

LFA - Battery powered inline ultrasonic liquid flow meters



fig. 1 : Model with remote EU

The models LFA 101 (single channel version) and LFA 202 are inline ultrasonic flow meter for filled liquid pipelines for applications like flow monitoring and custody transfer for filled liquid pipelines. The meter complies with requirements of EN ISO 4064.

The flow meter is powered by a built-in lithium battery with a nominal voltage of 3.6 V. The maximum battery capacity is not less than 19 Ah. Battery life is at least 10 years.

Technical Characteristics

1/ Line Sizes : DN 50; 80; 100; 125; 150; 200;250; 300; 500

2/ Flow speed range : 0.4 to 12 m/s

3/ Line pressure range : 1 MPa; 1.6 MPa; 2.5 MPa

4/ Ambient conditions : Temperature -25 to +60 deg C, Relative Humidity upto 100%

5/ Pressure drop : not more than 10 KPa

6/ Accuracy : 1% (for 2 channel version); 2% (for single channel version)

7/ Accuracy of time measurement : not less than +/-2 s per 24 hours

The device has following features :

- onboard battery with long life time
- two RS485 ports (one of them optical; compliant to IEC 62056-21) for connection to DCS, configuration, data transmission etc.
- local graphic display
- optional AMR features (GPRS / NBIoT)
- onboard / external pressure and temperature measurement and logging
- built in data logger for maintaining long term hourly, daily, monthly records as well as data on alarms, outages and their duration
- self diagnosis features and built in crystal calibrator feature for autonomous unmanned operation
- submersion sensor
- integrated or remote electronics unit
- threaded (for DN 50 to DN 100) or flanged (DN 50 to DN 400) process connections
- SS inline flanged section (IP 67) and polymer enclosure (IP68) for electronics unit



fig. 2 : Flow meter with Flanges



fig. 3 : Flow meter with threaded connections

The meter automatically creates and stores in its non-volatile memory the following logs for measured parameters (flow rate, accumulated flow, medium pressure and temperature)
 hourly - for each previous hour (4096 records);
 daily - for each previous day (2048 records);
 monthly - for each previous month (256 records).
 minute - for each previous minute (4096 records);

The flow meter records in separate archives:
 Alarms and errors (2048 records);
 intervention - configuration changes (2048 records).

Operational per second records (86,400 records) are formed on external media, in the mode of continuous transmission RS485 ports. The flow meter calculates and records the operating time, the time of partial incapacity, as well as the time of complete incapacity.

In case of power failure, the logs remain intact for not less than 100 years

Mounting on pipelines :

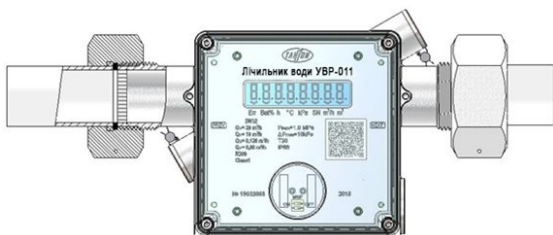


fig. 4 : With threaded connections

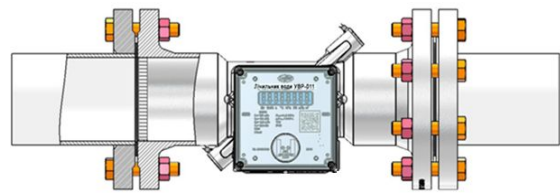


fig. 5: With flanges

Ordering Information :

Model : LFA 101

Nominal size (DN), mm

Type of connection: flanged or threaded;

Maximum pressure in the pipeline, MPa;

Pressure sensors: inbuilt or external

Temperature sensors: inbuilt or external

Flooding (immersion) sensor: whether needed

Display : graphic / LCD

Modem type: without modem / GPRS external / GPRS internal / NBloT external / NBloT internal

Type of antenna: without antenna / built-in antenna / remote installed antenna

Electronics unit: remote / integrally mounted

The flow meter complies to requirements of class M2 (mechanical conditions) and E2 (Electromagnetic conditions).



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