

IEM-422 Line Powered Industrial LVDT/RVDT Current Transmitter



- 115/230VAC line powered
- NEMA-13 rated enclosure
- 4 to 20mA output
- Zero, span and phase adjustable
- 2.5, 5 and 10kHz excitation frequencies
- Low noise, 3-pole Butterworth filter
- Master/slave capability
- Compatible with 4, 5 & 6 wire LVDTs/RVDTs
- Power and loop status LED's

DESCRIPTION

The **IEM-422** is a line-powered LVDT/RVDT compatible current transmitter, designed for industrial process control applications. The IEM-422 consists of a DIN rail mount power supply and an LVDT signal conditioner module, pre-configured to supply a 4 to 20 mA output from a 115 or 230 volt AC supply. The IEM-422 supplies an AC sine wave excitation to the LVDT and then demodulates and amplifies the LVDT output. A full-wave synchronous demodulator eliminates quadrature and harmonics to maximize external noise rejection.

The IEM 422 is housed in a rugged NEMA 13 enclosure to protect it from dirt, dust, water and other contaminants commonly found in industrial environments. Power, input and signal output connections are made easy by using conduit ports to make the appropriate connections. LVDT hookup is completed by mating to the box-mounted, sealed M/S-style bayonet connector. The internal signal conditioner is also capable of providing several different DC output voltage signals to accommodate varying PLC and analog I/O requirements. The frequency response is internally selectable, as is the master/slave function which allows synchronization of multiple IEM-422 transmitters to prevent beat frequencies and cross talk between transducers.

Also see our other LVDT/RVDT signal conditioner models:

- LVM-110** ±15VDC supply, ±10 and 0 to 10VDC outputs, open circuit board
- LiM-420** 24VDC supply, 4-20mA (3-wire) output, open circuit board
- ATA-2001** Line powered, DC voltage and current outputs, push-button programmable
- PML-1000** AC or DC supply, DC voltage, current and RS485 outputs, 1/8th DIN panel meter,
- MP-2000** Line-powered, analog DC & RS232 outputs, ¼ DIN, dual channel set point controller with bit-mapped display

Measurement Specialties, Inc. (NASDAQ MEAS) offers many types of sensors and signal conditioners. Data sheets can be downloaded from our web site at: <http://www.meas-spec.com/datasheets.aspx>

*Measurement Specialties acquired Schaevitz Sensors and the **Schaevitz™** trademark in 2000.*

FEATURES

- Rugged NEMA-13 rated enclosure
- Conduit ports for easy connection
- Pre-configured 4-20mA output signal
- Bolt holes for easy mounting
- Multiple LVDT master/slave capability

APPLICATIONS

- Steam turbine control systems
- Process control systems
- Pulp/paper industry
- Petrochemical process control
- Roller gap position

IEM-422 Line Powered Industrial LVDT/RVDT Current Transmitter

PERFORMANCE SPECIFICATIONS

| SPECIFICATIONS | |
|-----------------------------------|--|
| Supply voltage | 85 to 264 VAC @ 45-65Hz |
| Output range | 4 to 20mA |
| Zero output | 12mA |
| Zero adjustment range | ±30% of FRO |
| Temperature coefficient of output | ±0.02% of FSO per degree F [±0.036% of FSO per degree C] |
| Operating temperature range | -13°F to +185°F [-25°C to 85°C] |
| Current output noise & ripple | 25µA maximum |
| Current loop resistance | 700Ω maximum |
| Frequency response | 250Hz and 1kHz @ -3 dB (DIP switch selectable, 250Hz as shipped) |
| Non-linearity | ≤±0.02% of FS |
| Weight | 8.9 lbs [4.04 kilograms] |
| Transducer excitation | |
| Voltage | 1 and 3VRMS (DIP switch selectable, 3VRMS as shipped) |
| Current | 25mA RMS |
| Frequency | 2.5, 5 and 10kHz (DIP switch selectable, 2.5kHz as shipped) |
| Transducer requirements | |
| LVDT/RVDT input impedance | 50Ω minimum @ 1VRMS excitation ; 150Ω minimum @ 3VRMS |

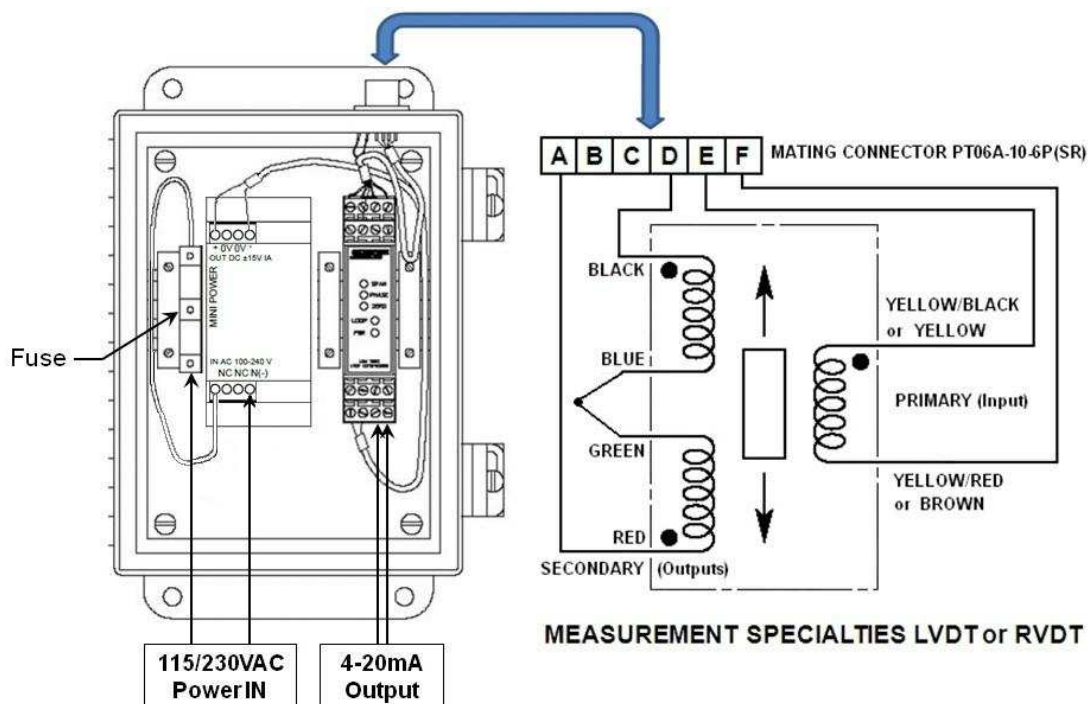
Notes:

All values are nominal unless otherwise noted

FSO (Full Scale Output) is the largest absolute value of the outputs measured at the range ends

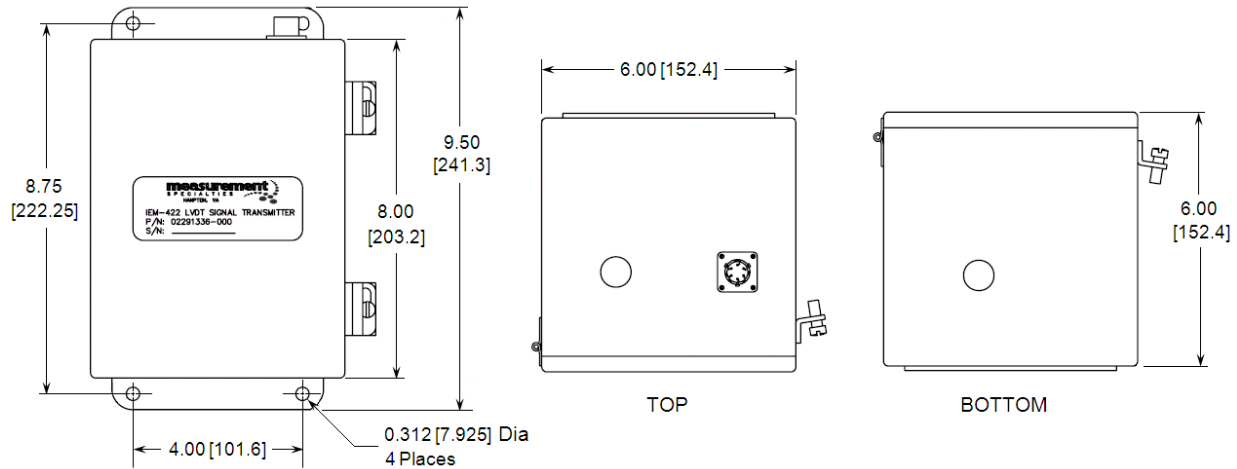
FRO (Full Range Output) is the algebraic difference in measured outputs at the ends of the range

WIRING



IEM-422 Line Powered Industrial LVDT/RVDT Current Transmitter

DIMENSIONS



Dimensions are in inch [mm]

ORDERING INFORMATION

| Description | Part Number |
|--|--------------|
| IEM-422 Current Transmitter | 02291336-000 |
| Mating connector for LVDT/RVDT, Amphenol/Bendix PTO6A-10-6P(SR) | 62101056-000 |
| Cable to connect HCA/HCI/GCA/R36AS to IEM-422, PTO6A-10-6S to PTO6A-10-6P (1) | 04290133-000 |
| Cable to connect MP Series LVDT to IEM-422, Stripped & Tinned to PTO6A-10-6P (1) | 04290594-000 |

(1) All cables are shielded, 10 foot long, and rated 80 °C [176 °F] operating. Consult factory for other lengths.

Download the Setup Guide at: <http://www.meas-spec.com/manuals.aspx>

TECHNICAL CONTACT INFORMATION

| NORTH AMERICA | EUROPE | ASIA |
|---|--|---|
| Measurement Specialties, Inc. 1000 Lucas Way Hampton, VA 23666 United States Phone: +1-800-745-8008 Fax: +1-757-766-4297 Email: sales@meas-spec.com Web: www.meas-spec.com | MEAS Deutschland GmbH Hauert 13 D-44227 Dortmund Germany Phone: +49-(0)231-9740-0 Fax: +49-(0)231-9740-20 Email: info.de@meas-spec.com Web: www.meas-spec.com | Measurement Specialties China Ltd. No. 26, Langshan Road High-tech Park (North) Nanshan District, Shenzhen 518057 China Phone: +86-755-33305088 Fax: +86-755-33305099 Email: info.cn@meas-spec.com Web: www.meas-spec.com |

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.