1 YEAR
WARRANTY

User's Guide

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MADE IN TAIWAN

TX33
Loop-powered RTD Input In-head Programmable Transmitter

Omega Engineering Inc

Loop-powered RTD Input In- Head Programmable Transmitter Model TX33

Multi-ranges Selectable

Temperature Linearized

Low Temperature Drift

Easy Calibration

Competitive pricing

Descriptions

The Model TX33 is an analog, non-isolated, 2-wire head-mounted temperature transmitter that converter the RTD input into a proportional, linear, and highly accurate 4- 20 mA output current in a variety applications such as process control, automation system, and energy source management.The TX33 is performed by means of a 6 dip-switch array for the coarse range setting, and two multi-turn potentiometers (Zero & Span) which are used for the final fine-tuning. The TX33 accepts low level signal from RTD, filtered, amplified, and converter to process current to reduce susceptibility transients and noise operations and allow the same two wires to carry the transmitter power and output current signal simultaneously.

Specifications

(Vloop = 24 Vdc, Tamb = 23 ± 2 deg C, Rload = 250 ohms)

Output:	4 - 20 mA; Upscale < 25 mA; Downscale < 3.0 mA
Loop power:	10 - 32 Vdc. Reverse polarity protected, LED on Indication
Input RTD:	Pt100, 2 or 3- wire DIN. 43760, BS1904 characteristics
Max.sensor wire resistance:	30 ohm / wire
Supply voltage effect:	± 0.01 % of span /Volt
Temperature coefficient:	± 0.01 % of span / deg C (200 deg C measurement range)
Linearity error:	± 0.15% of span ± 0.1 deg C
Repeatability:	± 0.01 % of span
Load capability:	50 x (loop power - 10) ohms
Input zero range:	-50 to 50 deg C , adjustable
Span:	50 to 200 deg C selectable; see table 1
Fine adjustment:	5 % of ZERO and SPAN
RFI effect (5W, 470 MHz):	< ± 10% of span
Response time (0 to 90%):	200 ms
Housing material:	Polycarbonate, UL94-V0 grade
Connection:	M3 Screw, AWG 14 - 22
Operation environment:	-40 to 85 deg C; 5 to 85 %, non-condensing
Dimensions:	45mm Dia. X 20 mm H
Weight:	35 g

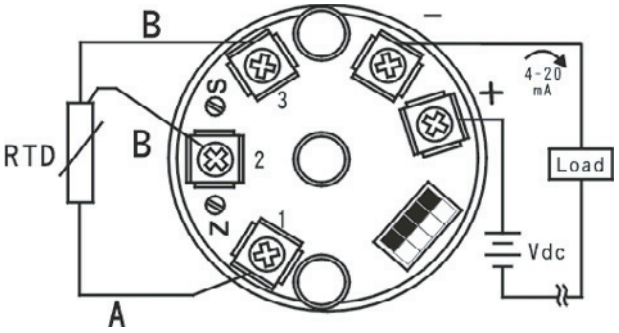
Measurement Range

DIP-Switch Setting					SPAN
S2	S3	S4	S5	S6	(℃)
OFF	OFF	OFF	ON	ON	50
OFF	OFF	ON	ON	OFF	100
OFF	ON	OFF	OFF	ON	150
ON	OFF	OFF	OFF	OFF	200

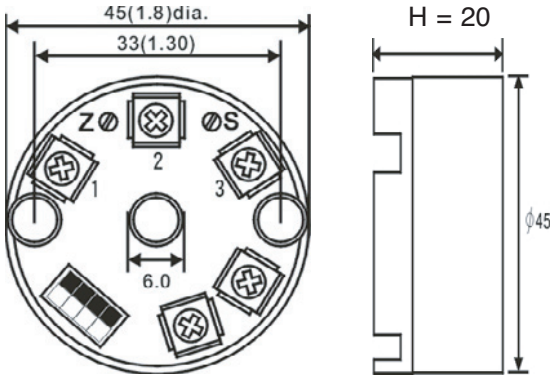
< Table 1> span setting

Note:
The DIP-switch is protected by a small tip which has to be moved before setting
S1 = ON Position, ZERO Range: -50 ~ 0 Deg. C
S1 = OFF Position, ZERO Range: 0 ~ +50 Deg. C

Wiring Connections



Dimensions: mm (inch)



Note:
1. For 2-wire RTD input Terminal # 2 & # 3 must be shorten together.
2. When change the span by DIP-switch setting, the transmitter should be calibrated again for best accuracy.
3. Without specified, the unit is calibrated 200 ¢Jbefore shipping.

Adjustments

Connect signal source (calibrator) to the unit, power on warm up 5 minutes or more.
1. Set the calibrator to the desired low temperature (4 mA point) and adjust the potentiometer ZERO to get Iout = 4 mA.
2. Set the calibrator to the desired high temperature (20 mA point) and adjust the potentiometer SPAN to get Iout = 20 mA.
3. Repeats steps 1 & 2 once, if necessary for best accuracy

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If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:
1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:
1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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