

Resistance Transmitter v6 RT143

DESCRIPTION

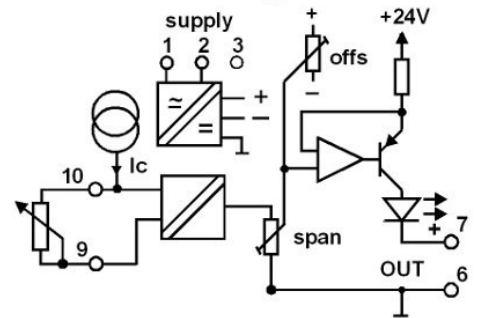
The RT143 is primarily resistance or slide-wire transmitter designed for 2 or 3-wire resistance input with a standard isolated process signal output. The resistance change is detected by applying a constant current to the field device which will result in a change of voltage on change of resistance. Two current ranges are available to suit the magnitude of resistance change. For resistances up to 100Ω, a fixed 20mA current source is supplied as the excitation. For resistances above 100Ω, a current excitation is supplied of a value to develop 2V across the input resistance at maximum value. Final calibration is trimmed using the front accessible 'offs' and 'span' 15-turn trim adjustments. Lead breakage will cause the output to increase to maximum. The output signal level is indicated by LED on the front giving clear indication of module function, presence of signal and output loop closed (for current outputs only). RF and power transients protection is also standard as with all APCS modules. Various power supply choices are available ranging from 240Vac down to 8Vdc, all provide power isolation.



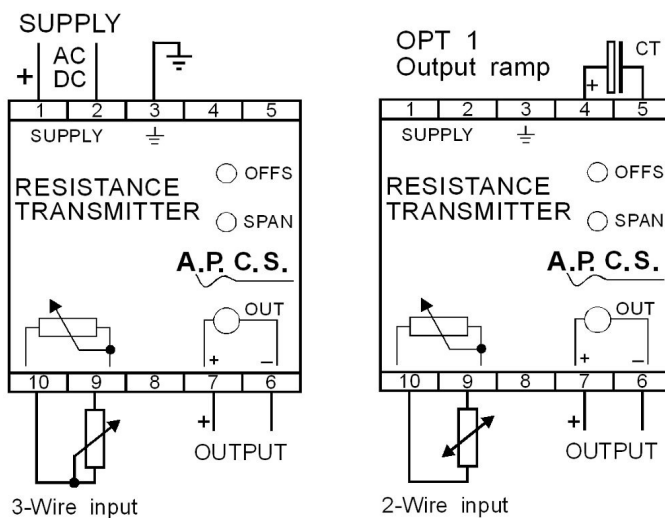
General Specifications

Size:	52 W x 70 H x 110 D (mm).
Housing material:	ABS.
Mounting:	DIN-Rail, gear plate.
Termination:	Screw terminals on front.
Protection class:	IP40.
Weight:	0.300 kg.
Calibration accuracy:	0.2% of span.
Front 'OFFS' adjust:	±20% typical.
Front 'SPAN' adjust:	±20% typical.
Combined linearity and drift error:	0.5% of span.
Temperature effect:	0.01% per °C.
Input span:	2Ω up to 50kΩ.
Operating temperature:	0 - 60°C.
Storage temperature:	-20...+70°C.
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 isolation:	2kVrms.
Power requirements:	3W.
Power supply isolation:	2kVrms.
Electromagnetic compatibility:	Complies with AS/NZS 4251.1 (EN 50081.1)

Block Diagram



Connections



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

TYPE NO. DESIGNATION

Power Supply:

- 1 = 90-280Vac 50/60Hz (65-280Vdc). *) 5 = 8 - 60Vdc.
- *) 3 = 16-48Vac 50/60Hz (10-60Vdc) *) 9 = Other specify.

Input:

0 - 100% OFFSET

- | | | |
|----------------|------------------------|----------------|
| 01 = 0 - 2Ω. | 11 = 0 - 5kΩ. | 20 = 50Ω span |
| 02 = 0 - 5Ω. | 12 = 0 - 10kΩ. | 21 = 100Ω span |
| 03 = 0 - 10Ω. | 13 = 0 - 20kΩ. | 22 = 200Ω span |
| 04 = 0 - 20Ω. | 14 = 0 - 30kΩ. | 23 = 500Ω span |
| 05 = 0 - 50Ω. | 15 = 0 - 40kΩ. | 24 = 1kΩ span |
| 06 = 0 - 100Ω. | 16 = 0 - 50kΩ. | 25 = 2kΩ span |
| 07 = 0 - 200Ω. | *) 19 = Other specify. | 26 = 5kΩ span |
| 08 = 0 - 500Ω. | | 27 = 10kΩ span |
| 09 = 0 - 1kΩ. | | 28 = 20kΩ span |
| 10 = 0 - 2kΩ. | | 29 = 50kΩ span |

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:

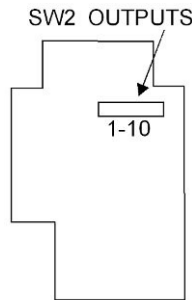
- 1 = Direct.
- 2 = Reverse.

Options:

- 0 = None.
- *) 1 = Output ramp.
- *) 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			

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