



RFLM1510

Radar Flow and Level Meter



FCC & CE APPROVED

EN 50293:2000

EN 61000-6-2, EN 61000-6-4:2007

EN 61000-3-2:2006+A1:2009+A2:2009

EN 61000-3-3:2008

EN 300 440-1, EN 300 440-2

UNDATEC Flow measurements

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PRODUCT DESCRIPTION

RFLM1510 flow velocity and level meter uses radar technology to provide precise contactless measurement of surface flow velocity, and ultrasonic robust sensor for measuring the distance from the sensor to the water level. Contactless radar & ultrasonic technology enables quick and simple sensor installation above the water surface, and requires minimum maintenance.

Standardized communication interface and protocol enable easy integration with existing telemetry equipment and SCADA systems. Integrated tilt sensor measures inclination angle of the sensor and the flow velocity measurement is automatically cosine-corrected according to the measured mounting tilt angle.

RFLM1510 flow meter is used to monitor flow velocity and level of open channels such as rivers, irrigation channels or sewer systems, and for monitoring and control of hydropower plants and wastewater treatment plants. The flow meter is also suitable for various mass flow metering applications in mining processing plants, industrial installations, and, due to operation without moving parts and robust mechanical design, is ideal for measurement of flammable fluids and harsh chemical applications.

RFLM1510 radar sensor is certified according to both European and American standards, and is being used worldwide.

The radar operates in K-band (at 24.125 or 24.200 GHz), and provides flow speed readings 20 times per second over serial RS-485 interface. Ultrasonic level sensor operates in frequency range between 20 kHz and 350 kHz.

HIGH LIGHTS

- Contactless, above the water, flow measurement
- Surface flow velocity measured with radar sensor
- Water level measured with ultrasonic sensor
- Wide velocity measurement range from 0,02m/s to 15m/s
- Distance measurement range from 0,5, to 10m
- Long range operation up to 10m above water level
- Compact, low-power design
- Wide input voltage range, suitable for solar applications
- Easy pole, wall or enclosure mounting
- RS-485 serial interface
- Optional SDI-12 support
- IP68-rated enclosure for outdoor applications and harsh environments)
- K-band 24.125 GHz or 24.200 GHz radar option
- Automatic mounting angle compensation (cosine correction)
- Configurable direction of the flow measurement
- PC application for radar setup and live flow monitoring
- Simple integration with existing SCADA or telemetry systems

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APPLICATIONS

Monitor flow velocity of open channels such as

Rivers
Lakes
Dams
Irrigation channels
Sewer systems
Hydropower plants
Wastewater treatment plants
Mining processing plants
Industrial installations
Measurement of aggressive fluids
Harsh environment.

DETAILED SPECIFICATIONS

GENERAL

Radar Type	K-band 24.125GHz/24.200GHz Doppler radar, 27 dBm EIRP
Beam Angle	12° Azimuth, 24° Elevation
Detection Distance	50 m
Speed Range	0,02 m/s to 15 m/s
Speed Resolution	0,01 mm/s
Accuracy	+/-0.01m/s (+/-1%)
Required minimum wave height	3mm
Ultrasonic Frequency	20 kHz to 350 kHz
Distance Range	0,5 m to 10 m
Distance Resolution	1 mm
Accuracy	+/- 2mm
IP Rating	IP68

INTERFACE

Serial Interface	1 x serial RS-485 half-duplex
Serial baud rate	1200 bps to 115200 bps
Connector	M12 circular 4-pin

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ELECTRICAL & MECHANICAL

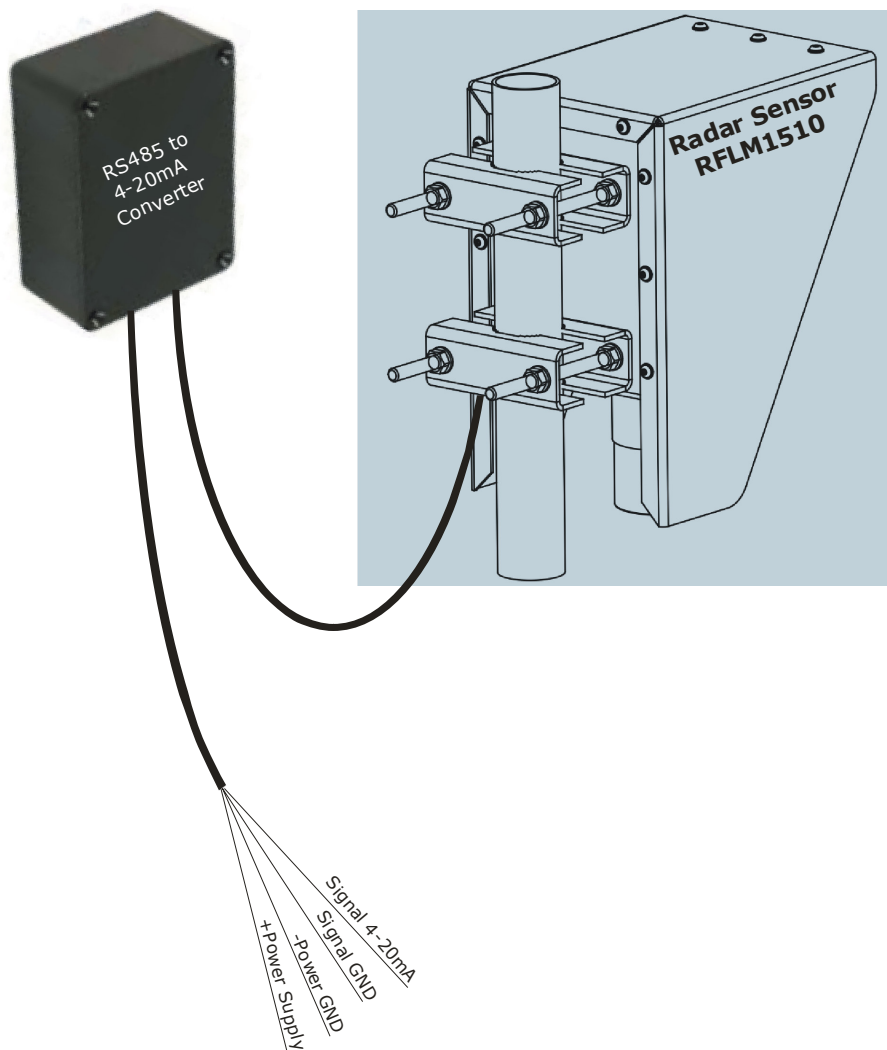
Power Input	9 to 27 VDC
Power Consumption	< 1,35W (typical 1,0W)
Maximal Current	< 250 mA
Temperature Range	-40°C to +85°C (without heating or coolers)
Enclosure Dimensions	150 mm x 200 mm x 250 mm

Sensor connection

The flow meter uses a robust IP68 circular M12 connector with 4 pins

Optional

Sensor connection to FDL400 via RS-485 to 4-20mA converter



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Dimensions

