

# MS817

**Signal Conditioner & Pulse Isolator**  
Installation and Operating Instructions



**KESSLER-ELLIS PRODUCTS**

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**Description:**

The model MS817 is a signal conditioner which permits the user to condition and scale the input pulses from a pulse producing sensor into a high level output where each pulse represents an engineering unit of measure.

Several pulse input types are supported including magnetic pickup, contact closure, and an isolated pulse input.

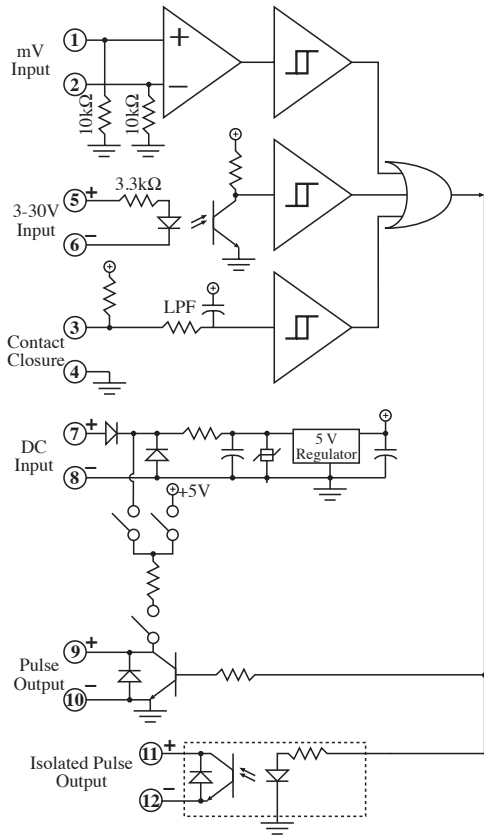
The pulse output is a nominal square signal.

The pulse output is available in isolated and non-isolated versions. User selections include output pulse and internal pullup resistors. The user may select his pulse output configuration by means of a dip switch.

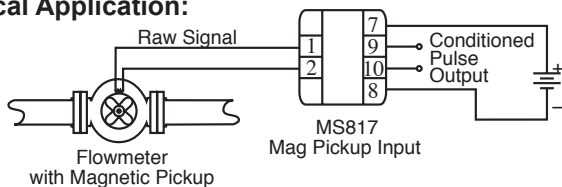
The unit is powered to 8 - 35 VDC. Reverse polarity protection is provided. A power indicator is provided.

The unit is available in enclosures intended for either DIN rail, NEMA4X or Explosion Proof.

**Simplified Block Diagram**



**Typical Application:**



**Specifications:**

**Pulse Input:**

Isolated Pulse:

- Logic 1 (high): 3 - 30 VDC
- Logic 0 (low): 0 - 1 VDC
- Input Frequency Range: 0-10000 Hz
- Input Impedance: 3.3 k Ω
- Reverse Polarity Protection
- Isolation Voltage: 500 V

Contact Closure:

- Switch Debounce: 40 CPS maximum count rate
- 10000 ohm internal pullup to 5 VDC

Magnetic Pickup:

- Sensitivity: 30 mV p-p
- Bandwidth: 0-3500 Hz
- Over Voltage Protection to 30 VDC
- 10 Kohm input resistance

**Pulse Output:**

Pulse Duration: Nominal 50/50 duty cycle

Open Collector Pulse:

- Maximum Voltage: 48 VDC
- Maximum Current: 100 mA @ .1.5 VDC (typ.)
- Max. Output Speed: 10 kHz
- Reverse Polarity Protection
- Overcurrent Protection
- Jumper selectable for 5 V and 24 V pulse output

Isolated Pulse:

- Maximum Voltage: 30 VDC
- Maximum Current: 10 mA
- Max. Output Speed: 1 kHz
- Isolation Voltage: 500 VDC
- Reverse Polarity Protected

**Power Input:**

- Input Voltage Range: 8.5 to 35 VDC
- Supply Current: 25 mA (nominal)
- Reverse Polarity Protection
- Transient Protection

**Pulse Scaling:**

NONE - Output is a conditioned version of the pulse input

**Mounting Styles**

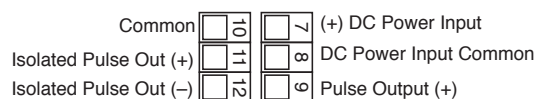
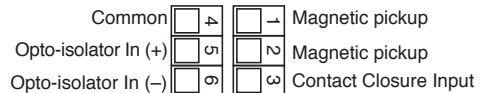
DIN Rail Mount: Plastic enclosure with a snap fastener for fitting to DIN 46 277 and DIN EN 50 022 assembly rails.

NEMA 4X: 4.92" x 4.92" NEMA 4X Enclosure for wall mounting.

Explosion Proof: Aluminum enclosure for:  
Class I, Division 1, Groups B, C & D  
Class II, Division I, Groups E, F & G.

Listing: CE Compliant

**Wiring:**



# INPUT & OUTPUT SETTING

## REMOVING THE CASE:

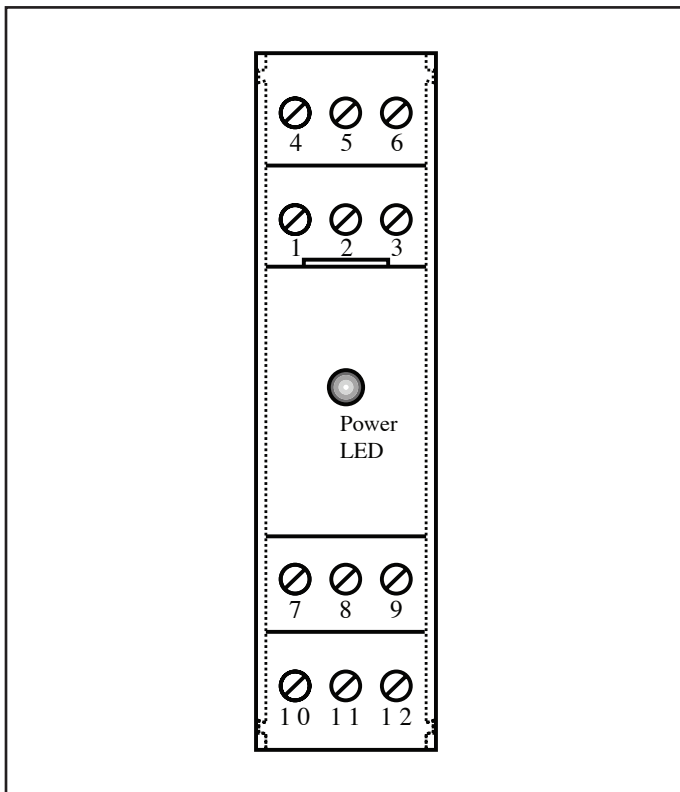
The case must be removed to change switch settings. To remove the case proceed as follows:

Refer to FIGURE 1. Using finger tips, carefully pry the case away from the terminal blocks (as shown with dotted lines).

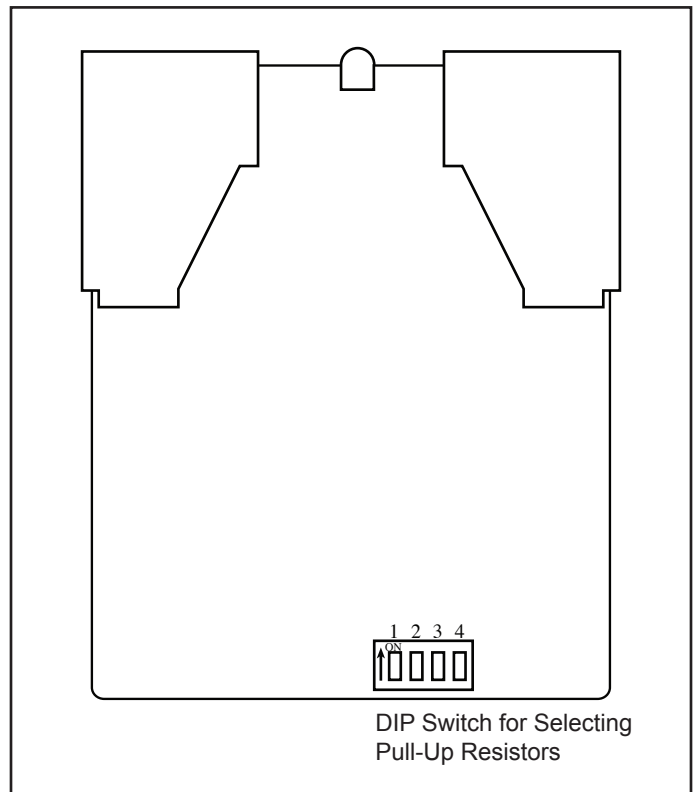
Pry far enough to release the restraining clips on both sides of the case.

Press up on terminal block with thumbs. The assembly will pop out allowing it to be removed from case.

**FIGURE 1**



**FIGURE 2**



## POWER LED INDICATOR:

The MS817 has a power LED to indicate the power status of the unit. The table below describes the various states for the LED.

POWER LED	MEANING
OFF	The unit is off.
ON (constant)	The unit is loop powered.

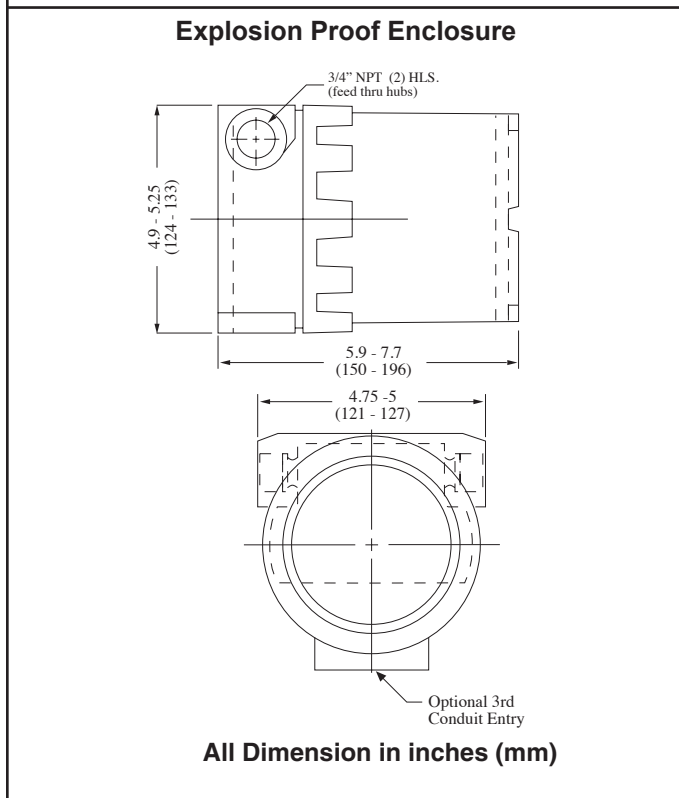
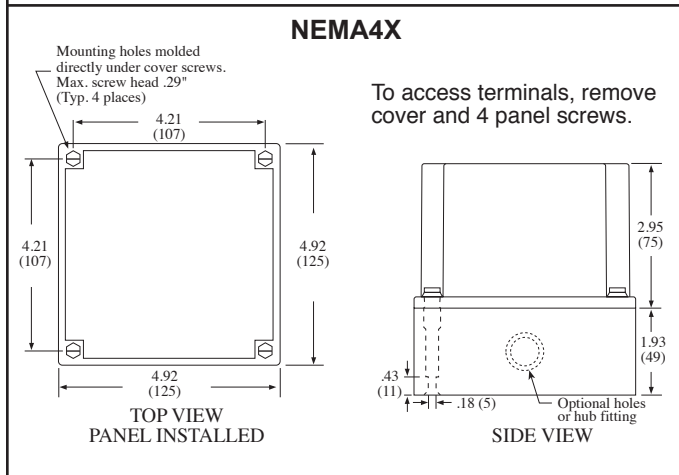
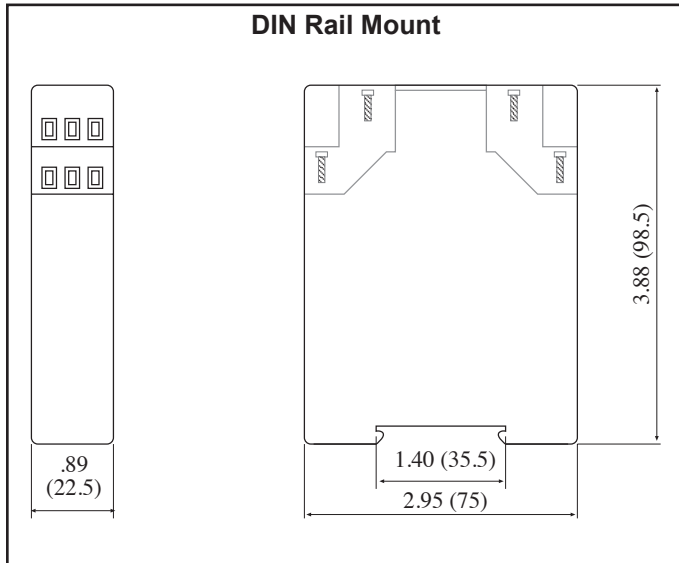
## INTERNAL PULLUP RESISTOR VOLTAGE

(for pulse output)

Internal pullup resistors are configurable with dip switch settings. Refer to the following tables to configure the unit for your application:

S3	S4	Pulse Output Voltage
ON	OFF	5 VDC
OFF	ON	24 VDC
OFF	OFF	Open Collector

**Dimensions**



**WARRANTY**

This product is warranted against defects in materials and workmanship for a period of two (2) years from the date of shipment to Buyer. The Warranty is limited to repair or replacement of the defective unit at the option of the manufacturer. This warranty is void if the product has been altered, misused, dismantled, or otherwise abused. ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARE EXCLUDED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE



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**Ordering Information**

Example MS817 1 B ET

Series \_\_\_\_\_

Output Type \_\_\_\_\_  
1 = Open Collector & Isolated Pulse (STD)

Mounting: \_\_\_\_\_  
B = Nema 4X  
C = Explosion Proof  
D = DIN Rail

Options: \_\_\_\_\_  
ET = Extended Temp: -4° to 185°F (-20° to 85° C)  
T = Third 3/4" conduit entry for Explosion Proof Housing  
H2 = 0.875" Hole for NEMA4 mounting style  
HF2 = 0.5" Female NPT Hub fitting  
H3 = 1.125" Hole for NEMA4 mounting style  
HF3 = 0.75" Female NPT Hub fitting

Accessories: (add to end of part number)  
DR-4 = 4" DIN Rail