

# Resistance Transmitter v4 **SWT240**

## DESCRIPTION

The SWT240 is designed for SLIDEWIRE or potentiometer inputs ranging from 100Ω up to 20kΩ with zero suppression up to 50% of range. Standard output is 4 - 20mA with a minimum supply voltage of 7V and a maximum up to 40V. This enables the SWT240 to be used in 12V battery supply systems or in automotive applications. Other factory set output configurations are 10 - 50mA loop powered and 0 - 10mA, 0 - 20mA or voltage output in 3-wire connection. Reference for 3-wire connection is 0V. Double surge protection is standard with all Series 200 loop powered transmitters to prevent failure due to spikes induced by DC switched inductive loads.



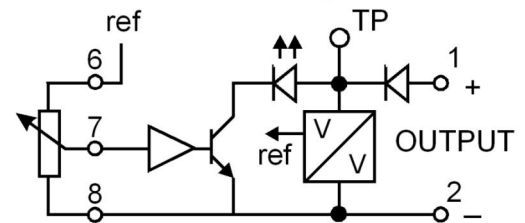
Example: SLIDEWIRE 1kΩ.  
calibration 500-1000Ω = 4-20mA output.

Final calibration is trimmed using the front accessible zero and span 15-turn trim adjustments. A front mounted L.E.D. and a test socket verify module function and assist in calibration checks without disconnection of output wires.

## General Specifications

- Size: 23.5W x 71.5H x 109D.
- Mounting: Clip for 35mm DIN-Rail.
- Housing material: ABS.
- Connection: Screw terminals.
- Weight: 0.088 kg.
- Protection class: IP40 (IP65 refer to SWT540).
- Calibration Accuracy: <0.2% of range.
- Linearity: <0.2% of range.
- Ambient operating range: -20...+70°C.
- Temperature drift error: <0.5% within operating range.
- Supply voltage: 7 - 40V continuous (50V 30 seconds).
- Load for 4-20mA output:  $RL_{max} = \frac{\text{SupplyVoltage} - 7V}{0.02A} \Omega$ .
- Load change effect: 0.1% up to RL max.
- Response time: 0.2 sec for T<sub>90</sub>.
- Front zero adjust: 0 - 65% of range.
- Front span adjust: 35 - 100% of potentiometer travel (Gain 2.8...1).
- Input range: 100Ω up to 20kΩ.
- Slidewire excitation: 4.6V @ 0.5mA max.
- Input/output isolation: None - refer to Resistance Transmitter RT243 for isolation.
- Electromagnetic compatibility: Complies with AS/NZS 4251.1 (EN 50081.1)

## Block Diagram



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

### TYPE NO. DESIGNATION

#### Power Supply:

- |                  |                  |                                     |                  |
|------------------|------------------|-------------------------------------|------------------|
| 1 = 4 - 20mA.    | } 2-Wire         | *) 6 = 0 - 1V.                      | } 3-Wire 0V Ref. |
| 2 = 10 - 50mA.   |                  |                                     |                  |
| *) 3 = 0 - 1mA.  | } 3-Wire 0V Ref. | *) 7 = 0 - 5 V. min. supply 10.5Vdc |                  |
| *) 4 = 0 - 10mA. |                  | *) 8 = 0 - 10V. min. supply 15.5Vdc |                  |
| *) 5 = 0 - 20mA. |                  | *) 9 = Other (Specify).             |                  |

#### Input:

- |               |                         |
|---------------|-------------------------|
| 1 = 0 - 100Ω. | 6 = 0 - 5kΩ.            |
| 2 = 0 - 200Ω. | 7 = 0 - 10kΩ.           |
| 3 = 0 - 400Ω. | 8 = 0 - 20kΩ.           |
| 4 = 0 - 1kΩ.  | *) 9 = Other (Specify). |
| 5 = 0 - 2kΩ.  |                         |

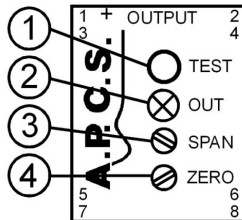
#### Options:

- 0 = None.
- \*) 1 = SPAN, remote adjustment including 1.5 cable tail, (Potentiometer extra).
- \*) 2 = SPAN AND INPUT ZERO remote adjustment including 2 x 1.5m cable tail (Potentiometer extra).
- \*) 9 = Other (Specify).

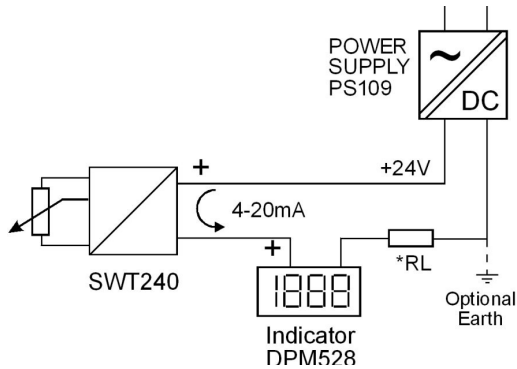
\*) = Price Extra.

### Front Control Explanation

1. Test socket - output signal access with reference to terminal (1) loop integrity is maintained when digital multimeter Rin < 30Ω is used.
2. Loop indicator - dim at 4mA, bright at 20mA.
3. SPAN (full scale) adjust 15 turn.
4. ZERO (start scale) adjust 15 turn.

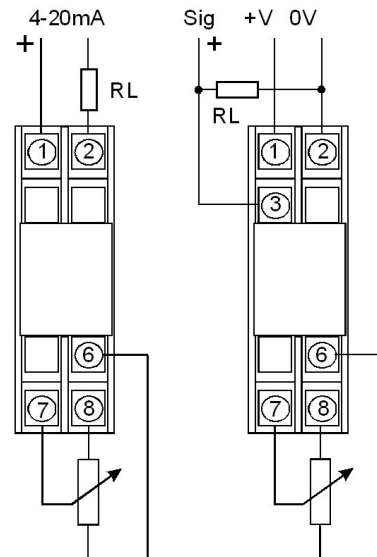


### Connection Example



RL is input load of PLC, VSD, or other process instrument.

### Connection Diagrams



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