



# FX-HM SERIES - Analog Position Transducer

## 0 to 10 VDC ANALOG OUTPUT

The FX-HM series linear position transducer provides up to 15" (381mm) of measurement range in a subcompact plastic package. With a two point mounting system and a diameter of 1.5 inches, it is ideal for use in areas where space is a premium. The device employs a non-contacting hall effect internal sensor which permits use in applications where a very high cycle life is required. With an excitation voltage requirement anywhere in the range of 4.9 to 30 volts and a very low current requirement, the unit may be battery powered or operated from most standard instrumentation power supplies. The analog voltage output of nominally 0 to 10 VDC may be easily interfaced to most popular data acquisition, PLC and display devices. The FX-HM with a dynamic response capability up to 25 Hz over a 1.5" range is acceptable for use in measuring suspension travel, throttle position, machine mechanism monitoring and many other applications where space restrictions exist.



### SPECIFICATIONS

#### GENERAL

Measurement Range ..... See Range Table below  
 Sensing Device ..... Precision Hall Effect Device  
 Resolution ..... 0.024% of Measurement Range  
 Linearity ..... ±1.0% Full Scale  
 Repeatability ..... ±0.03% of Full Scale  
 Construction ..... Thermoplastic Body  
 Wire Rope ..... Ø.018 (0.46 mm) Nylon Jacketed Stainless Steel  
 Nominal Wire Rope Tension ..... 5 oz (1.5 N)  
 Weight ..... 1.2 oz (35gm)  
 Connections ..... Electrical cable with or without plastic connector  
 Life ..... 100,000,000 inches of travel

#### ENVIRONMENTAL

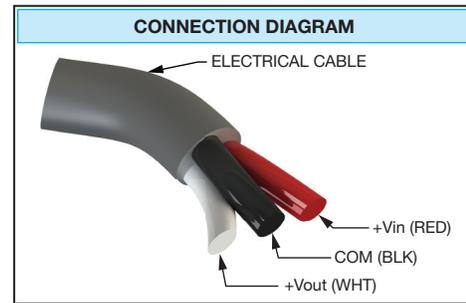
Operating Temperature ..... -25°C to 75°C  
 Storage Temperature ..... -50°C to 80°C  
 Operating Humidity ..... 95% R.H. non-condensing  
 Vibration ..... 15 G's 0.1 ms max.  
 Shock ..... 50 G's 0.1 ms max

#### INGRESS PROTECTION

Standard ..... IP-52 (NEMA 12)  
 Optional ..... IP-65 (NEMA 4X)

#### ELECTRICAL

Output ..... 0 to 10VDC +0.0 -0.2 VDC  
 Excitation Voltage ..... 4.9 to 30 VDC  
 Excitation Current ..... 30 mA max  
 Output Impedance ..... 10Ω max  
 Output Load ..... 100KΩ min  
 Protection ..... Reversed Polarity



### MODEL NUMBER CONFIGURATION

**FX-HM-** 0 - 1 2 3 - 4 5 6

### BASIC CONFIGURATION (FOR ALL RANGES)

**FX-HM-15-N1S-1PN**

0 RANGE
2.....2" (50 mm)
3.....3" (75 mm)
4.....4" (100 mm)
5.....5" (125 mm)
6.....6" (150 mm)
8.....8" (200 mm)
10.....10" (250 mm)
12.....12" (300 mm)
15.....15" (375 mm)

1 WIRE ROPE
N.....Ø.018 (0,45 mm) Nylon Jacketed Stainless Steel
S.....Ø.016 (0,4 mm) Stainless Steel

2 WIRE ROPE CONFIGURATION
1.....Eye Fitting, See FIG A
2.....24" (600 mm) Leader Wire with Fittings, See FIG B

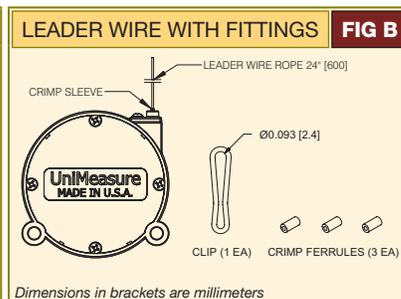
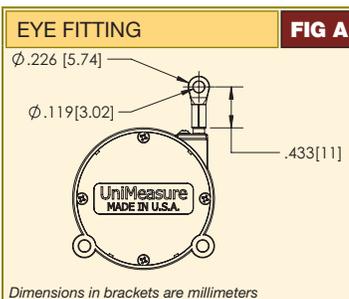
3 ELECTRICAL OUTPUT POLARITY
S.....Standard (Increasing output as wire rope is extended)

4 INGRESS PROTECTION
1.....IP-52 (NEMA 12) dust and dripping liquids
2.....IP-65 (NEMA 4X) dust and spraying water protection

5 ELECTRICAL CABLE
P.....0.15m (6")
Q.....0.5m (20")
1.....1m
2.....2m

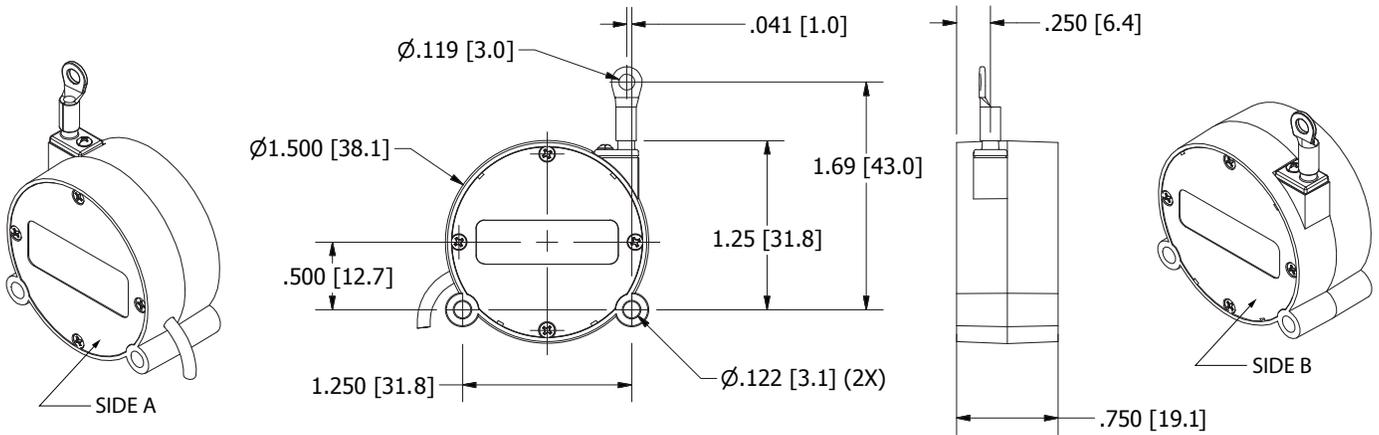
6 CONNECTOR
N.....No connector
C.....Cable to cable connector with mating connector See FIG C
K.....Cable to cable connector with <b>NO</b> mating connector See FIG D

For Option "K", mating connector with electrical cable is available as P/N 10248-xM where "x" is required length in meters



### DIMENSIONAL INFORMATION

#### FX-HM Series



(dimensions in brackets are millimeters)

### ACCESSORIES

#### 10443 – RIGHT ANGLE MOUNTING BRACKET

The Right Angle Mounting Bracket serves as a base for mounting the FX-HM transducer perpendicular to a surface. The transducer may be mounted in any of eight different wire rope exit orientations when mounted on the outside of the bracket (see figure) or any of five orientations when placed above the bracket mounting holes.

**ORDER MODEL NUMBER: 10443**



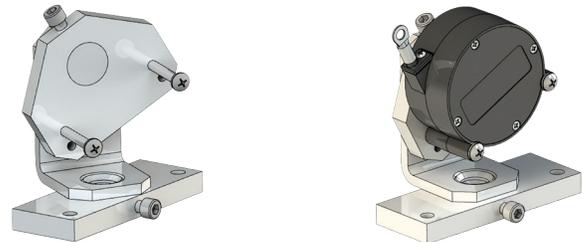
RIGHT ANGLE MOUNTING BRACKET

RIGHT ANGLE BRACKET WITH TRANSDUCER MOUNTED

#### 10442 – TWO AXIS SWIVEL BASE

With a capability of 360° rotation about the vertical axis and 260° rotation about the horizontal axis, the 10442 Two Axis Swivel Base allows easy setup of the FX-HM transducer. The axes may be locked in place after the transducer is oriented. Ideal for quick setups.

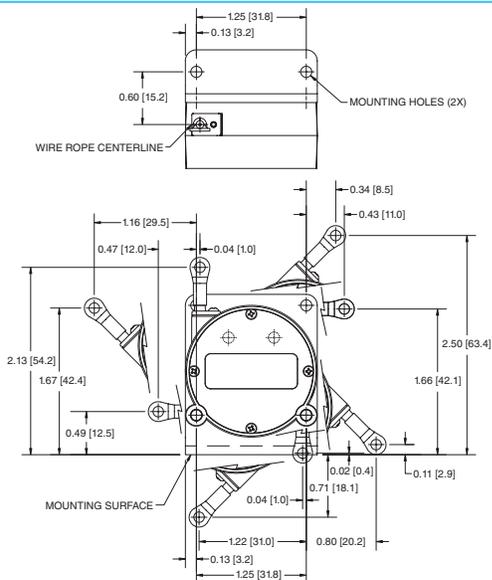
**ORDER MODEL NUMBER: 10442**



TWO AXIS SWIVEL BASE

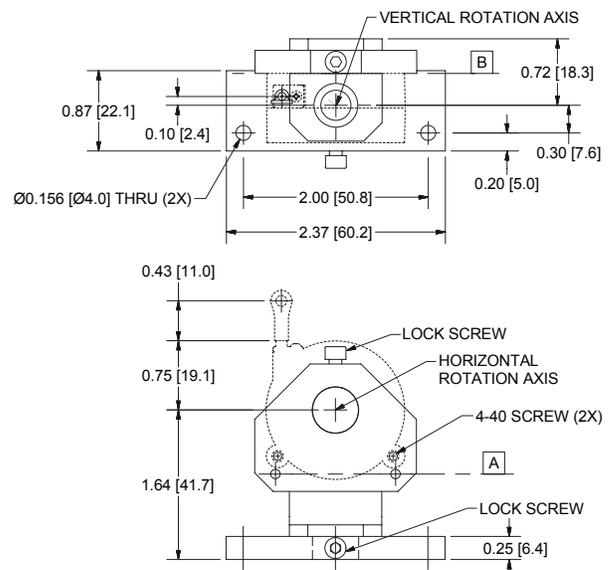
SWIVEL BASE W/ TRANSDUCER MOUNTED

#### 10443 – DIMENSIONAL INFORMATION



(dimensions in brackets are millimeters)

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