

# Slidewire Transmitter v4 SWT140

## DESCRIPTION

The SWT140 is a transmitter designed to convert any 3-wire slide-wire or potentiometer input into a standard process signal. The span and zero adjustment (15-turn trimmers) on front provide a high degree of field flexibility. The output signal level is indicated by LED on the front, giving a clear indication of module function, presence of signal and output loop closed (for current outputs only). Standard input is 3-wire potentiometer from 100Ω up to 10kΩ. Excitation to potentiometer is approximately 5Vdc (2V for 10Ω input). A true negative non-interacting offset up to 100% of slide-wire range enables the SWT140 to be used for applications with sectional slide-wires. Minimum span is 20% of slide-wire value.



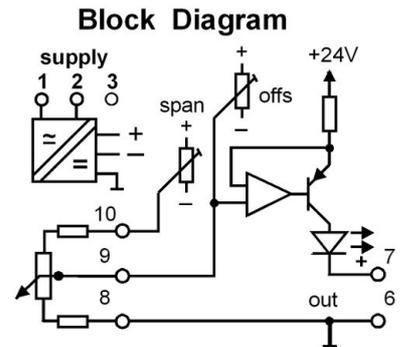
Calibration example: 1000Ω slide-wire.  
 4mA output at 500Ω.  
 20mA output at 750Ω.

Offset in this case is 50% (of 1kΩ).  
 Span is 250Ω = 25% of range.

Various power supply choices are available ranging from 240Vac down to 8Vdc, all provide power isolation. All units are fitted with a 0.1 second filter. This filter constant can be increased or decreased if required. Power transient protection is also standard as with all APCS modules.

## General Specifications

Size: 52 W x 70 H x 110 D (mm).  
 Mounting: DIN-Rail, gear plate.  
 Termination: Screw terminals on front.  
 Protection class: IP40.  
 Weight: 0.300 kg.  
 Housing material: ABS.  
 Accuracy: ±0.2% of span.  
 Temperature effect: 0.01% per °C.  
 Operating temperature: -10...+60°C.  
 Output load effect: less than 0.2% up to max. load.  
 Output loop drive: 10mA into 0 - 2000Ω.  
 20mA into 0 - 900Ω.  
 50mA into 0 - 360Ω.  
 Input/Output isolation: None.  
 Power requirements: 3W.  
 Power supply isolation: 2kVrms.  
 Electromagnetic compatibility: Complies with AS/NZS 4251.1 (EN 50081.1)



## Typical Applications

- Actuator feed-back.
- Loading station for manual adjustment of process signal.
- Fixed output current source.
- Resistance-change level devices.
- Slide-wire position transducers.
- Slide-wire pressure gauge.

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)      \*) 9 = Other specify.

#### Input Span:

- 01 = 20 - 60Ω (100Ω Slide-wire).      07 = 200 - 600Ω (1kΩ).  
 02 = 60 - 100Ω (100Ω Slide-wire).      08 = 600 - 1000Ω (1kΩ).  
 03 = 40 - 120Ω (200Ω Slide-wire).      09 = 1 - 3kΩ (5kΩ).  
 04 = 120 - 200Ω (200Ω Slide-winder).      10 = 3 - 5kΩ (5kΩ).  
 05 = 100 - 300Ω (500Ω Slide-wire).      11 = 6 - 10kΩ (10kΩ).  
 06 = 300 - 500Ω (500Ω Slide-wire).      \*) 99 = Other specify.

#### Output:

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

#### Options:

- 0 = None.  
 2 = Fixed output (span adjust only).  
 \*) 9 = Other specify.

\*) = Price Extra.

#### Calibration Example:

SWT140-109400.  
 Supply: 240V,50Hz.  
 Input: Slidewire (5kΩ).  
 Cal: 0 - 3kΩ.  
 Output: 4 - 20mA.

Input span **09**: 1 - 3kΩ (5kΩ).

This input utilises a 5kΩ Slide-wire, with a calibration span adjustable between 1kΩ (20%) and 3kΩ (60%), and a bias (zero) adjustable between 0kΩ (0%) and 4kΩ (80%).  
 [ Note: Factory set for 0 - 3kΩ ].

Thus via adjustment of the top mounted 'span' and 'zero' potentiometers, any calibration with a span between 1k and 3kΩ can be achieved. Maximum bias for 1kΩ (20%) span is 4kΩ (80%), 3kΩ (60%) span is 2kΩ (40%).

e.g.

- 0 - 1kΩ (1k (20%) span, 0k (0%) bias ),      4 - 5kΩ (1k (20%) span, 4k (80%) bias ),  
 0 - 3kΩ (3k (60%) span, 0k (0%) bias ),      2 - 5kΩ (3k (60%) span, 2k (40%) bias ),  
 2 - 4kΩ (2k (40%) span, 2k (40%) bias ),      1.2 - 3.7kΩ (2.5k (50%) span, 1k2 (24%) bias ).

#### Connection

