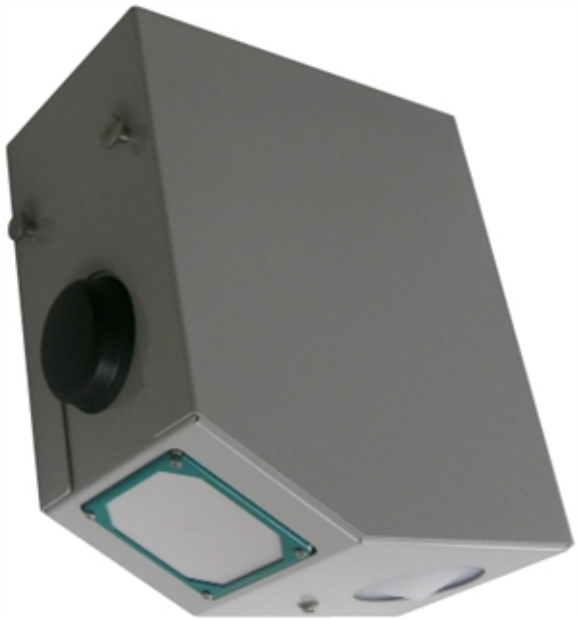
RQ-30 ADMS

Discharge Measurement System



The RQ-30 ADMS is an all-in-one discharge measurement system, suitable for spot-measurements, temporary applications or stationary long-term installations. It contains the contact-free flow velocity and water level sensors of the RQ-30 and applies the same algorithms to compute the water discharge.

The rechargeable batteries allow autonomous operation for several weeks and the integrated charge controller provides for the connection of a solar panel. The data logger of the RQ-30 ADMS offers wireless data transmission to FTP and HTTP servers, and notifications by E-mail and SMS.

In that way the user can retrieve the latest data online and therefore has an overview of the potential danger spots at any time.

Additionally, a notification service can be configured, which informs people in charge about any violation of limit values, e.g. if there is a risk of flooding.

The RQ-30 ADMS provids a complete and immediately available discharge measurement system. It is suitable for longterm measurements with solar power supply as well as autonomous temporary measurement campaigns.

- Automatic discharge calculation based on hydraulic model with multiple k-factors.
- Sensor self check with status and error output.
- AI-based machine learning for compensation of environmental influences and early detection of errors.
- 3-point velocity calibration certificate.
- Advanced velocity diagnostics with spectrum display
- Discharge calculation inside the RQ-30 ADMS.
- Water level and velocity sensor combined in one weather and vandalism proof housing.

Versions

Art	Version
20786	RQ-30 Automatic discharge measurement system, 15m
20787	RQ-30 Automatic discharge measurement system, 35m

Scope of delivery

Qty	Art	Item
1	-	RQ-30 ADMS in the required version including MRL-7 data logger with 3G modem and planar antenna
1	-	Manual and Commander Software on USB stick
1	20181	RS-232 to USB converter cable with push-pull connector, 1.8 m
1	20629	RQ-30 ADMS/SQ-mobile charger

Accessories

Art	Accessory
10085*	Lead-acid battery LC-RA1212P, 12 VDC/12 Ah
20989	Solar panel 50W with 60-mm tube mount and 5-m cable
20595	Digital time laps camera
20629	RQ-30 ADMS/SQ-mobile charger

* The RQ-30 ADMS requires two batteries

Specifications

Physical and environmental	
Power supply	9...28 VDC; Reverse voltage protection, overvoltage protection Battery capacity 24 Ah/12 V; 20-W solar panel recommended for mid latitudes
Power consumption at 12 VDC	Standby approx. 3 mA Active measurement approx. 120 mA
Outputs	RS-485 ASCII / Modbus RTU SDI-12
Operating temperature	-40…60 °C (-40…140 °F)
Storage temperature	-40…60 °C (-40…140 °F)
Relative humidity	0...100 %
Protection rating	IP66
Lightning protection	Integrated protection against indirect lightning with a discharge capacity of 0,6 kW Ppp
Housing material	Powder coated aluminum, vandalism-proof
Mounting bracket	Ø34…48 mm
Size L x W x H	430 x 202 x 419 mm (16.93 x 7.95 x 16.50 in)
Weight	15.5 kg (34.17 lb) plus 7.4 kg (16.31 lb) lead acid batteries

Data logger and communication	
Memory	4 MB internal flash memory (equivalent to approx. 500'000 measurement values) 32 GB SD-card (write only)
Mobile modem	2G, 3G (optionally 4G) 3 FTP/HTTP servers Functions: IP call, fixed IP, time-synchronization via NTP, e-Mail and SMS messages

Velocity	
Detectable measurement range	0.08…16 m/s (depending on waves)
Accuracy	± 0.01 m/s (certified by METAS)
Resolution	1 mm/s
Direction recognition	+/-
Measurement duration	5…240 s
Measurement interval	8 s…5 h
Measurement frequency	24 GHz (K-Band)
Radar opening angle	12°
Distance to water surface	0.50…35 m
Vertical inclination	Measured internally

Automatic vertical angle compensation	
Accuracy	± 1 °
Resolution	± 0.1 °

Water level measurement	15 m	35 m	75 m
Measurement range (distance between level sensor and water surface)	0…15 m (0…49.21 ft.)	0…35 m (0…114.83 ft.)	0…75 m (0…246.06 ft.)
Measurement frequency	80 GHz	26 GHz	80 GHz
Resolution	2 mm		
Accuracy	± 0.025 % FS		
Level sensor opening angle	8°	10°	8°