



Radar Profiler RP-30 V2

Mobile measuring system for non-contact discharge measurement

With the mobile measuring device RP-30 (Radar Profiler) a surface velocity profile from rivers and channels is created and together with the data of the river cross-section and water level the discharge is determined. - A very helpful measuring device especially for the use in flood conditions.

Features and advantages

- Portable mobile measuring system
- Simple mounting on cable cranes, bridge railings or tripods
- Suitable for flood conditions and high flow velocities
- Non-contact radar measuring technology
- No threat from debris or driftwood
- Calculation of discharge with known water level and cross section profile
- Easy operator controls and handling
- data transmission via Radio communication 2,4 GHz
- easy connection setup
- Remote data transmission via Bluetooth
- Measuring range 0.08 ... 16 m/s (depending on the flow conditions)
- new user friendly software

Fields of application

The RP-30 is used in rivers, streams and open channels and calculates the exact discharge of the body of water through several sectional velocity measurements. As is the case with the RQ-30, this method of measurement is also based on innovative radar technology including all the advantages of a non-contact measuring device.

The Radar Profiler is ideally suited for situationally and non-permanent monitoring tasks, for project evaluations or control measurements. In contrary to most other measuring devices it provides reliable values even in flood situations, which is an extremely interesting situation from a hydrological point of view and where most other sensors fail to be used. Therefore the RP-30 is particularly useful in flooding and natural hazard management.

Implementation

With the aid of an adjustable traveller for handrails the Radar Profiler can be easily moved along a bridge railing to the

desired measuring points. Alternatively it can be fixed to a cable crane or tripod. The measurement is then carried out in sections across the whole width of the river. Thanks to the integrated Bluetooth transmitter the data are transferred directly to a laptop and can be viewed in real time during the whole measurement.

Technical details

General

- **Dimensions** 445 mm x 154 mm x 226 mm
- **Total weight** 6.6 kg (excluding traveler for handrails)
- **Protection class** IP 67
- **Battery** 12 V / 4.5 Ah (for up to 40 h operating time)
- **Power consumption** standby 10 mA; active operation 110 mA
- **Operating temperature** - 35 ... + 60 °C
- **Distance to water surface** 0.50 ... 35 m
- **Miscellaneous** AA batteries; sensor stored in flight case
- **Data transmission** Bluetooth (class 1, coverage up to 200 m)

Velocity measurement

- **Measurement range** 0.08 ... 16 m/s (depending on flow conditions)
- **Accuracy** +/- 0.01 m/s; +/- 1 % FS
- **Resolution** 1 mm/s
- **Measurement duration** 5 ... 240 sec.
- **Measurement frequency** 24 GHz (K-Band)
- **Radar opening angle** 2°
- **Distance to water surface** 0.50 ... 130 m
- **Necessary minimum swell** 3 mm

Internal slope measurement

- **Accuracy** +/- 1°
- **Resolution** +/- 0.1°