

4-20mA FLO Unit and Frequency Transmitters

Features

APPLICATIONS: The Hersey Meters Frequency Transmitters (FT1, FT2 or FT3) and 4-20mA FLO Unit allow meter flow rates to be electronically transmitted to any device that can utilize a 4-20mA output. These devices are typically used with information management or SCADA systems for data collection. Management systems such as these permit the tracking of flow rates in real time to better manage resources and control costs.

CONSTRUCTION: Each FT1, FT2 or FT3 is comprised of solid state, hall effect sensors and includes a 25' long, 22 gauge, three strand wire. Positive Displacement (PD), Fire service (MFMII), and Compound (MCTII) meters are manufactured with the potted board installed inside an aluminum disc and mounted under the register. Vertical Turbine (MVR) and Horizontal Turbine (Horizon) meters are manufactured with the sensors and board installed inside the sealed Translator Register. The 4-20mA FLO Unit consists of a molded ABS enclosure. All internal components are potted for moisture protection.

OPERATION: Unobtrusive and small, the Frequency Transmitters and FLO Units are integral parts of any information management or SCADA system. Hall effect sensors detect the polarity changes from the four pole magnet inside the meter as it rotates. The changes in polarity are sent as an electrical voltage to the 4-20mA FLO Unit. The box converts the voltage created by the drive magnet rotations into a proportional current that correlates with flow rate through the meter. A no flow condition through the meter correlates with 4mA and maximum flow rate correlates with 20mA. This data can be used by an information management system to efficiently track flow information over time.

INSTALLATION: The Frequency Transmitter is installed on the Hersey meter per the installation instructions included with the device. Wire connections are made to the proper screw terminals of the 4-20mA FLO Unit (see installation instructions provided with the device) and to the information system to provide power and data input (see the manufacturers' instructions for your system to insure proper connection). The 4 - 20mA FLO Unit should be installed in a dry environment or encased in a waterproof enclosure.

Each box is programmed for a specific type and size of measuring element but may be reprogrammed by Hersey Meters. Check the label located on the bottom of the 4-20mA FLO Unit for date, type and size of meter programming parameters. Contact Hersey customer service for reprogramming costs and information. Kits for installation or conversion of all existing meters consist of one Translator Register and one Frequency Transmitter in the appropriate register housing with one 4 -20mA FLO Unit programmed for that specific register. Additional 22 Gauge, three strand wire is available in spool quantities as a separate part number if needed.



4-20mA FLO Unit



FT 1

(sold only with new translator register)

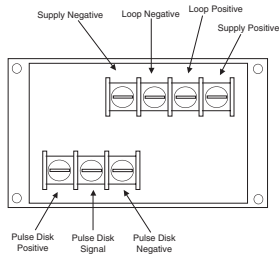


FT 2

Materials and Specifications

- **MODEL** Sold as Kits Only
Either FT1, FT2 or FT3 and 4 - 20mA FLO Unit,
FT1, for MFMII, MCTII and PD Meters FT2, for Horizon
FT3, Frequency Transmitter for MVR Meters
4-20mA FLO Unit, Converter Box for 4-20mA Signal
- **SENSORS** Hall effect potted within
an aluminum disc or contained inside the register
- **4-20MA FLO UNIT** Factory potted and programmed
with an ABS plastic enclosure
- **POWER SOURCE** 10V -35V
DC External Power (typically from information management,
SCADA, or Datalogger)
- **ELECTRONIC ACCURACY** 1% of full scale
- **TEMPERATURE RANGE** -40° to 140°F
- **MAXIMUM WIRE LENGTHS** FT to
4/20mA FLO Unit: 25', 22 gauge wire;
4-20mA FLO Unit to Information management system up to
one mile when utilizing 22 gauge wire and a 24V power supply.
Variations in wire gauges and supply voltages will affect
transmission distances.
- **DIMENSIONS** FT 1
for MFMII, MCTII, 400IIS and 500IIS PD Meter Style
- **DISC** 3.35" Diameter, 1/8"
Thick installed within machined register housing. FT 2 and
3: Horizon and MVR: Installed inside register 4-20mA FLO
Unit: Length: 3.8" X Width 2.2" X Height 1.8"
- **ACCESSORIES** 22 Gauge, three strand wire
is available in 1000' spools: Part #A13015

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The connection to the Frequency Transmitter is accomplished via triple screw terminals that are labeled and located on one side of the 4-20mA FLO Unit. Four labeled screw terminals located on the opposite side of the 4-20mA FLO Unit, permit easy connection for power input and data export. Maximum length of wire connection from the box to the information management device is up to one mile using 22 gauge wire and a 24V power supply. An outside power source, typically from the information management or SCADA system is required to power the 4-20mA FLO Unit and Frequency Transmitter.

The Frequency Transmitters and FLO Units allow easy retrofit of all MFMII, MCTII, Horizon, MVR, and 400II and 500II PD meters. Conversion kits are available for older Hersey meter models MFM and MCT to permit upgrades of existing installations while retaining the great flow characteristics found in Hersey fire lines and compound meters. Contact Hersey Meters customer service for information on your meter.

4 - 20mA Correlation Factors for Programming Purposes

Meter Type	Meter Size (in)	4 mA corresponds to (gpm)	20 mA corresponds to (gpm)
430II PD	5/8"	0	25
442II PD	3/4"	0	35
452II PD	1"	0	50
562II PD	1 1/2"	0	100
572II PD	2"	0	160
MVR 30	3/4	0	35
MVR 50	1	0	55
MVR 100	1 1/2	0	110
MVR 160	2	0	175
MVR 350	3	0	390
MVR 650	4	0	715
MVR 1300	6	0	1430
1 1/2 Horizon	1 1/2	0	160
2 Horizon	2	0	200
3 Horizon	3	0	750
4 Horizon	4	0	1250
6 Horizon	6	0	2600
8 Horizon	8	0	4400
10 Horizon	10	0	7000
2 MCT Mainline*	2	0	160
3 MCT Mainline*	3	0	320
4 MCT Mainline*	4	0	500
6 MCT Mainline*	6	0	1000
8 MCT Mainline*	8	0	1600
4 MFM Mainline**	4"	0	1250
6 MFM Mainline**	6"	0	2600
8 MFM Mainline**	8"	0	5000
10 MFM Mainline**	10"	0	7750
12 MFM Mainline**	12"	0	8000

*For Bypass information refer to appropriate PD meter size above.

**For Bypass information refer to appropriate meter information listed above.