



Vision

Turbine Flow Meters

Turbine meter

Vision Series 3000 battery powered

DESCRIPTION

The small turbine meter VISION measurement technology is ideal for the accurate measurement of low viscous and non-aggressive fluids. The VISION 3000 series is most suited for the measurement of flow rates from 5 to 65 l/min. The turbine meters can be mounted in any position.

MEASURING PRINCIPLE

Turbine meters are indirect volumetric meters. When the fluid passes through, a rotor is activated and the movement is either electronically or mechanically transmitted outside. The rotor is turned by the fluid force, proportional to the flow rate. A coil detects the passage of the rotor and supplies pulses, which can be utilized for digital or analogue signal processing. The generated pulses are specified as the K-factor. The large number of pulses provides high resolution. As the mass of the turbine is very small the response time is very short. It is not necessary to install a straight length of pipeline at the upstream side of the meter.



SPECIFICATIONS

| | | | | | |
|--------------------------------|--|-----------------|---------------------|-------------------|-----------------|
| Type | | | | | |
| | VISION 3012 - COIL | | | | |
| Performance | | | | | |
| Flow rate | 5 – 65 l/min | | | | |
| Accuracy | ± 3% of reading | | | | |
| Repeatability | < 0.5% under the same operating conditions | | | | |
| Operating temperature | -20°C to 100°C | | | | |
| Operating pressure rate | max. 25 bar | | | | |
| Burst pressure | 200 bar | | | | |
| Pick up | | | | | |
| Pulse sensor | COIL (battery powered) | | | | |
| Input power | 2 – 5.5 V | | | | |
| Output signal | Push-Pull | | | | |
| Power consumption | approx. 2.2 µA @ 2V | | | | |
| K-factor | Version | Material | Nominal size | Flow range | K-factor |
| | VISION 3012 | Trogamid CX7323 | 12 mm | 5 – 65 l/min | 210 pulse/liter |



Badger Meter

| Material | |
|-----------------|-----------------------------|
| Housing | Trogamid CX7323 |
| Rotor | PPS Ferrite bound |
| Bearings | 2x Hostaform, Ball bearings |

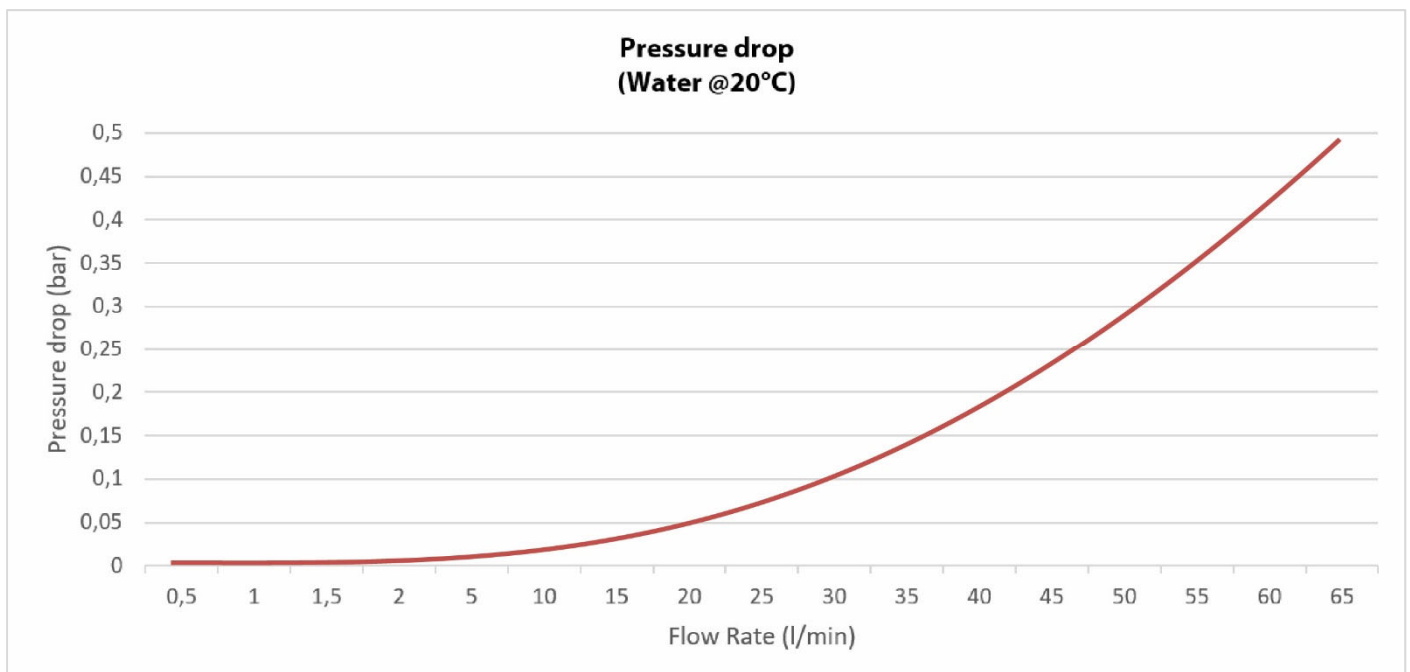
| Fluids | |
|-------------------|--|
| Viscosity | 0.8 – 16 mm ² /sec (mPas/cST) |
| Fluid type | Liquids |
| Filter | 20 to 40 micron recommended |

| Installation | |
|---|--|
| Nominal size DN | 12 mm |
| Mounting position | In any orientation |
| Electrical connection | 3 Pin (2.8 x 0.5) for MINI DIN Connector, EN 60529 |
| IP Protection class (DIN Connector) | IP67 |
| Mechanical connection | G 3/4", NPT 3/4" |
| Tightening torque for screwed connection | approx. 6 Nm |

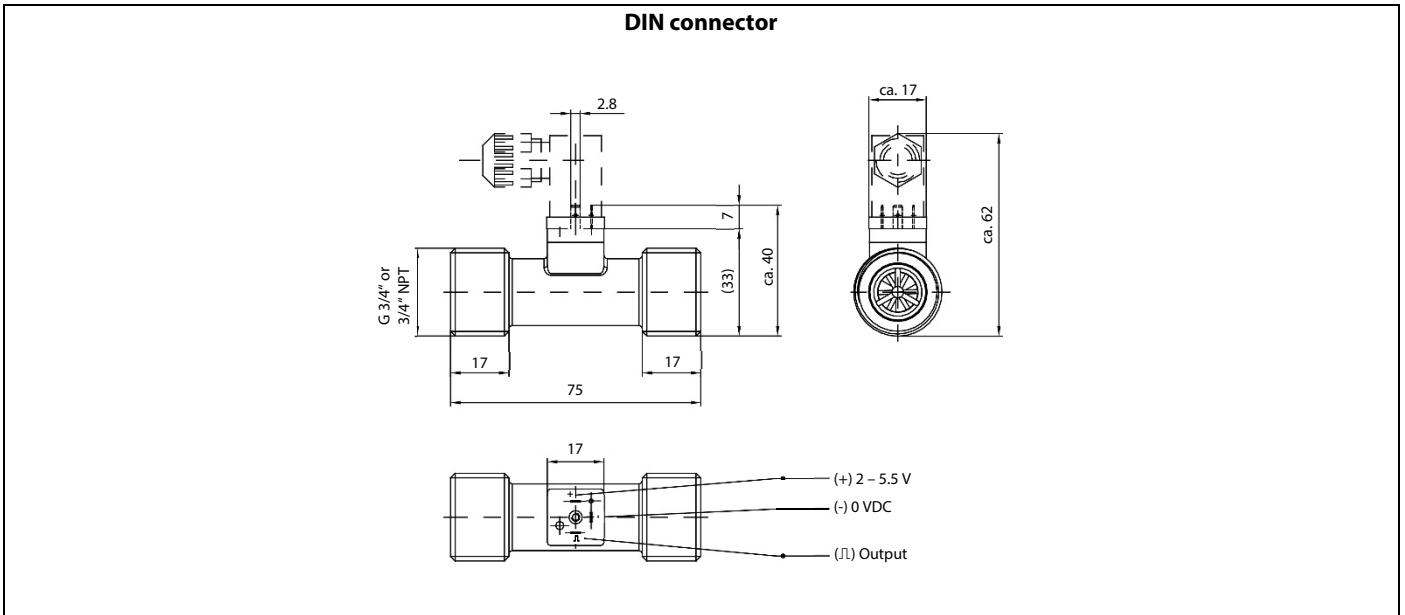
| Weight | | | |
|--------|-----------------|-----------|--------|
| | Housing | Connector | Weight |
| | Trogamid CX7323 | DIN | 35 g |

| Approvals | | |
|-----------|-----------------|---------------|
| | Housing | Approvals |
| | Trogamid CX7323 | KTW, ROHS, CE |

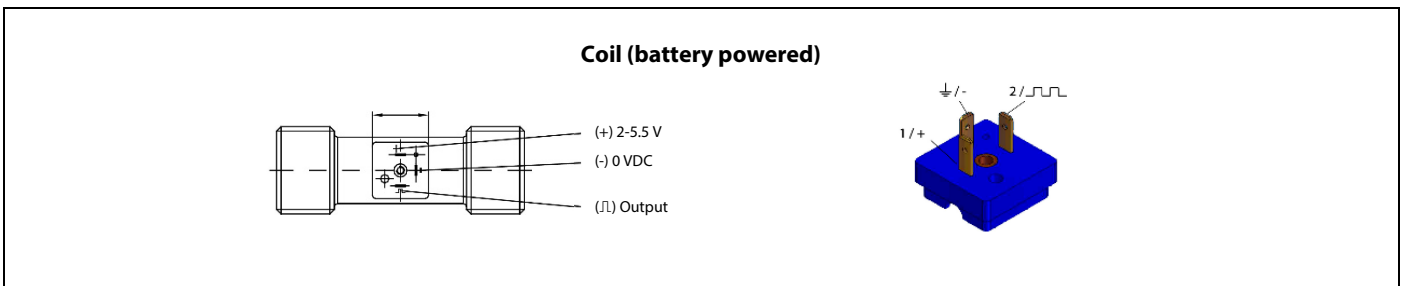
PRESSURE DROP



DRAWINGS




ELECTRICAL WIRING



ORDERING MATRIX - VISION 3000 – COIL + DISPLAY

| Select process and electrical connection | Code |
|--|----------------|
| Mechanical connector: G 3/4" Trogamid NPT 3/4" Trogamid | 56422 56423 |
| Electrical connection: COIL and DIN connector | -166 |
| Turbine model: VISION 3012 | -4F16 |
| Available displays see below | Display option |

| Ordering code displays: | | Code |
|---|---|--------|
| Remote mounted ILR-701T display (3 m cable) / Total / Flow rate <u>Example</u> shows display with turbine meter |  | -56703 |
| Remote mounted ILR-750T display (3 m cable) / Total / Flow rate / 4-20 mA output <u>Example</u> shows display with turbine meter |  | -56704 |
| RF-Display ILR 701T (transmitter + receiver) / Total |  <p style="text-align: center;">Receiver Transmitter</p> | -56700 |
| Meter mounted ILR-701T display / Total / Flow rate (Display including bracket) |  | -56701 |

| | | |
|---|--|--------|
| Meter mounted ILR-750T display / Total / Flow rate / 4.20mA output (Display including bracket) |  | -56706 |
|---|--|--------|

| Examples: | Code | | | |
|---|-------|------|-------|--------|
| VISION 3012-COIL G3/4" with DIN connector | 56422 | -166 | -4F16 | |
| VISION 3012-COIL G3/4" with ILR701T remote (3m cable) | 56422 | -166 | -4F16 | -56703 |
| VISION 3012-COIL G3/4" with ILR750T remote (3m cable) | 56422 | -166 | -4F16 | -56704 |
| VISION 3012-COIL G3/4" with ILR701T meter mount | 56422 | -166 | -4F16 | -56701 |
| VISION 3012-COIL G3/4" with ILR750T meter mount | 56422 | -166 | -4F16 | -56706 |
| VISION 3012-COIL G3/4" with RF ILR 701T | 56422 | -166 | -4F16 | -56700 |

DISPLAYS

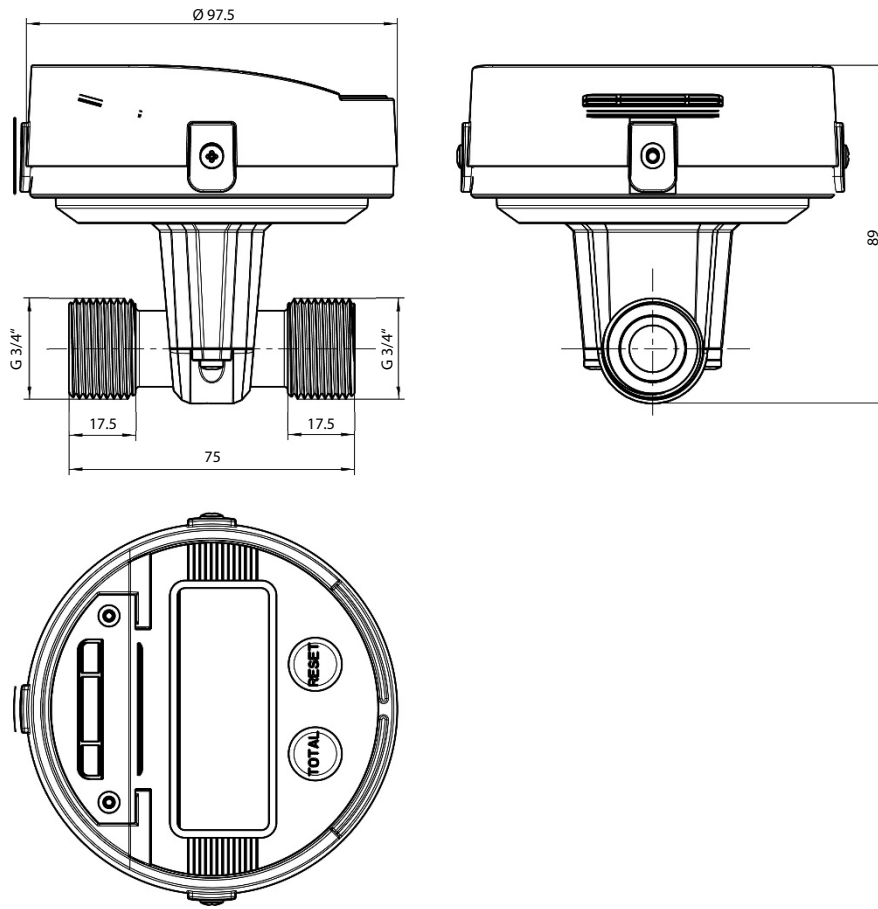
| Technical Data ILR 701T | |
|---------------------------------|---|
| Display flow | Actual flow: 6 digits |
| | Total flow: 11 digits, non-resettable 6 digits, resettable |
| Output | Analog output: / |
| | Pulse output: / |
| Display units | Liter, Pints, Quarts, Gallons |
| Input | Coil |
| Pulse input scale | 0.5000 – 2.0000 |
| Temperature | -20 °C to + 80 °C |
| Linearization (Optional) | 9 points |
| Protection class | IP 67 |
| Internal power supply | Battery CR123A Lithium, 3 VDC |
| Remote mount | Installation: Available with 3 m cable or as RF Display |
| | Weight: 230 g |
| Meter mount | Installation: Including bracket for the VISION turbine meter |
| | Weight: 155 g |

| Technical Data ILR 750T | |
|---------------------------------|---|
| Display flow | Actual flow: 6 digits |
| | Total flow: 11 digits, non-resettable 6 digits, resettable |
| Output | Analog output: 4-20 mA |
| | Pulse output: Scaleable |
| Display units | Liter, Pints, Quarts, Gallons |
| Input | Coil |
| Pulse input scale | 0.5000 – 2.0000 |
| Temperature | -20 °C to + 80 °C |
| Linearization (Optional) | 9 points |
| Protection class | IP 67 |
| Internal power supply | Battery CR123A Lithium, 3 VDC |
| Remote mount | Installation: Available with 3 m cable |
| | Weight: 340 g |
| Meter mount | Installation: Including bracket for the VISION turbine meter |
| | Weight: 275 g |

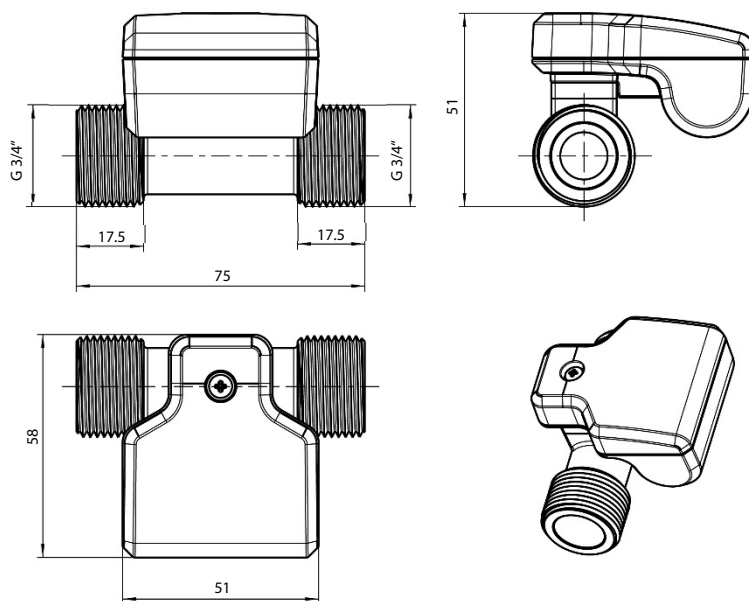
| Technical Data RF ILR 701T | |
|---------------------------------|--|
| Display flow | Actual flow: / |
| | Total flow: 11 digits, non-resettable 6 digits, resettable |
| Output | Analog output: / |
| | Pulse output: / |
| Display units | Liter, Pints, Quarts, Gallons |
| Input | Coil |
| Pulse input scale | 0.5000 – 2.0000 |
| Temperature | -20 °C to + 80 °C |
| Linearization (Optional) | 9 points |
| Protection class | IP 67 |
| Internal power supply | Battery CR123A Lithium, 3 VDC (Transmitter, Receiver/Display) |
| RF frequency | 2,4 GHz ISM |
| Radio range | 5 to 6 m |
| Receiver / Display | LCD Display with wall mounting bracket |
| Transmitter | Transmitter: Electronic board, battery powered CR123A Lithium, 3 VDC |
| | Installation: Will be mounted directly onto the VISION turbine meter |
| Remote mount | Installation: RF Display |
| | Weight: 210 g |

DISPLAY DRAWINGS

VISION 3000 with meter mount ILR701T display



VISION 3000 with RF 701T Transmitter



RF 701T Receiver

