

# RTD Temperature Transmitter v6 RTDT125

## DESCRIPTION

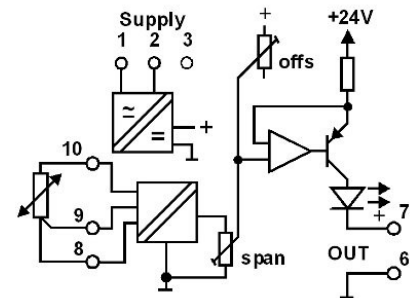
The RTDT125 is primarily a 3-wire temperature transmitter for resistance bulb input and an isolated signal process output. The standard RTD (resistance temperature detector) is Platinum 100 (100.00Ω at 0°C), however any user specified type of RTD can be accommodated as long as there is no substantial non-linearity. The RTDT125 has a linearisation circuit for Pt100 sensors. The RTD should be wired in 3-wire fashion to avoid errors caused by lead resistance changes. 2-wire connection can be used where a short lead length under constant temperature condition will not generate a resistance change. Final calibration is trimmed using the front 'offs' and 'span' adjustments. Sensor excitation current is as low as 0.6mA, preventing self-heating of the sensor. Lead breakage will cause the output to increase to maximum (22mA). The output signal level is indicated by a green LED on front giving a clear indication of module function. Various power supply choices are available varying from 240Vac down to 8Vdc, all provide power isolation.



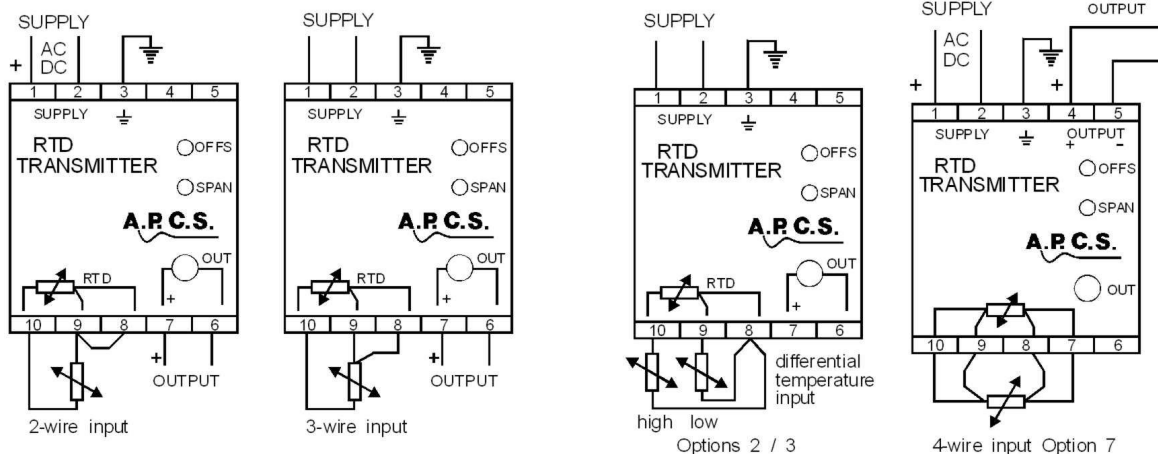
## General Specifications

- 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.
- Calibration accuracy: 0.2% of span.
- Front 'OFFS' adjust: ±20% typical
- Front 'SPAN' adjust: ±20% typical
- Linearity and drift error: 0.5% of span.
- Temperature effect: 0.01% per °C.
- Temp. operating range: -10...+60°C.
- Temp. storage range: -20...+70°C.
- Sensor Connection: 2 and 3-wire standard  
4-wire optional
- Input span: 7.8Ω up to 290.3Ω (20°C...850°C Pt100)  
10°C range available with reduced accuracy.
- Output loop drive: 20mA into 0 - 900Ω.  
50mA into 0 - 360Ω.
- Output load change effect: less than 0.2% up to max load.
- Input/output/supply isolation: 2kVrms.
- Power requirements: 3W.
- Electromagnetic compatibility: Complies with AS/NZS 4251.1 (EN 50081.1)

## Block Diagram



## Connections



Earth connection on terminal 3 is optional.

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

### TYPE NO. DESIGNATION

#### Power Supply:

- 1 = 90-280Vac 50/60Hz (65-280Vdc).
- \*) 3 = 16-48Vac 50/60Hz (10-60Vdc)
- \*) 6 = 8 - 60Vdc.
- \*) 9 = Other (Specify).

#### Input:

##### Pt100

- 01 = -50...+50°C.
- 02 = -50...0°C.
- 03 = -10...+10°C.
- 04 = 0...+10°C.
- 05 = 0...+20°C.
- 06 = 0...+50°C.
- 07 = 0...+100°C.
- 08 = 0...+120°C.

##### Pt100

- 09 = 0...+180°C.
- 10 = 0...+250°C.
- 11 = 0...+300°C.
- 12 = +40...+140°C.
- 13 = +100...+200°C.
- 14 = +10...+40°C.
- 15 = 0...+150°C
- \*) 99 = Other (Specify).

#### Output:

- 4 = Link selectable specify range from table below (4 – 20mA is default setting).
- 5 = 0 – 50mA (360Ω max).
- 6 = 10 - 50mA (360Ω max).
- \*) 9 = Other (Specify).

#### Action:

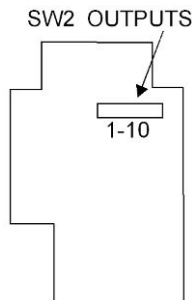
- 1 = Direct
- 2 = Reverse.

#### Options:

- 0 = None.
- \*) 2 = Differential RTD input.
- \*) 3 = Two-Input average.
- \*) 4 = Downscale burnout.
- \*) 7 = 4-wire Pt100.
- \*) 9 = Other (Specify).
- \*) = Price Extra.

### Output Range selection

- 1) Disconnect power to unit.
- 2) Remove terminal covers.
- 3) Un-clip housing lid and withdraw unit from housing.
- 4) Set the coding plugs as required.
- 5) Reassemble unit and connect power.
- 6) Adjust SPAN and OFFS pots to recalibrate.
- 7) Change the label information to the new input/output values.



#### Output Selection – SW2

Factory default us 4-20mA

Output	1	2	3	4	5	6	7	8	9	10
4-20mA	X	X								
0-20mA					X					
0-10mA			X							
0-1mA				X						
0-1V					X				X	
0-2V					X					X
0-5V					X			X		
1-5V	X	X						X		
0-10V					X		X			

In the interest of development and improvement, APCS reserve the right to amend, without notice, details contained in this publication. APCS will accept no legal liability for any errors, omissions or amendments.