THERMOCOUPLE TRANSMITTER (v4) BTCT226

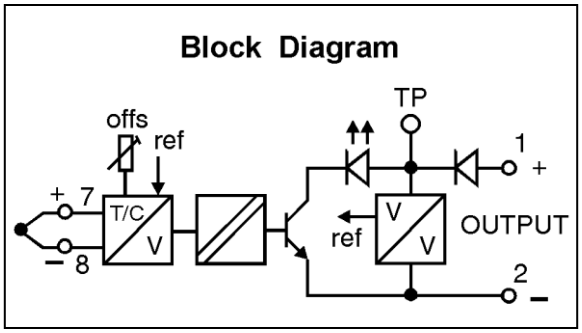
DESCRIPTION

The BTCT226 is a loop powered isolating transmitter that offers an economical solution combining compactness with accuracy and flexibility. The BTCT226 is ideal for field enclosures or as a space saver in larger control cabinets. Standard output is 4 - 20mA with a minimum supply voltage of 8V. This enables the BTCT226 to be used in 12V battery supply systems or in automotive applications. Other factory set output configurations are 10 - 50mA loop powered and various 3-wire outputs. Double surge protection is standard with all Series 200 loop powered transmitters to prevent failure due to spikes induced by DC switched inductive loads. The BTCT226 can accept any type of thermocouple input.The thermocouple conditioning features:

- Automatic cold junction compensation.
- Front-end zero suppression via 15 turn potentiometer.
- Configurable upscale or downscale burnout.
- A linearised version is available.

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 (mm).
Mounting:	Clip for 35mm DIN-Rail.
Housing material:	ABS.
Connection:	Screw terminals.
Weight:	100 g.
Protection class:	IP40.
Accuracy error:	<0.5% of range.
Repeatability:	<0.5% all ranges.
Ambient operating temperature range:	-10...+65°C.
Cold junction compensation:	0.02% per °C C/J change.
Supply voltage loop powered:	8 - 40V continuous (50V 30 seconds).
Load for 4 - 20mA output:	RL max = $\frac{\text{SupplyVoltage} - 8\text{V}}{0.02\text{A}}$ [Ω].
Supply voltage 3-Wire:	12 - 40V continuous (50V 30 seconds).
Load change effect:	0.1% up to RL max.
Response time:	0.2 sec for $T_{90.}$
Input offset adjustment (Zero suppression) :	200% of range.
Front zero adjustment:	+20% / -10% typical.
Front span adjustment:	±25% typical.
Internal Offset Adjust:	±50%.
Input range:	4mV up to 80mV.
Input impedance:	> 1M Ω.
Input/output isolation:	> 2kV r.m.s.
Electromagnetic compatibility:	Complies with EN 50081-1, EN 50082-2, EN 61010-1

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BTCT226 - X X X X

TYPE NO. DESIGNATION

Output:

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

Input:

1 = Thermocouple	Type J	(FeCon:	80°C up to 1200°C range).	Always specify calibration when ordering
2 = Thermocouple	Type T	(CuCon:	100°C up to 400°C range).	
3 = Thermocouple	Type K	(NiCr/Ni:	100°C up to 1300°C range).	
4 = Thermocouple	Type R	(Pt13%Rh/Pt:	450°C up to 1700°C range).	
5 = Thermocouple	Type N	(Nicrosil/Nisil:	150°C up to 1300°C range).	
6 = Thermocouple	Type S	(Pt10%Rh/Pt:	450°C up to 1700°C range).	
7 = Thermocouple	Type E	(ChrCon:	65°C up to 1000°C range).	

*) 8 = Linearised thermocouple (Specify type K, J, T, N, R or S and calibration)
*) 9 = Other (Specify).

Action:

1 = Direct. 2 = Reverse.

Options:

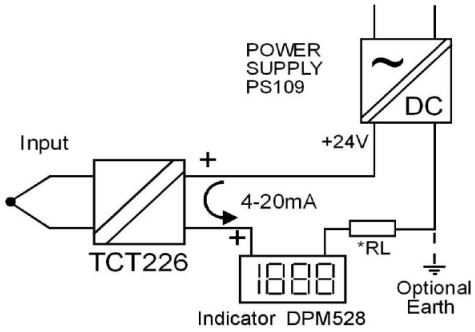
0 = None.
1 = Upscale burnout.
2 = Downscale burnout.

*) = Price Extra.

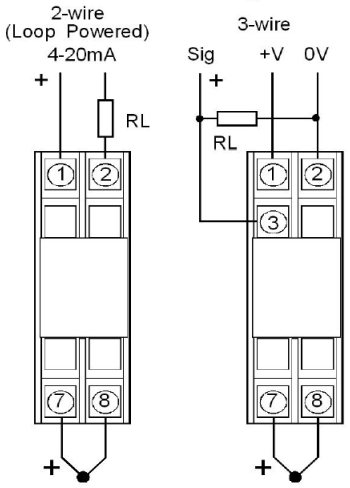
Front Control Explanation

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

Wiring Example



Connection Diagrams



Note: RL is input load of PLC, VDS, or other process instruments