

# Specifications

## Input Signals

**Frequency:** 2 Hz to 30K Hz

**Passive Sensor** (sine wave):

200 mV to 25 Vrms standard 2K ohm impedance, common mode rejection: 40 db, balanced input sensitivity measured at 1K Hz.

**Active Sensor** (TTL): duty cycle 20 to 80%, DC sensor power is 12 Vdc @ 100 mA [will power two (2) zero velocity sensors or one (1) bi-directional sensor].

**Bi-Directional Sensor:** One (1) frequency input (TTL input A) and the direction input (TTL Input B) from a bi-directional sensor. [High (+5v) indicates positive direction, and only single speed functions (Speed A) are useful when connected in this operation mode.]

## Power Supply

120 Vac  $\pm 10\%$ , 50-60 Hz  
24 Vdc (23-30 V) std. 750 ohm analog load or (20-30 V) with 600 ohm analog load. 15 watts maximum power.

## Temperature:

0 to 50°C operating  
-40° to 80°C storage

## Humidity:

90% relative and non-condensing

## Vibration:

Designed to meet MIL 810C, method 514.2. Procedure VIII. Fig. 514.2-6. Curve V (1.5 g's. 10-200 Hz).

## Shock:

Designed to meet MIL 810C. method 516.2. Procedure I Fig. 516.2-2 for ground equipment (30 g's. half sine).

## Displays:

4 1/2 digit with minus sign & decimals (positive direction indicated by no minus sign).

Bright .56" Red LED

Fixed or floating decimal (3 places)

Number range  $\pm 0.000$  to  $\pm 19999$

Three (3) LED function indicator lamps.

## Outputs

**Analog:** 0-20 mA or 4-20 mA, field selectable, output consists of one thousand 20  $\mu$ A steps. 750 ohm load maximum. Span pot-adjustable  $\pm 10\%$ . Zero and full scale set into memory in engineering units.

0-10 Vdc or 0-5 Vdc output obtained by selecting the 0-20mA mode and using a resistor across the input of the receiving instrument whose parallel combination with the input resistance of the receiver is 500 ohms or 250 ohms respectively.

**Serial Digital:** RS232C compatible transmit only ASCII. 300 baud. asynchronous with odd parity. 2 stop bits and carriage return. Transmission format selectable to transmit continuously or on any setpoint alarm. Transmission preceded by linefeed (Lf) and followed by carriage return (Cr). Each value consists of a space ( $\emptyset$ ), a two (2) digit identifier, a colon and a right justified (7) character field of data (4 1/2 digit number, sign and decimal) Plus (+) sign, and leading zeros indicated by spaces (bbb). The following are examples of the four (4) type transmissions:  
LfbDO:(display value) Cr  
LfbAO:(analog output value) Cr  
LfbS1: (SP 1 value) bS2 (SP 2 value) Cr (SP value = difference between setpoint and actual)

LfbDO: -19.999bAC: b199.99bSP1: bbb-999bSP2:bbb0.00Cr

**Relay Setpoints:** 2 relays standard, SPDT, 6A@ 28 Vdc or 240 Vac, 170W or 1800 VA. Selective relay logic: Energize or de-energize above or below setpoint, auto-reset with hysteresis selectable 0-99% in 1% steps, latching (reset by pushbutton located behind front panel door).

**Accuracy:** (including temp. variations)

Digital  $\pm 0.03\%$  typical ( $\pm 0.05\%$  max.) &  $\pm 1$  least significant digit

Analog  $\pm 0.3\%$  of range

## Response Times:

**Display** updated approx. every 1/2 sec. based on latest available input measurement(s).

**Serial Output:** Transmits each output value in approx. 1/2 second based on input measurements obtained at the time each value is transmitted.

**Analog & Relay Outputs** updated at a variable rate depending on the frequency. The typical & maximum response times are:

Above 100 Hz = 100 ms typical  
200 ms max.

2 to 100 Hz = 2 cycles + 30 ms typ.  
6 cycles + 30 ms max.

Below 2 Hz = Measurement considered 0  
For values computed from both signal inputs, a new computed value is updated each time either signal completes a measurement.

**Range of Normalization** (linear or inverse only)

Input frequencies A & B may be normalized by a number from  $.5000 \times 10^{-7}$  to  $2.000 \times 10^7$

Normalization is entered in the form:

+1XXXX

+1XXXX

Additional display normalization range  $\pm .001$  to 19999.

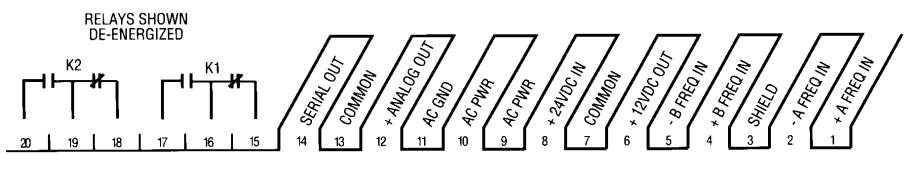
## Constant Storage:

Retained in EAROM and may be altered 1000 or more times.

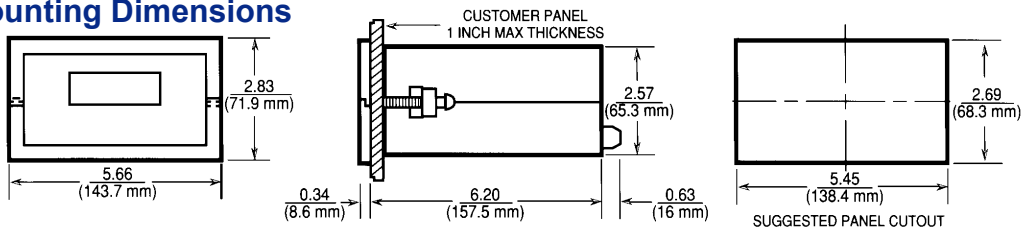
## Electrical References:

Circuit Common is isolated from AC power, AC ground and case. DC power, analog output and serial output are referenced to circuit common. Passive inputs are balanced. Active sensor inputs are referenced to circuit common.

## Electrical Connections



## Panel Mounting Dimensions



Dimensions in inches and (mm).