

DESCRIPTION

The SSP235 is an isolating converter providing true 4-way galvanic isolation up to 2kVrms. The SSP235 produces two isolated unipolar output signals from one input signal. The SSP235 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. Both outputs are isolated from each other. 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

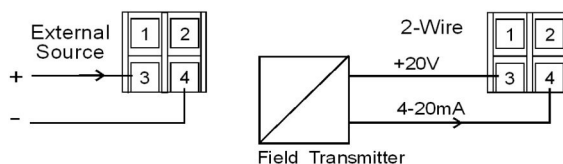
Size: 23.5W x 71.5H x 109D (mm).
 Mounting: Clip for 35mm DIN-Rail.
 Housing material: ABS.
 Termination: Top mounted screw terminals.
 Protection class: IP40 (IP55 Enclosure Opt).
 Weight: 0.120 kg.
 Protection class: IP40.
 Calibration accuracy: <0.2%.
 Front 'SPAN' adjust: ±25% typical.
 Front 'ZERO' 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 1 /output 2 isolation: 2kV rms.
 Auxiliary Output: 20Vdc with 22mA drive (Suitable for 2-wire transmitter supply).

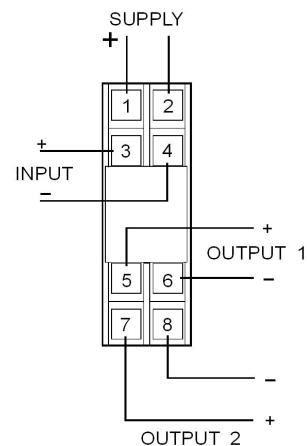
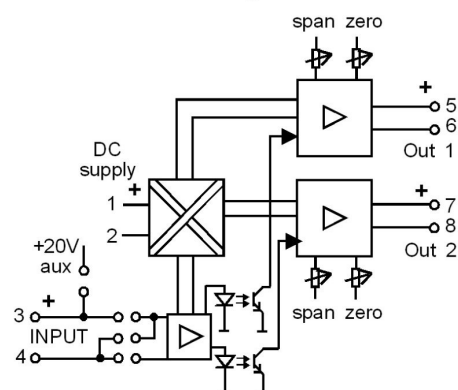
Electromagnetic compatibility: Complies with AS/NZS 4251.1 (EN 50081.1) ✓

Connections

When externally sourced signals are used terminal 3 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.



Block Diagram



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:

- 1 = Process Signals, Table 2 (# 4-20mA external source).
- 2 = Millivolt Signals, Table 4 (# 75mV).
- 3 = Bipolar Signals, Table 5 (# ±10V). Specify required range from selected table
- *) 5 = RTD (specify)
- *) 7 = Resistance 2W (specify).
- *) 9 = Other. (Specify).

Output 1:

- 1 = Output selectable Table 6/ SW2, (# 4-20mA). Specify required range from table 6 SW2
- *) 9 = Other. (Specify, disables output 1 links).
- *) L = 4-20mA(loop powered signal, disables output 1 links).

Output 2:

- 1 = Table 6/ SW3, (# 4-20mA). Specify required range from table 6 SW3
- *) 9 = Other. (Specify, disables output 2 links).
- *) L = 4-20mA(loop powered signal, disables output 2 links).

Action:

- 1 = Out 1 Dir, Out 2 Dir.
- 2 = Out 1 Rev, Out 2 Rev.
- 3 = Out 1 Rev, Out 2 Dir.
- 4 = Out 1 Dir, Out 2 Rev.

Options:

- 0 = None.
- *) 1 = Customised response time (Specify).
- *) 2 = Range splitting (specify SP see note).
- 3 = Bipolar Millivolt Signals, DS23523 (# ±75mV).
- *) 9 = Other.

*) = Price Extra. All extra price inputs disable future use of the program links on both the input and the output.
 # = Default factory setting unless specified otherwise when ordering.

Range Splitting

The Range Splitting Split Point (SP) normally set at 0.5 is specified when ordering.

If SP = 0.5 then

- 0-50% IN = 0-100% at OUT1
- 50-100% IN = 0-100% OUT2.

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

2 Wire or others Table 3

Table 3	SW1			
Input	8	9	8a	9a
2-wire			X	X
All others	X	X		

Note the two wire setting is only used when set on the 4-20mA range.

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		

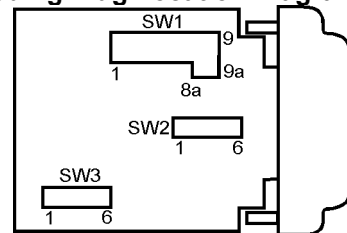
Output(s) Table 6

Table 6	SW2 / 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 unclip 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



Coding Plug SW1 Detail

