

- \* NO EXTERNAL POWER NEEDED
- \* POWERED DIRECTLY FROM 4 TO 20 mA SIGNAL
- \* ONLY 4 VDC DROP
- \* 3 AMP SPDT CONTACT
- \* HI/LO FAILSAFE ALARM ACTION
- \* LED ALARM STATUS
- \* ADJUSTABLE HYSTERESIS
- \* DIP-SWITCH CALIBRATION

### GENERAL DESCRIPTION

The Devar Model 18-232A Loop Powered Alarm is used to monitor a single 4 to 20 mA loop and provide a relay contact output when the input variable becomes too high or too low. The 18-232A requires no external power, and is powered directly from the 4 to 20 mA input signal, requiring only 4 Volts from the loop for operation.

The Model 18-232A provides, as an output, a set of 3 Amp, single pole double throw relay contacts. The relay is operated in the failsafe mode, with the relay coil energized during normal operation and de-energized during alarm. In an addition to the relay output, a red LED, located on the face of the 18-232A, lights up indicating an alarm condition. Alarm action, "HI" or "LO", is selected by means of an internal DIP switch.



This DIP switch is also used to select a hysteresis of 1, 2, 4, 6, 8, or 16 percent. The alarm trip point is set by means of a multi-turn pot, accessible from the face of the 18-232A. As a special feature, the 18-232A provides a 0 to 1 Volt, trip point voltage between the "+CAL" and "-CAL" output terminals. By reading the voltage at this point, the trip point setting is precisely determined, 0 to 1 Volt representing 0 to 100% of input.

An optional latching feature can be provided upon request. When the latching feature is provided, a momentary push button switch is added at the top of the 18-232A housing. Once the 18-232A goes into the alarm condition it will remain in the alarm condition until the push button switch is depressed.

# SPECIFICATIONS

MODEL 18-232A

## INPUT

4 to 20 mA; Voltage Drop 4.0 VDC @ 20 mA

## ALARM TRIP POINT

Range: 0 to 100%; Readable as 0 to 1.00 VDC, Signal at Terminals

Resolution: 0.1% Span typical, continuous on 15 Turn Pot

Trip Point Voltage: ±0.1% Span Typical representation of True Trip Point

Minimum Trip Point: 2% of Span

## ALARM ACTION

Hi/Lo; DIP Switch Selectable (Fig. 2)

## REPEATABILITY

0.1% Span

## HYSTERESIS

1, 2, 4, 6, 8 or 16%; DIP Switch Selectable (Fig.2)

## RELAY CONTACTS

SPDT, 3 Amps @ 28 VDC or 117 VAC Resistive

## MATERIAL

Painted Tin Plated Steel

## BREAKDOWN VOLTAGE

500 VRMS

## LIFE

1 Million operations @ 1 Amp, 28 VDC

## OPERATION

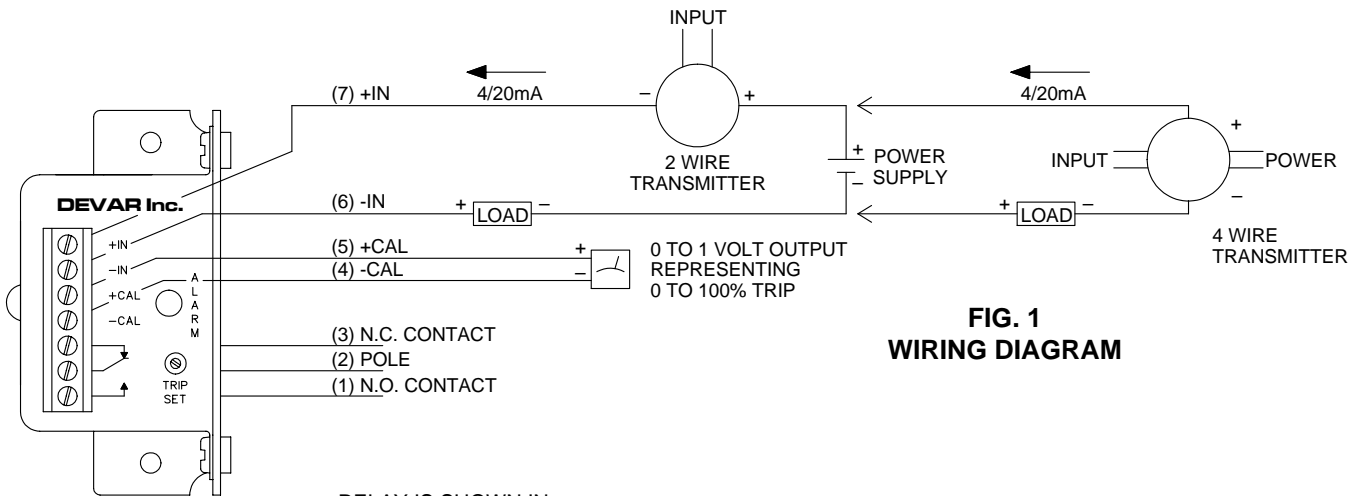
Failsafe, Coil normally energized, de-energizes on alarm

## MOUNTING

Surface or SnapTrack Bracket included (-M31S)(Fig. 3)

## OPTIONS

- M31D DIN Rail Mounting Bracket
- M42 Water tight 1/2" NPT Hub (for -NE4 Housing)
- M37A Explosion Proof Housing
- NE4 NEMA 4X Housing
- M36 2" Pipe Mount (for -M37A Housing)
- M13S Stainless Steel Tag
- L Latching Alarm
- T Low Temperature (-40° to 140°F)

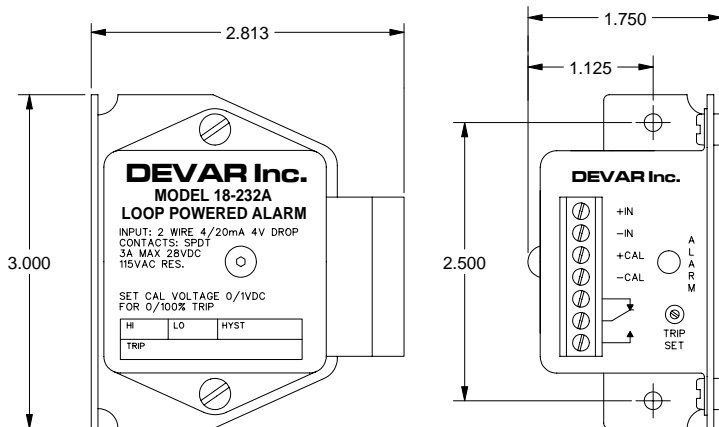


**FIG. 1**  
**WIRING DIAGRAM**

RELAY IS SHOWN IN DE-ENERGIZED OR ALARM CONDITION

SWITCH	1	2	3	4	5	6	7	8
ALARM	HI	O	1	1	O			
	LO	1	O	O	1			
% DEAD BAND	1				1	1	1	1
	2				O	O	O	1
1	4				O	O	1	O
	6				O	1	O	O
O	8				1	O	O	O
	16				O	O	O	O

**FIG. 2**  
**DIP SWITCH CALIBRATION**



**FIG. 3**  
**GENERAL DIMENSIONS**

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