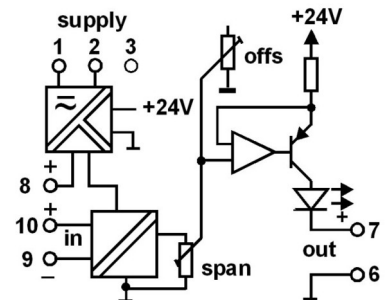
The SI139 is an isolating transmitter designed for factory set input output combinations providing true 3-way galvanic isolation up to 2000Vrms. The power supply (ac or dc) is magnetically coupled to both the input and the output circuit section separately, achieving power/input/output isolation. Input 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 SI139 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.



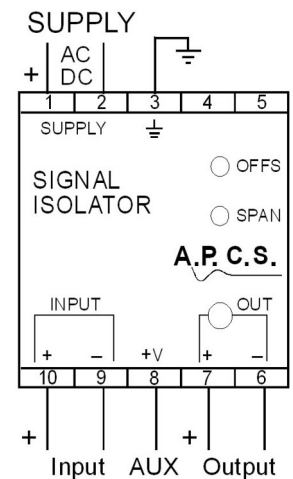
**General Specifications**

- 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: >2kVrms.
- Power requirements: 3W.
- Electromagnetic compatibility: Complies with AS/NZS 4251.1 (EN 50081.1)
- 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).      \*) 6 = 8 - 60Vdc.

\*) 3 = 16-48Vac 50/60Hz (10-60Vdc)

#### 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 / 100mA max

Specify calibration details for optional inputs.

\*) 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.

\*) 31 = AC current 0.5 to 5A span.

\*) 32 = True rms other than sine wave.

\*) 42 = Potentiometer 3W voltage excited.

\*) 61 = Adder, 2 inputs 4-20mA floating.

\*) 62 = Subtractor, 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)

\*) 70 = SPL0925 Flame Input Signal eg. 0-100uA

\*) 80 = SPL0944 0 to 200V balanced three phase input

\*) 81 = 4-20mA (51Ω) with 20V/150mA aux supply on terminal 8.

#### 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).

\*) A = SPL0908 24V Output (specify cal)

\*) B = SPL0908 50V Output (minimum load required)

#### 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).

\*) 04 = Track and Hold. Output is held at input value with contact input on terminals 4 and 5.

\*) 05 = Peak Hold with pulse duration less than 0.3 Sec.

Output is reset to input value with contact input on terminals 4 and 5.

Accuracy: better than 2%. Decay rate: less than 0.5% of the range per second.

\*) 06 = External ratio adjust (0.5...1.5 typical), (Specify range).

\*) 07 = External Gain and Bias, (Specify range).

\*) 10 = SPL0947 Fast Response Time 1ms.

\*) 99 = Other (Specify).

# = Includes 24Vdc/22mA aux supply on terminal 8.

\*) = Price Extra.