

# Loop-Powered, Dual Set-Point Relay Output Limit Alarm Mestec-1150

Mescon's MESTEC-1150 is the world's only Loop-Powered dual set-point limit-alarm. It combines the current loop self energizing operation with LED status indication. The dual independent set-points provide relay contact closure. The Green, Yellow and Red LEDs provide loop signal status indication. The 1150 operates in series with a 4-20mA current-loop signal without the need for any external power source.



## FEATURES:

- 4-20mA current-loop system
- Unique Loop Powered operation. No power supply needed !!!
- Dual set point relay output
- Input signal status indicator

## SPECIFICATIONS:

Input Current Span .....	4-20mA
Power Supply .....	None required
Set-point Adjustment .....	0-1.00 V, corresponding to 0-100% of the 4-20mA input range
Maximum Voltage Drop ....	< 5.0 Volts for 1150-1 (@20mA) < 6.0 Volts for 1150-2
Set-Point Hysteresis .....	< 0.25% std. other values are optional
Repeatability .....	better than $\pm 0.1\%$ of span
Maximum Response Time ..	< 300mS for a status change
Display .....	3 LEDs: Red, Green, Yellow
Output Relay .....	2 x SPDT rated: 0.3A/230V for 1150-1 4.0A/230V for 1150-2
Analog Output .....	0-1.00 VDC, non-isolated
Operating Temperature .....	- 20°C to 70°C (0-160°F)
Humidity .....	0-95%RH, non-condensing
Mounting .....	Din rail 35 mm, or panel (with adaptor)
Enclosure.....	Plastic, High density 23 mm wide.

*All specifications are subject to change without notice.*



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## Wiring Instructions:

The 1150 has Input, Output and TEST terminals :

- A. The input terminals (terminals 1 & 2)
- B. The output terminals: terminals 5 thru 8 and terminals 13 thru 16.
- C. The TEST terminals (terminals 9 thru 12)  
The TEST terminals are used for alarm set-point adjustments and periodic instrument calibration.

1. Make the input connections as follows:  
Terminal 1: 4-20mA current flowing in INPUT +  
Terminal 2: 4-20mA current flowing out INPUT -
2. Make the output connections as follows:  
Terminal 5: Relay A, Normally open  
Terminals 6 and 7: Relay A, Common  
Terminal 8: Relay A, Normally closed  
Terminal 13: Relay B, Normally open  
Terminals 14 and 15: Relay B, Common  
Terminal 16: Relay B, Normally closed  
Note: Above assumes no-alarm conditions.

## Adjusting The Alarm Set-points:

The circuitry of the 1150 generates a 0-1.00V signal corresponding to 0-100% of the 4-20mA input signal. It may be measured between terminals 10(-) and 9(+). The set-point values are generated by potentiometers, whose wiper may rest at any voltage value between 0V and 1.00V, which sets the trip level for the internal circuitry.

Use terminals 10, 11 and 12 as follows:

1. Connect a digital voltmeter between terminals 10(-) and 11(+). The Voltmeter should be battery powered or else, galvanically isolated from the 4-20mA signal. By adjusting the SET-A potentiometer between 0V to 1.00V, relay A is set to trip between 0-100% of the input signal (where 1.00V represents 100% and 0.50V represents 50%).
2. Similarly, adjust set-point B using terminals 10(-) and 12(+) by turning the SET-B potentiometer.

EXAMPLE: Input signal is 4-20mA and the desired trip points are at 8.00mA and 14.00mA.

1. Turn SET-A pot. until voltage between terminals 10 and 11 reads  $(14-4) \times 1000/16 = 625\text{mV}$ . This value represents 62.5% of the input span.
2. Turn SET-B pot. until voltage between terminals 10 and 12 reads  $(8-4) \times 1000/16 = 250\text{mV}$ . This value represents 25.0% of input span.

Adjust the switches' position to reflect the desired Hi/Lo alarm conditions for each of the set points A and B, as per the side label below:

NOTE: For Hi alarm A, turn DIP SW(3) to ON position.  
For Lo alarm A, turn DIP SW(1) to ON position.  
For Hi alarm B, turn DIP SW(4) to ON position.  
For Lo alarm B, turn DIP SW(2) to ON position.

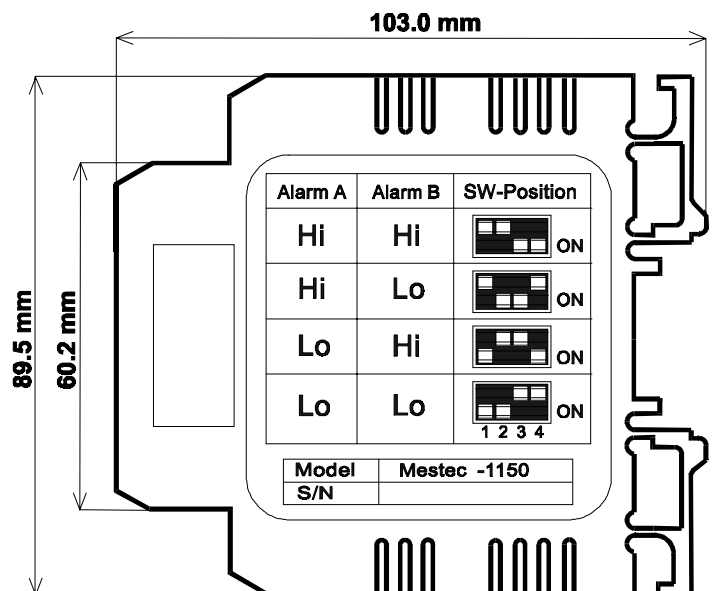
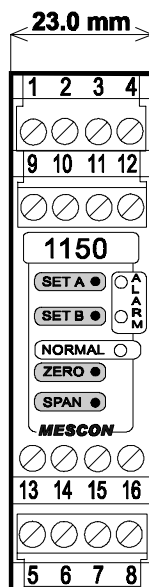
## ORDERING INFORMATION

Mestec -1150 - X

Mestec -1150 -X

1 = 0.3 Amps

2 = 4.0 Amps



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