

- \* INPUT / OUTPUT SIGNAL ISOLATION
- \* DIP SWITCH CALIBRATION
- \* RFI PROTECTED
- \* 0.1% ACCURACY
- \* INPUT & OUTPUT ISOLATION



## GENERAL DESCRIPTION

Where space and cost are determining factors, the Mini-Pak Transmitter line is the logical choice. This highly accurate (0.1%) fully RFI protected unit accepts input from mV or thermocouple sensors. These signals are then converted to an output current, proportional to the input signal. This current output is fully compatible with applications for recording, controlling, or interfacing with process control data acquisition systems. The Mini-Pak *two wire transmitter* may be mounted in an area where power is not available. It provides an output current of 4 to 20 mA proportional to the input signal. Its output signal loop is designed to connect with only two copper wire leads that will carry the power to operate the transmitter from a power supply, and also the output current. The output current, proportional to the input signal, is then used for recording, computing, or controlling.

The unit has reverse supply polarity protection and is designed to operate with a wide range of supply voltages (10 to 44 VDC). An important feature allows monitoring of the output during calibration *without disconnecting the output wiring*. By placing a meter between the (+) output terminal and the terminal marked "M" the current output may be observed directly.

Cold Junction Reference Compensation for the desired TC is selected via DIP-style switches and may be changed easily by the user. Signal offset, span and TC break protection is also switch selectable. The 18-215A is input/output isolated and fully RFI protected. An approximate 5:1 signal linearization improvement is also available.

# SPECIFICATIONS

## INPUT:

Milli-Volt or Thermocouple:

Grounded or Ungrounded

Standard Input Span, Trimpot Adjustable. Isolated.

- 18-215-3            4-40 mV Span (Stock)
- 18-215A-1        1-10 mV Span
- 18-215A-2        2-20 mV Span
- 18-215A-4        8-80 mV Span
- 18-215A-5        16-160 mV Span

Offset Signal: 1 to 31 mV, 1 mV steps±

T/C Reference Junction Comp:

Type: J, K, T, R, S, E (Switch Selectable)

Direction of Input:

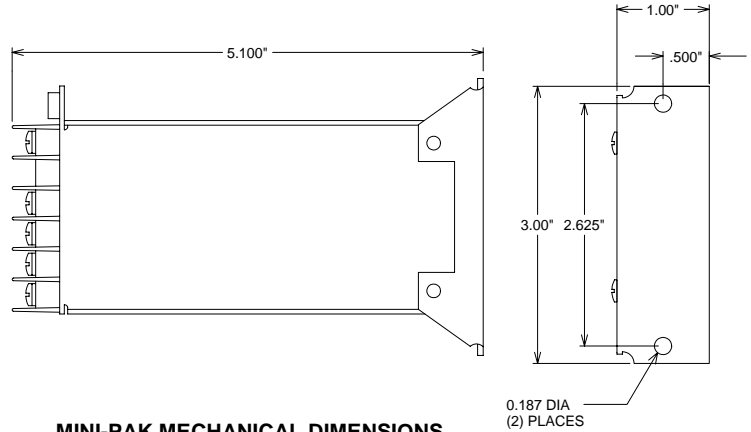
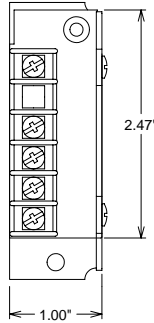
Direct or Reverse (Switch Selectable)

Break Protection:

Up or Downscale (Switch Selectable)

Source Current:

8 nA Max.



MINI-PAK MECHANICAL DIMENSIONS

## OUTPUT:

Range: 4 to 20 mA, 700 Ohms (24 VDC Power)

10 to 50 mA, 240 Ohms

Power Requirements:

10 to 44 VDC Maximum

(10 VDC + (R Load × Current Output))

Limit Supply to 30 VDC for

Intrinsically Safe Operation

Supply Effect:

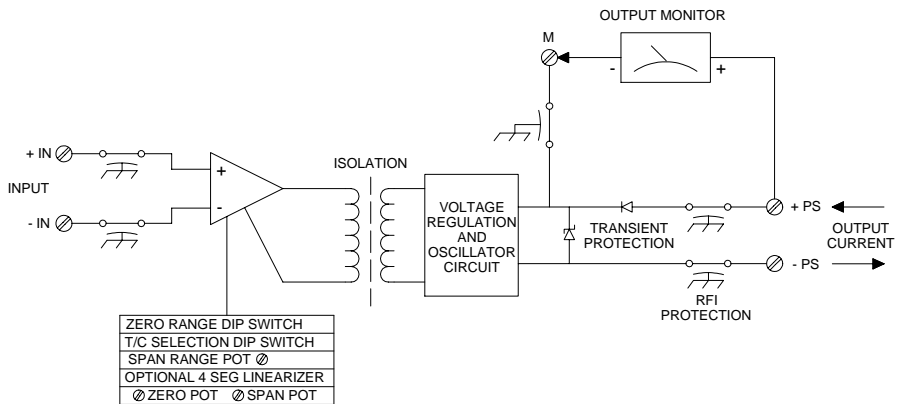
0.01% Span/Volt

Response Time:

<60 mS

Field Connections:

Allows reading of current output without disconnecting output load



18-215A FUNCTIONAL DIAGRAM

## GENERAL SPECIFICATIONS

Calibrated Accuracy:

±0.1% of Span (includes combined effects of hysteresis, repeatability, and linearity; referred to mV input)

Frequency Response:

3db @ 9 Hz

Thermal Shift:

Less than 0.01% °F of Span

Ambient Temp: (Spec. limit -15°F to 185°F)

(-25°C to 85°C)

Max. Operating Limit (-40°F to 212°F)

Electrical Classifications:

Intrinsically Safe Class I

FM DIV 1, GRP A,B,C,D

Power Requirements:

OUTPUT	VDC	VMAX
4/20 mA	10V + (R LOAD × 0.02A)	44V
10/50 mA	10V + (R LOAD × 0.05A)	44V

Limit supply to 30 Volts for intrinsically safe operation

Stray Rejections:

Transverse: 30 dB @ 60 Hz

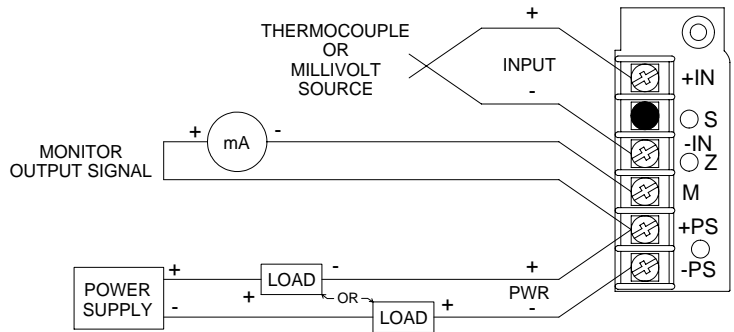
Common Mode: 115 dB @ 60 Hz

RFI:

Negligible from 20 Hz to 500 MHz per SAMA PMC 33.1-1978, 2abc

Option Codes:

- E25            Fast Response <10 ms
- E80            10 to 50 mA Output
- E88            Voltage Divider to 500 VDC
- HV            10-80 VDC Power (4 to 20 mA)
- L              Linearization (5:1 improvement)
- M14S        Stainless Steel Tag
- M31D        DIN Rail Mount
- M37A        Explosion Proof Housing
- M37I        3-1/2 Digit Indicator
- M37I-1V     3-1/2 Digit 1V drop
- M37I-4.5    4-1/2 Digit Indicator
- SC            Special Calibration
- ST            SnapTrack, 12" Long
- ST4          SnapTrack, 48" Long



18-215A FIELD WIRING DIAGRAM

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