

T/C, volt, mV, mA Transmitters - Field Configuration Options—DIN Rail Mounting

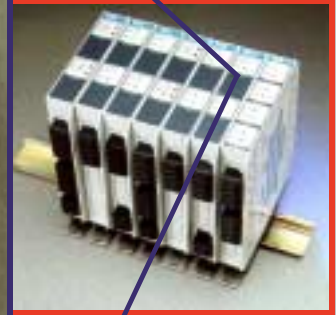
X54-3312 Dual Channel Universal Thermocouple, volt, mV, mA Transmitter

- ◆ **High Density Dual Channel Packaging**
- ◆ **Field Configurable Options Including:**
 - (6) T/C types, volt, mV or mA inputs + (7) std. input spans with selectable zero offsets (for non-linearized ranges only)
- ◆ **Full Input/Output/Power and Channel Isolation**
- ◆ **Front Panel Power/Sensor Fail LED Indicator**
- ◆ **Front Access to Zero and Span Adjustments**
- ◆ **Standard 35 mm DIN Rail Mounting**

DESCRIPTION: The X54-3312 is a dual channel transmitter powered by 24 vdc. Features include: two piece plug-in connectors for easy wiring and maintenance; internal cold junction compensation for T/C inputs, Power/Sensor Fail LEDs; field configurable input types and ranges; optional linearized outputs; full 1000 vac isolation; and front panel access to ZERO and SPAN adjustments. RFI protection, wide operating temperature, and high accuracy are standard features. Custom inputs, outputs, scaling and linearization are available from the factory.



A Family of Products!!!



**Transmitters
Alarm Trips
I/I Isolators**

SPECIFICATIONS:

Inputs:

Thermocouple type E, J, K, T, R, S, or mV, volt, mA (linearized outputs available for thermocouples only)

Input Impedance:

T/C or mV > 100 M ohm; volts = >550 K ohm
mA = 10 ohm

Outputs: 4-20 mA or 0-20 mA into 650 ohm loads
1-5 V, 0-5 V with 250 ohm output impedance.

Span Adjustment:

Front-accessible, multi-turn, infinite resolution potentiometer permits minimum +/- 5% adjustment.

Zero Adjustment:

Front-accessible, multi-turn, infinite resolution potentiometer permits minimum +/- 5% adjustment

Sensor Failure Response:

Red front-panel LED with upscale drive or down scale drive (mA and volt inputs are down scale only)

Calibrated Accuracy:

+/- 0.1% of span (linearization errors additional on large span applications, consult factory)

Isolation:

1,000 vac between channels, input and output.

Common Mode Rejection:

> 120 dB, at 60 Hz.

Common Mode Voltage:

1000 peak AC maximum without damage.

Ambient Temperature Coefficient:

Ambient temperature range: 32 to 158°F (0 to 70°C).

Gain: < +/- 0.01 % /°F.

Zero: < +/- 0.005 % /°F.

Ambient Temperature Range:

Operating: -20 to 158°F (-25 to 70°C).

Storage: -40 to 158°F (-40 to 70°C).

Power Supply Range:

18 to 30 vdc (Max. current draw = 190 mADC @ 24 vdc)

Radio Frequency Effects:

< 0.4 mV (referred to input) + 0.2% of span (referred to output) when exposed to 5W transmitter with frequency range 20-460 MHz at a distance of 1 m.

Calibration:

Typically, factory calibrated to customer specified ranges.

Customer configurable for non-linearized applications.

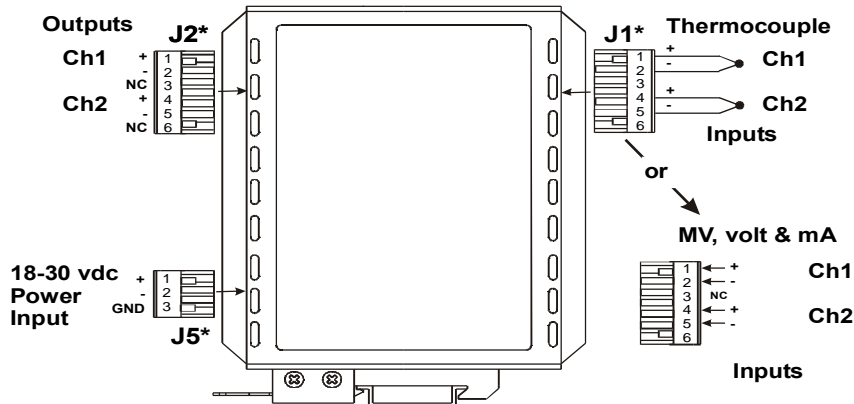
Terminals:

High temperature polyester type, wire size 12 AWG max., 10 A max., 300 V max.

Specifications apply at 23 +/- 2°C (74 +/- 2°F) unless otherwise specified, and are subject to change without notice.

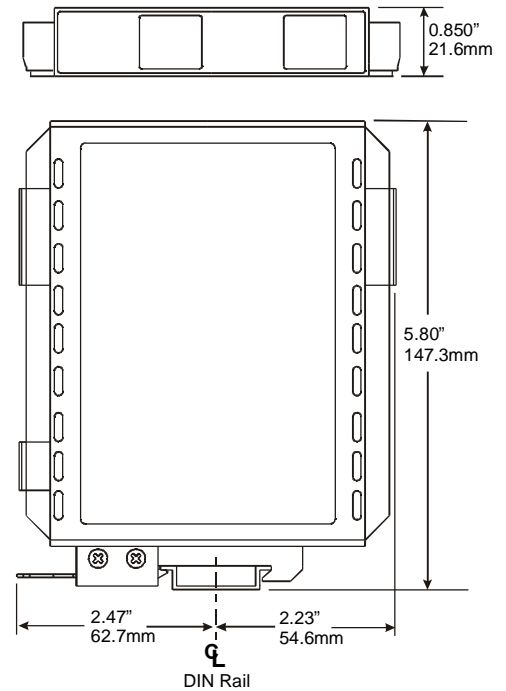
X54-3312 Dual Ch. Universal Thermocouple, volt, mV, mA Transmitter (continued)

TERMINAL ARRANGEMENT:



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- 1.) Plug-in connector design simplifies installation and maintenance.
 - 2.) Use up to 12 awg wiring.
 - 3.) When inserted, case back cover provides a mechanical cover for connector screws (as required by European standards).

MECHANICAL DETAIL:



ORDERING INFORMATION:

X54-3312-(I) (II) (III) - (I) (II) (III)



I = input type (E, J, K, R, S, or T) T/C
(V) Volt or mV

(I) milliamp (w/wo loop power option)

II = Standard Range code (A - H) or
specify special range; e.g. 0-750°F = (0/750)
or special range; e.g. 0-25 mvdc = (0/25mvdc)

III = Output (B = 4-20mA; H = 0-20mA; D = 1-5vdc; F = 0-5vdc)

Example: Std. Range 0-2500F linearized for type K T/C
X54-3312-KDB-KDB

Example: Special Range 0-750°F linearized for type J T/C
X54-3312-JL(0/750°F)B - JL(0/450°F)B
(add "L" after T/C type to request linearized output)

Accessories:

D2-35X7.5 35 mm X 7.5 mm "U" style DIN rail, sold per foot

STANDARD INPUT RANGES:

Code	°F or input range	°C or input range	Sensor/Input Types
A	-450 to 0	-267 to -18	T, K, E
B	0 to +750	-18 to +399	J, T
C	0 to +1400	-18 to +760	J, E
D	0 to +2500	-18 to +1371	K
E	0 to +3200	-18 to +1760	R, S
F	4-20 mA w/o loop power		I
G	4-20 mA with loop power		I
H	1 - 5 vdc		V

Above codes A-E are standard linearized T/C temperature ranges for fastest delivery. Contact Ronan for price and delivery of non-standard ranges with or without linearization. Codes F,G, and H are also standards for fastest delivery.

These transmitters can be configured in the field or pre-configured at the factory to the customer's specific input type and temperature range. Factory configuration is only necessary if linearization is required. **Only the thermocouple inputs have the linearized output option.**