

Description

Moore Industries' TCA Thermocouple Alarm accepts input from all standard ISA thermocouples. When the input value falls outside of a fully-adjustable preset limit, the TCA outputs a contact closure signal ideal for indicating a high and/or low condition via a bell, buzzer, light or other device. A bright LED on the front panel indicates when an alarm condition has occurred.

Highly accurate to within $\pm 0.1\%$ of span, the TCA is offered in both single and dual alarm models. The dual alarm models allow configuration of two separate trip points per module (High/Low, High/High or Low/Low). On both single and dual alarm models, trip points are easily set using potentiometers conveniently located on the unit's front panel.

Valuable Options—The TCA can be ordered with a variety of options including adjustable dead-band (-AD); alarm response delay of between 1 and 30 seconds (factory set); process variable indication (-IO) that provides a voltage signal proportional to the input for process variable readout; and superior RFI/EMI protection (-RF). For a complete listing of available options, see Options under Ordering Specifications on the back page.

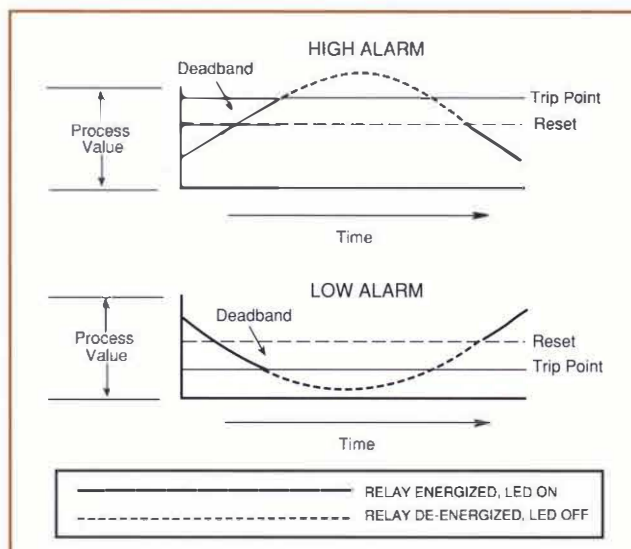


The TCA's easy-to-install surface-mount and high-density plug-in card housings are ideal for control room applications. A field-mount enclosure is also available.

Features

- **Accepts all common thermocouple types.** The TCA accepts input from any standard ISA thermocouple.
- **Industry standard.** Thousands of TCAs are counted on worldwide to provide reliable and accurate performance in a wide variety of process applications.
- **Versatile mounting.** The TCA's control room and field mounting options permit fast and simple installation in nearly any environment.
- **Input isolation.** Prevents false alarms due to ground loops.

Figure 1. Normal Failsafe High and Low Alarm Configuration.



Certifications



CSA, General Locations; Hazardous Locations, Class I, Groups C and D

TCA

Thermocouple Alarm

Specifications

Characteristics		Weight	Options
Performance Repeatability: Trip point repeats within $\pm 0.1\%$ of input span Dead Band: 1% of span, standard Alarm Response: 50 milliseconds for a step change of 1% of span beyond trip points Line Voltage Effect: $\pm 0.005\%/1\%$ line voltage change (ac or dc) Burnout Protection: Upscale on T/C burnout, standard Isolation: Input, output and power input are isolated with no dc connections between them (both ac and dc powered units) Ambient Temperature Range: -18°C to $+65^{\circ}\text{C}$ (0°F to $+150^{\circ}\text{F}$) Effect on Amplifier: Less than $\pm 0.018\%/^{\circ}\text{C}$ ($\pm 0.01\%/^{\circ}\text{F}$) over above range Adjustments Trip Points: Multiturn front panel potentiometers adjust over a range of 0% to 100% of span Zero: $\pm 25\%$ of maximum range value Indicators Front panel LED(s) indicate when relay is energized	Weight Approximately 908 grams (2 pounds)	Options (continued) -EZ Elevated zero (specify input for 0% output) -HS Hermetically sealed relays rated 1A @ 117Vac non-inductive or 2A @ 26Vdc -IO Indicator Output (0-1V @ 1mA) -LSA Low input span (5mV) -MR Manual reset (for customer supplied external pushbuttons) -RE External relay rated 5A @ 28Vdc (DPDT is required for inductive loads on alarms with -RF option) -RF RFI/EMI protection rated at 50 V/m - ABC = 1% F.S. as defined by SAMA Standard 33.1 (when -RF option is selected, the -RE option must also be specified) -TT Ten-turn lockable dial with vernier scale for setting trip point(s)	
	Ordering Specifications		Housings*
	Unit TCA Thermocouple Alarm Input T/C Type: Any standard ISA thermocouple Span: 5MV (specify -LSA option), 10MV , 25MV or 50MV change Output See Table 1 below (SPDT relay contacts provide user-selection of either NO or NC contact configurations and are rated at 5A @ 117Vac non-inductive or 28Vdc; DPDT and 10A relays are optional) Power 117AC , 220AC , or 240AC , 50/60Hz, $\pm 10\%$ 24DC or 45DC , $\pm 10\%$ (5 watts, nominal) Options -AD Adjustable deadband; 1-20% nominal, available up to 100% -AR Alarm response time delay; specify between 1-30 seconds (factory set) -BA Burnout alarm -DD Downscale open input drive -DPDT Double-pole, double-throw relay(s)	Housings* STD Standard housing with U-back bracket for surface mounting AB Standard housing with angle flanges for surface mounting or mounting in NEMA enclosures PC Plug-in card for mounting in RMR or SMR multi-unit plug-in card rack DCM DIN clip for mounting standard housing on G-type rail EX Standard housing in 2-hub, solid cover, NEMA 7 explosion-proof enclosure	

When ordering, specify: Unit / T/C Type, Span / Output / Power / Options / [Housing]
Model number example: TCA / J-10MV / SH1 / 240AC / -AR15 / [STD]

*Other housings and enclosures are available. Installation and terminal information can be found on the applicable housing sheets.

Ordering Information

To order, use the bold face data from the Ordering Specifications section of the Specifications Table. For assistance, refer to the model number example presented at the bottom of the table.

Relay contact designation (NC or NO) refers to shelf state, i.e., power off condition.

Table 1. Alarm Output Configurations.

Alarm Configuration	Failsafe (1)	Non-Failsafe (2)
Single (S), High (H)	SH1	SH2
Single (S), Low (L)	SL1	SL2
Dual (D), High (H)-Low (L)	DH1L1	DH2L2
Dual (D), High (H)-High (H)	DH1H1	DH2H2
Dual (D), Low (L)- Low (L)	DL1L1	DL2L2

NOTE: Failsafe considerations are such that the relay is energized in the normal condition and de-energized either upon alarm or power loss to the unit. Combinations of Failsafe and Non-Failsafe for dual alarms are possible also by following the same method of designation.



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