

Signal Isolator v3 SI236

DESCRIPTION

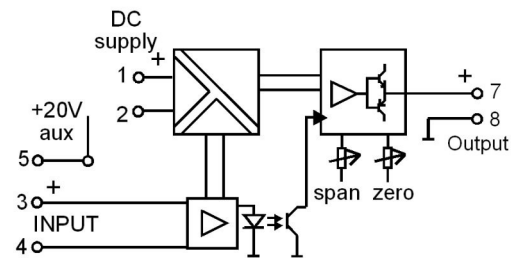
The SI236 is an isolating converter providing true 3-way galvanic isolation up to 2kV rms. The SI236 produces an isolated unipolar output signal from an input signal. The SI236 comes in three, coding plug selectable models to accept either: Process, mV or Bipolar input signals. No special tools or components 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 DC-power supply (8-60V) covers all popular DC sources. All units are fitted with a 500mS filter that can be link changed to 5mS for fast response. Surge protection for power supply and input is standard with all APCS modules.



General Specifications

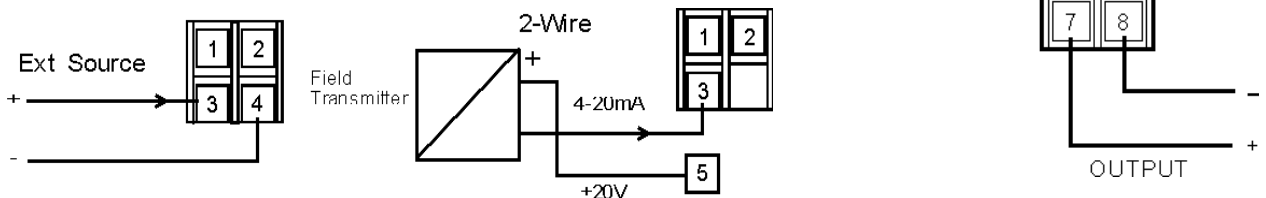
Size:	23.5W x 71.5H x 109D (mm).
Mounting:	Clip for 35mm DIN-Rail.
Housing material:	ABS.
Termination:	Top mounted screw terminals.
Protection class:	IP40 (IP55 Enclosure Opt).
Weight:	0.120 kg.
Protection class:	IP40.
Calibration accuracy:	<0.2%.
Front 'SPAN' adjust:	±25% typical.
Front 'ZERO' adjust:	+20/ -10% typical.
Linearity:	<0.1%.
Long term drift:	<0.1%.
Temperature effect:	Typically 0.025% of span per °C.
Operating temperature:	-10...+60°C.
Output drive:	10mA into 0 - 2kΩ, 20mA into 0 - 1kΩ.
Input impedance:	Current 51Ω. Voltage 2M7Ω (10V/5V range). 560kΩ (2V/1V range). mV 140kΩ (250-1000mV ranges). 30kΩ (40-200mV ranges).
Supply/Input/Output Isolation:	2kV rms.
Auxiliary Output:	20Vdc with 22mA drive (Suitable for 2-wire transmitter supply).
Electromagnetic compatibility:	Complies with AS/NZS 4251.1 (EN 50081.1)

Block Diagram



Connections

When externally sourced signals are used terminal 3 is the positive input.
When a 2-wire field transmitter is used, terminal 5 is a 20V power supply used to supply the loop current.



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

TYPE NO. DESIGNATION

Power Supply:

- 3 = 8 - 60Vdc.
- *) 4 = use 6
- *) 5 = 20 - 48Vac.
- *) 6 = 60 - 160Vdc / 48 - 150Vac.

Input (Specify required range from selected table):

- 1 = Process Signals, Table 2 (# 4-20mA).
- 2 = Millivolt Signals, Table 4 (# 75mV).
- 3 = Bipolar Signals, Table 5 (# +10V).
- *) A = Potentiometer 3W voltage excitation.
- *) B = Adder, 2 inputs 4 - 20mA floating.
- *) C = Subtractor, 2 inputs 4 - 20mA floating.
- *) D = MIN selector, 2 inputs 4-20mA signal.
- *) E = MAX selector, 2 inputs 4-20mA signal.
- *) 9 = Other. (Specify).

Refer to DS23632 for additional input options connection and ordering requirements.

Output (Specify required range):

- 1 = Table 6/ SW3, (4-20mA default).
- *) L = 4-20mA(loop powered signal, disables output links)..
- *) 9 = Other. (Specify, disable links).

Action:

- 1 = Direct.
- 2 = Reverse.

Options:

- 0 = None.
- *) 1 = Customised response time (Specify).
- 3 = Bipolar Millivolt Signals, DS23623 (# ±75mV)
- *) 9 = Other.

*) = Price Extra. All extra price inputs disable future use of the program links.

= Factory default calibration unless specified otherwise.

Response time Table 1

Table 1	SW1/1
5mS	
500mS	X

Process input Table 2

Table 2	SW1						
Input	2	3	4	5	6	7	
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 4

Table 4	SW1						
Input	2	3	4	5	6	7	
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 5

Table 5	SW1						
Input	2	3	4	5	6	7	
±20mA	X	X	X		X		
±10mA	X	X	X	X	X		
±1V		X	X		X		
±2V		X			X		
±5V			X		X		
±10V					X		

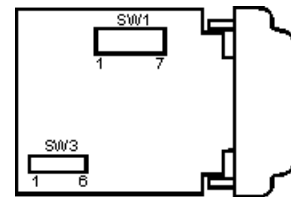
Output(s) Table 6

Table 6	SW3					
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. Disconnect power un-clip housing lid and withdraw unit from housing.
2. Set coding plugs as required.
3. Reassemble unit and connect power.
4. Adjust "Span and "Offs" pots to recalibrate.
5. Change the label information to the new input/output values.

Coding Plug Location Diagram



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