MOORE INDUSTRIES

MVA
Millivolt Alarm

September 2023 | Data Sheet 9.40

Description

Moore Industries' MVA Millivolt Alarm accepts input from any millivolt source (e.g., transducers, gas and pH analyzers, etc.). When the input value falls outside of a fully-adjustable preset limit, the MVA 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 ±0.1% of span, the MVA 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.

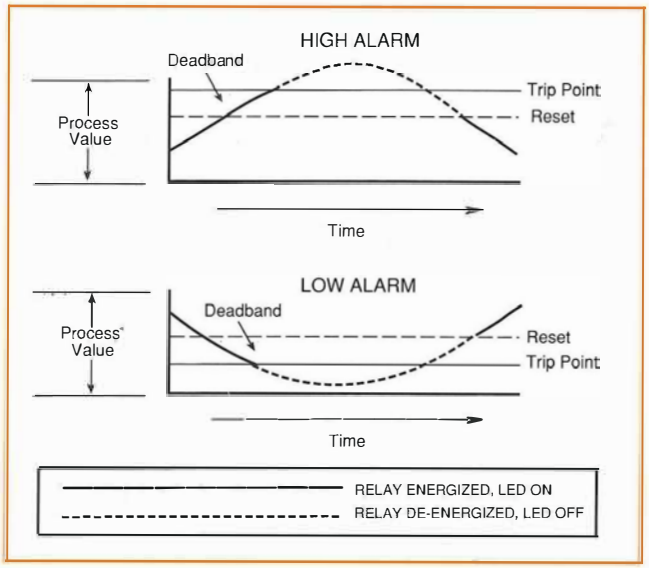
Valuable Options—The MVA can be ordered with a variety of options including a ten-turn lockable dial with a vernier scale (-TT) that simplifies trip point adjustment; adjustable deadband (-AD); alarm response delay (-AR) of between 1 and 30 seconds (factory set); and superior RFI/EMI protection (-RF). For a complete listing of available options, see Options under Ordering Specifications on the back page.

***The MVA'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 almost any millivolt input.** The MVA accepts all standard millivolt inputs from transducers, analytical instruments, and many other sources.
- **Industry standard.** Thousands of MVAs are counted on worldwide to provide reliable and accurate performance in a wide variety of process applications.
- **Versatile mounting.** The MVA's control room and field mounting options permit fast and simple installation in nearly any environment.
- **Complete isolation.** Prevents false alarms due to ground loops.
- **High input impedance.** High one megohm input impedance will not affect the output of the device being monitored.

***Figure 1.** Normal Failsafe High and Low Alarm Configuration.*



Certifications

CSA, General Location; Hazardous Location, Class I, Groups B, C, D

City of Los Angeles, General Location

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MVA

Millivolt Alarm

Specifications

Characteristics

Performance
Repeatability: Trip point repeats within ±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: ±0.005%/1% line voltage change (ac or dc)
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°C (0°F to +150°F)
Effect on Amplifier: Less than ±0.018%/°C (±0.01%/°F) over above range

Adjustments
Trip Points: Multiturn front panel potentiometers adjust over a range of 0% to 100% of span
Zero: ±10% of span minimum

Indicators
Front panel LED(s) indicate when relay is energized

Weight
Approximately 908 grams (2 pounds)

Ordering Specifications

Unit
MVA Millivolt Alarm

Input
0-10MV
0-25MV
0-100MV
0-400MV
0-1V
0-5V
0-10V

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, ±10%
24DC or **45DC,** ±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)
-DD Downscale open input drive
-DPDT Double-pole, double-throw relay(s)
-EZ Elevated zero (specify input for 0% of output)
-FU Power fuse on PC housing

Options (continued)
-HS Hermetically sealed relays, rated 2A @ 117Vac non-inductive or 1A @ 28Vdc (not available with CSA)
-IO Indicator output 0-1V @ 1mA for input spans of up to 1V; for inputs more than 1V, the indicator output is equal to the input
-LSA Low input span (5mV)
-MR Manual reset (for customer supplied external pushbuttons)
-RE External relay rated 5A at 28Vdc
-RF* RFI/EMI protection rated at 50V/m - ABC = 1% F.S. as defined by SAMA Standard 33.1 (when -RF option is selected, the -RE option must be specified)
-TT Ten-turn lockable dial with vernier scale for setting trip point(s)
-UD Upscale open input drive

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 / Input / Output / Power / Options / [Housing]
Model number example: MVA / 0-100MV / SH1 / 117AC / -AD / [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.

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 means the relay is energized in Normal state, and de-energized only upon alarm or power loss to the unit. Combinations of Failsafe and Non-Failsafe dual alarms are possible in the same unit.

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