PHOENIX
Open Channel Non-Contact Radar Flow Meter For Rivers

The PHOENIX is the new non-contact RADAR area/velocity flow meter specially designed for rivers or large irrigation channels. Elaborated opening angle of 32° allows the radar to see a full spectrum of velocities over the river or channel width.

The PHOENIX provides highly accurate flow measurements under a wide range of flow and site conditions.

The PHOENIX is featured with the well-known auto-diagnostic system introduced by Flow-Tronic on the RAVEN-EYE. Internal sensors monitor and report the condition or “health” of the measuring system.

Flow Measurement Method
- Conversion from surface velocity measurement to average velocity based on profiler measurement (For rivers: ADCP or current meter).
- Possibility to base conversion on models.
- Conversion of water level and profile size to fluid area.
- Multiplication of fluid area by average velocity to obtain the flow rate.

*: 3 mm necessary minimum water wave height

Specifications are subject to change without notice
Updated: May 2017

Technical Specifications

The PHOENIX is a universal non-contact level/velocity flow sensor that can be connected to the RTQ flow velocity logger series or the IFQ MONITOR™. Optionally it can also be connected to any device using the Modbus ASCII communication protocol.

Velocity Measurement
- Method: Radar
- Type: Continuous Wave Doppler
- Range: ±0.10 to ±15 m/s (depending on flow conditions)
- (bi-directional / flow direction detection)
- Frequency: 24.125 GHz (K-Band)
- Accuracy: ±1%
- Resolution: 1 mm
- Distance to water: 0.50 ... 35 m

Radar Opening Angle
- Opening angle: 32°
- Installation angle: 60°

Power
- Supply: 4 to 26 VDC
- Consumption: 1.38 W (during active measurement)

Level Measurement (Radar)
- Method: Radar
- Range: 0.01 to 15 m (standard range)
- 0.01 to 35 m (extended range)
- Accuracy: ±2 mm of reading
- Resolution: 1 mm
- Operation temp.: -40 ... +70 °C
- Frequency: 26 GHz (K-Band)

Optional Separate Level Measurement
- Method: Any 4-20 mA loop powered sensor

Communication
- RS-485 communications port with Modbus ASCII slave communication protocol

Outputs (optional)
- 4-20 mA 1 for validated surface velocity (vQP) or validated surface velocity including median filter (vQPMF)

Material & Dimensions
- Dimensions: 166 mm H x 157 mm W x 178 mm L
- Weight: 2.60 kg
- Material: Robust PU
- Protection: IP68
- Color: Gray

Environmental Conditions
- Operating temperature range: -30° to 70° C
- Storage temperature range: -40° to 80° C

Certifications
- CE

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