

**Universal Alarm Trips - Field Configuration Options - High Density DIN Rail Mount**

**X54-3412 Dual Channel Thermocouple, mV, Volt, mA Alarm Trip**

- ◆ **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
- ◆ **Full Input/Output/Power and Channel Isolation**
- ◆ **Front Panel Power/Sensor Fail LED Indicator**
- ◆ **Front Access to Zero, Span and Setpoint Controls**
- ◆ **Standard 35 mm DIN Rail Mounting**

**DESCRIPTION:** The X54-3412 is a dual channel alarm trip powered by 24 vdc. Features include: two piece plug-in connectors for easy wiring and maintenance; Power/Sensor Fail LEDs; field configurable ranges and input types; 1000 vac isolation; and front panel ZERO, SPAN, and setpoint adjustments. RFI protection, wide operating temperature, and high accuracy are standard. Dual setpoints are user configured for high or low and have adjustable deadband. Output relays are form "C" and can be normally energized or de-energized. Custom inputs, outputs, and scaling are available from the factory.



**A Family of Products!!!**



**Transmitters  
Alarm Trips  
I/I Isolators**

**SPECIFICATIONS:**

**Input:**

Thermocouple type E, J, K, T, R, S, or mV, volt, and mA (Factory or field configurable)

**Input Ranges:** Standard factory ranges or field configurable to application requirements

**Input Impedance:**

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

**Setpoint Adjustment:**

Front-accessible, multi-turn, infinite resolution potentiometer 2 setpoints per channel. Field select normally energized or de-energized and high or low setpoint relay operation.

**Setpoint Repeatability:** +/- 0.1% of span

**Alarm Indication:**

Front panel Red LED for each setpoint

**Power On/Sensor Failure Response:**

Green "Power On" LED turns Red if sensor fails. Up scale drive on sensor failure is standard.

**Response Time:** 100 milliseconds.

**Hysteresis:**

Internal adjustments provide deadband adjustment from approximately 1-15% of range.

**Contact Outputs:**

One set of normally open and closed contacts per setpoint.

**Contact Rating:**

standard relays = 0.6 amps at 125 vdc or 110 vac, 2 amps at 30 vdc, (resistive loads)  
optional relays = 14 amps at 120 vac, 10 amps at 240 vac, 8 amps at 24 vdc (resistive load; meets international standards)

**Isolation:** 1,000 V between channels.

**Common Mode Voltage:**

1000 volts peak AC maximum without damage.

**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.

**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. alarm state current = 190 mA@ 24 vdc)

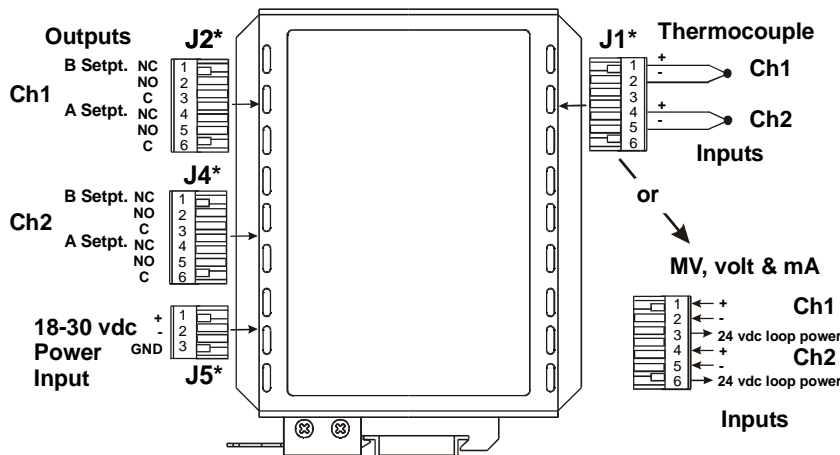
**Terminals:**

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

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

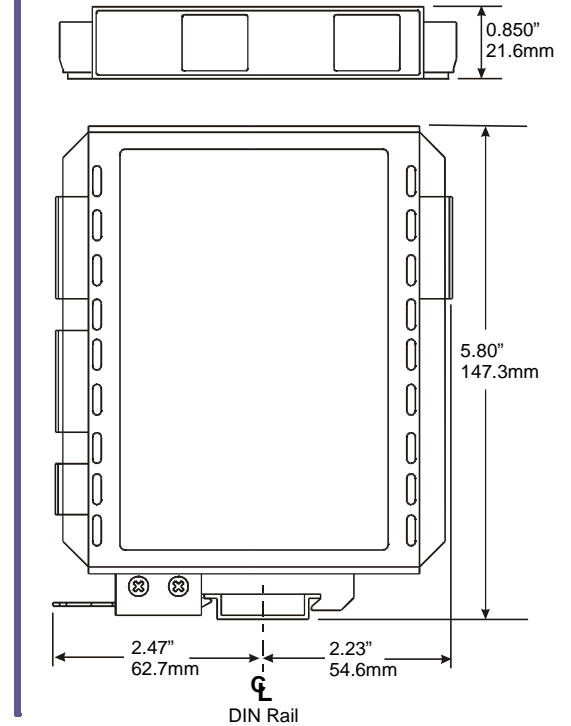
# X54-3412 Dual Channel Thermocouple, mV, Volt, mA Alarm Trip (continued)

## 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:

X54-3412-(I) (II) - (I) (II)



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)

Example: Std. Range 0-2500°F linearized for type K T/C  
X54-3412-KD-KD

Example: Special Range 0-750°F linearized for type J T/C  
X54-3412-J(0/750°F) - J(0/450°F)

## Accessories:

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

## STANDARD INPUT RANGES:

	°F or input range	°C or input range	Sensor/Input Types
A	<b>-450 to 0</b>	-267 to -18	T, K, E
B	<b>0 to +750</b>	-18 to +399	J, T
C	<b>0 to +2100</b>	-18 to +1149	J, E
D	<b>0 to +2500</b>	-18 to +1371	K
E	<b>0 to +3200</b>	-18 to +1760	R, S
F	<b>4-20 mA wo / loop power</b>		I
G	<b>4-20 mA with loop power</b>		I
H	<b>1 - 5 vdc</b>		V

Above ranges are standard offerings for fastest delivery. Contact Ronan for price and delivery of non-standard ranges.

These standard ranges can be re-configured in the field or pre-configured at the factory to the customer's specific thermocouple type and temperature range.