



# Telog IFM-32

## DIGITAL INSERTION FLOWMETER

### APPLICATIONS

The Telog IFM-32 flowmeter is an easily deployed and cost effective flowmeter providing highly accurate, bi-directional flow measurement for water distribution and raw water pipelines.

The IFM-32 is an insertion flowmeter, enabling retrofit in existing networks without service interruption and available in various lengths for permanent or portable applications.

Combined with a Telog Ru-32A series RTU, the Telog IFM-32 enables monitoring of flows, pressures, pumps, valves and pressure transients in a single battery operated solution. All data captured is available for visualization, reporting and analysis in Trimble Unity Remote Monitoring, Telog Enterprise and Telogers for Windows application software for all water analysis applications.

The Telog IFM-32 can be used throughout the water distribution network:

- ▶ District and Zonal Metering
- ▶ Pressure Reducing Valves
- ▶ Pumping stations, water pipes
- ▶ Night flow monitoring and meter testing

### DESCRIPTION

The Telog IFM-32 insertion flowmeter consists of:

#### The electromagnetic sensor

The sensor contains the electromagnetic coil and stainless steel electrodes. All materials in contact with the water are approved and certified for use in drinking water. The sensor assembly is securely fixed to the stem, but can be replaced should damage occur during installation or handling.

#### Integral processing electronics (transmitter)

All flow processing electronics are contained within the IP68 housing fixed to the top of the stem. The IFM-32 has a wide, bi-directional measurement range from 0.066 ft/s to 16.40 ft/s (2 cm/s to 5 m/s) and its accuracy of  $\pm 0.0066$  ft/s ( $\pm 2$  mm/s) at flows up to 0.33 ft/s (10 cm/s) enables precise Minimum Night Flow monitoring (MNF).

#### Gland assembly and stem

Every unit comes with gland assembly, pressure measurement port, reinforced stem with an anti-ejection chain, locking nut and insertion point clamp to ensure correct and safe installation in pressurised water networks. Communication and optional external power input is via a single watertight military specification connector.

### WATER MONITORING SOLUTIONS

- ▶ Velocity measurement as low as 0.066 ft/s (2 cm/s)
- ▶ Accuracy up to  $\pm 0.0066$  ft/s (2 mm/s)
- ▶ Ease of installation with no interruption to supply
- ▶ IP 68 – Robust for underground deployment
- ▶ Works on pipe diameters from 2.75" to 80"

### BENEFITS

- ▶ Low velocity monitoring
- ▶ Measurement accuracy
- ▶ No interruption to supply
- ▶ Velocity profiling for improved accuracy
- ▶ Battery life up to 3 years
- ▶ Large range of pipe diameters
- ▶ Sanitary Conformity Certification
- ▶ Waterproof - IP68
- ▶ Digital sensor – accurate flow readings



# Telog IFM-32 DIGITAL INSERTION FLOWMETER

## DEPLOYMENT MODES

- Telog IFM-32 with Ru-32mA for flow only monitoring.
- Telog IFM-32 with Ru-32mA for:
  - Flow monitoring
  - Pressure Monitoring (x2) (e.g. upstream and downstream of PRV).
  - Optional inputs for monitoring of valve positions, pump runtimes and current loops (e.g. Water Quality monitoring).
- Telog IFM-32 with Ru-32imA for:
  - Flow monitoring
  - Pressure Monitoring (x2) (e.g. upstream and downstream of PRV).
  - Pressure Transient monitoring (x2) at each of the pressure monitors.
  - Optional inputs for monitoring of valve positions, pump runtimes and current loops (e.g. Water Quality monitoring).
- All above configurations equipped with 4G LTE modem for efficient and timely remote data transfer and near real time alarms in the event of problems.

## TECHNICAL SPECIFICATIONS

### Physical characteristics

- Measurement range: Bidirectional from 0.06 ft/s to 16.40 ft/s (0.02 m/s to 5 m/s), limited only by the stability of the probe in the flow. Fluid conductivity needs to be a minimum of 20 µs/cm
- Accuracy: - Point velocity: in average or smoothed flow:  $\pm 2\%$  if  $V \geq 0.33$  ft/s (10 cm/s) and  $\pm 0.0066$  ft/s ( $\pm 2$  mm/s) of reading value for  $V < 0.33$  ft/s (10 cm/s), - Average velocity and volume: refer to the standard ISO 7145-1982
- Units: Selectable: ft3, USGal, MegaUSGal, KiloUSGal, ImpGal, MegalmpGal, mm, meters, feet, litres, Megalitre, m3, seconds, minutes, hours, days, KiloUKGal, KiloFt3, Kilom3
- Power supply: - Internal lithium batteries as standard (+ External additional battery pack in option) - AC-DC external power supply in option
- Sensor: Information Calibration, serial N°, date of factory calibration, files historical, settings and user notes
- Calibration: Factory calibration against traceable standards
- Connector: IP68/NEMA 6 Watertight 10 way mil-spec connector during 72 hours
- Temperature range: - Electronics -4°F to 140°F (-20°C to +60°C), - Insertion element: non frozen water up to 140°F (+60 °C)
- Max Pressure: 290 PSI (20 bars). Integral ¼" BSP quick fit pressure connector.
- Installation: Connection on a 1" hot tap 1" NPT (BSP 25 mm available as an option)
- Security: Safety chain

- Insertion lengths: Standard size 11.81" (300 mm), 19.69" (500 mm), 27.56" (700 mm) and 39.37" (1000 mm) Mini size 7.87" (200mm)
- Dimensions: Standard size Sensor diameter 0.87" (22 mm), stem diameter 0.75" (19 mm), head diameter 4.17" x 3.15" (106 x 80 mm) Mini size Sensor diameter 0.6" (15 mm), stem diameter 0.48" (12.3 mm), head diameter 4.17" x 3.15" (106 x 80 mm)
- Weight: <7.7 lb (<3.5 kg)
- Construction: All materials in contact with the water are ACS, NSF/ANSI 61 & WRAS approved
- Insertion components: Stainless Steel 316. PVC NSF/ANSI61 approved, ACS approved
- External components: Stainless Steel 316. Bronze C2121- Probe head: Strengthened ABS.
- Ingress Rating IP 68/ NEMA6 immersed in 32.81" (10 meters) of water for 72 hours (with connectors secured)
- Warranty: 12 months

### Outputs configuration

- Encoder (AMI): Protocol Sensus Ui1203 (R20) encoder output protocol, fixed or variable format. Data - Fixed format: totalized net volume or totalized positive volume or totalized negative volume, - Variable format: serial number, totalized net volume, totalized positive volume, totalized negative volume and instantaneous flow rate.
- Battery life Up to 3 years of battery life for 1 measurement/minute. Optional external battery pack to increase battery life.
- Recording Telemetry Unity – The IFM-32 is used with Ru-32mA RTU.

### Support Software

Trimble Unity Remote Monitoring  
Telogers for Windows® version 6.60 or later  
Enterprise version 6.60 or later

### Accessories

The following accessories are available for the IFM-32.

- Gauge Internal pipe measuring gauges available for measuring internal pipe diameter.
- Hard carry cases for IFM-32 insertion flowmeters for safe transportation.
- Communications and programming cables.

For more details and specification of the Ru-32mA/Ru-32iMA RTUs used with the IFM-32, please see the associated datasheets.

## Parts and Ordering information

| Product Description  | Product Code    |
|--|-----------------|
| Insertion Flowmeter for pipes of diameter up to 39"/1000mm   | IFM-32-1000     |
| Insertion Flowmeter for pipes of diameter up to 7"/150mm with 1" NPT fitting.  | IFM-32-200      |
| Insertion Flowmeter for pipes of diameter up to 11"/300mm with 1" NPT fitting.   | IFM-32-300      |
| Insertion Flowmeter for pipes of diameter up to 19"/500mm with 1" NPT fitting.   | IFM-32-500      |
| Insertion Flowmeter for pipes of diameter up to 27"/700mm with 1" NPT fitting.   | IFM-32-700      |
| Insertion Flowmeter for pipes of diameter greater than 39" with 1" NPT fitting.  | IFM-32-Cust     |
| IFM-32 communication cable with flying leads for connection of meter to Ru-32. Cable length 2 meters/6.6 feet.                         | CU-IFM-32-AMI   |
| USB communication cable for programming an IFM-32 Insertion Meter.   | CU-IFM-PROG     |
| Pelicans waterproof case for IFM-32-200 and IFM-32-300 Insertion Flowmeters. Protects the meter while in transit.                      | PCASE-IFM-32-SM |
| Pelicans waterproof case for IFM-32-500 Insertion Flowmeters. Protects the meter while in transit. Dimensions 1060mm * 343 mm * 133mm. | PCASE-IFM-32-ME |
| Pelicans waterproof case for IFM-32-700 Insertion Flowmeters. Protects the meter while in transit. Dimensions 1280mm * 342 mm * 125mm. | PCASE-IFM-32-LG |
| Depth probe that allows assessment of actual pipe inner diameter for Insertion Flowmeters. Works for pipe diameters to 500mm/20".      | IDPTH-GGE-500   |
| Depth probe that allows assessment of actual pipe inner diameter for Insertion Flowmeters. Works for pipe diameters to 700mm/28".      | IDPTH-GGE-700   |
| Depth probe that allows assessment of actual pipe inner diameter for Insertion Flowmeters. Works for pipe diameters to 900mm/36".      | IDPTH-GGE-900   |

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