

MWQ-200

Mobile Water Quality Monitoring Device

- Multi-sensing solution for monitoring water pollutants



Features

- Easy install for surface water monitoring
- LTE compliant, Real-time data upload per minute
- Integrate with calibrated and compensated sensor, including EC, DO, pH and Temp.
- Low power consumption, 3 days operation on internal battery
- IP68 rating robust enclosure anti-corrosion
- Smart remote management(real-time data, power status,GPS deviation warning...)
- RS485 sensors port able to connect third party sensors
- Calibration UI supported

MWQ-200 is a cost-effective and reliable water quality monitoring device, integrated with calibrated and compensated EC, DO, pH and Temperature sensor, the data is ready for use. Internal battery and optional solar power solution for continuous operation.

IP68 rating enclosure and compact light weight device can be easily installation and maintenance in any surface water, such as river and lake.

By using high-performance MCU and 4G LTE communication continuous uploading real-time data and the device is managed and maintained by smart remote management system.

RF Specifications

Model name	MWQ-200		
Wireless	LTE		
Standard/ Protocol	Up to non-CA CAT1 with 1.4 to 20 MHz RF bandwidth		
Frequency	FDD-LTE	WCDMA	GSM
	B1/B3/B7/B8/B20/B28A	B1/ B8	B3/ B8
Sensitivity	B1: -101.5dBm (10M) B3: -101.5dBm (10M) B7: -99.5dBm (10M) B8: -101dBm (10M) B20: -102.5dBm (10M) B28: -102dBm (10M)	B1: -110dBm B8: -110.5dBm	-109dBm
Data rate	Max 10 Mbps(DL) Max 5 Mbps (UL)	Max 384 Kbps (DL) Max 384 Kbps (UL)	Max 107 Kbps (DL) Max 85.6 Kbps (UL)

Sensor Specifications

Probes	Principle	Range	Response time	Accuracy(at 25℃)	Repeatability	Long Term Output Drift	Resolution
Conductivity	Electrochemical	0.7~50,000 $\mu\text{S}/\text{cm}$ 1~110℃	90% in 1s	$\pm 2\%$	-	-	0.1 $\mu\text{S}/\text{cm}$
Dissolved Oxygen	Electrochemical	0~100mg/L 1~60℃	$\sim 0.3 \text{ mg/L/s}$	$\pm 0.05 \text{ mg/L}$	-	-	0.01 mg/L
pH	Electrochemical	0~14 -5~+99℃	95% in 1s	± 0.02	-	-	0.01
Temperature	Band gap sensor / Capacitive measurement	-40~+125℃	> 2 秒. at $\tau 63\%$	$\pm 1^\circ\text{C}$ (於 25℃)	$\pm 0.24^\circ\text{C}$	$< 0.03^\circ\text{C}/\text{yr}$	0.01℃

Operational Specifications

System Operation	
Operating Temperature	1 ~ 55℃
Operating Humidity	0 ~ 100%RH, Non-condensing
Storage temperature	0 ~ 60℃
Warm-up time	$\leq 1 \text{ min.}$ (at full specs $\leq 15 \text{ min.}$)
Power supply	12VDC
Power consumption	2W
Installation	Shore mounting(pole or wall), drifting or floating
Dimension (mm)	210(L) x 130(W) x 600(H)
Weight(kg)	2

Optional Accessories

- Solar Solution Specifications

Solar Panel	
cell	Crystalline silicon(c-Si)
Maximum Output Power (P_M)	30W
Open-circuit Voltage (V_{oc})	22.4V
Maximum Voltage (V_{MP})	18.2V
Maximum Current (I_{MP})	1.65A
Short-circuit Current (I_{sc})	1.79A
Dimensions (mm)	345 x 380 x 35
Weight (kg)	3

- External Battery Set

50Ah Lead-acid Battery	
Voltage	12V
Capacity	50Ah
Dimensions (mm)	197 x 165 x 175
Weight (kg)	15.5
22Ah Lead-acid Battery	
Voltage	12V
Capacity	22Ah
Dimensions (mm)	181 x 76.2 x 167
Weight (kg)	6.5