

WQA-600 Series

Self-powered water quality system all around the city

Water Quality Monitoring for Smart Distribution Networks

High-precision water quality measuring and analysis, online data collection and streaming make the **WQA-600 Series** an integral component of 'intelligent' operations in water distribution systems.

The device facilitates monitoring for a reliable, efficient and safe smart water distribution network, at **every** critical point along the network.

6-Volt Multi-Parameter System

The best solution for gathering and communicating water quality data without relying on external power supply. The built-in low energy and long-life battery pack is enhanced with automated and on-demand measurement settings.

Measurement frequency can be switched to turbo mode when a water quality event is detected.

VERY Easy Installation & Maintenance

Long-term battery operation along with minimum calibration requirements and waterproof casing allow for reduced site visits and minimized maintenance. Ideal for isolated locations and network points without power supply.

Data Logging, Telemetry & Real-Time Alerts

The **WQA-600 Series** data measurements and alarms are logged locally and also transmitted via GPRS communication systems. The device's open data protocol allows for easy integration with any SCADA and analysis systems.

System Highlights

Total / Free chlorine, turbidity, ORP, pH, temperature, conductivity measurements.

Option for pressure and flow



Electrode standby when no flow and no chlorine



Continuous measurement triggered by water quality events



IP67 water proof; UV resistant



System Benefits

- 1) Efficient disinfection monitoring
- 2) Real time quality analysis for varying water source
- 3) Normal & turbo measurement frequency
- 4) Standard sensors
- 5) Easy integration with SCADA
- 6) Optimise man power deployment
- 7) Maintain public safety

Technical Specifications

OPERATING TEMPERATURE/ FLOW

Ambient temperature	1.5°C to 55°C (35°F to 131°F)
Storage temperature	0°C to 60°C (32°F to 140°F)

CHLORINE MEASUREMENT (Free or Total)

Electrode	Passive-operated sensor with gold cathode & silver/silver chloride anode
pH operation range	4 to 8
Free chlorine measurement range	0-2 ppm or 0-10 ppm
Resolution	0.01 ppm
Repeatability	1% span
Body material	PVC
Membrane material	PTFE
Membrane cap material	PBT (GF30), PVDF

pH MEASUREMENT

Range	0 to 14
Electrode	Ceramic diaphragm and gel filling
Input impedance	0.5 x 10 ¹² Ω
Resolution	0.01 pH
Repeatability	0.01
Body material	Glass

ORP (REDOX) MEASUREMENT

Measurement range	0 to 2000 mV
Sensor	Ceramic diaphragm and gel filling
Resolution	1 mV
Body material	Glass or plastic
Repeatability	0.01

TEMPERATURE MEASUREMENT

Sensor	PT-100
Range	1.5°C to 50°C (35°F to 122°F)
Resolution	0.1°C (32°F)
Repeatability	0.1

TURBIDITY MEASUREMENT

Sensor	White light nephelometry (90° and 180°)
Measuring range	0 to 20 NTU
Accuracy	2-4% FS
Resolution	0.001
Repeatability	0.01
Colorimeter body material	PP
Bubble removal	Automated internal mechanism
Cell cleaning	Automated internal mechanism

CONDUCTIVITY

Sensor	k=1 cell constant conductivity
Range	20 to 5000 µSim
Accuracy	2-4% FS
Resolution	1 µs
Repeatability	0.01
Measuring surface	Graphite or similar
Body material	Plastic
Temperature compensation	NTC

FLOW SENSOR (Optional)

Sensor type	Pulse
Accuracy	3-5% FS
Repeatability	0.01
Measurement range	Adaptive

PRESSURE SENSOR (Optional)

Type	Pressure membrane
Measurement range	0 to 10 bar (0 to 145 psi)
Resolution	0.05 bar (0.72 psi)
Accuracy	3% FS
Pressure inlet	6 mm (OD) pipe connector

INTEGRATED FLOW SWITCH

Sensor	Inductive proximity sensor
Output	Volt free contact
Minimum flow	35 l/h
Minimum pressure	0.5 bar

MECHANICAL DATA

Dimensions (electronics enclosure) (H x W x D)	280 x 380 x 180 mm (11" x 15" x 7.1")
Dimensions (sensors enclosure) (H x W x D)	560 x 380 x 180 mm (22" x 15" x 7.1")
Dimensions (complete system) (H x W x D)	840 x 380 x 180 mm (33" x 15" x 7.1")
Cable entries	PG 7 and PG 9 cable glands
Ingress protection	IP 67
Weight (approx.)	16 kg (35.2 lbs.)

ELECTRICAL CONNECTION

Power supply	12 X 3.7 V batteries, Size D
System	24 months autonomy (1 reading/h)
Power button	For technician/field access

LOCAL DATA CONNECTION

USB	Maintenance & calibration port
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INTERNAL COMMUNICATION PROTOCOL

Modbus

GSM/GPRS COMMUNICATION

Low power modem	Default 1 transmission/day (adjustable)
Outdoor antenna (included)	SMA connector

WATER SUPPLY - 6 mm (OD) pipe connectors

Water inlet	1
Pressure inlet	1
Outputs	2 drainage 1 sampling water

DATA LOGGING

Memory	Cyclic and block mode
Capacity	65,000 readings
Mode	Count and event
Frequency (water quality parameter)	15 min - 1 day
Event logging	Yes
Alarms	SMS/Email

FLOTECH CONTROLS PTE LTD

438 Tagore Industrial Avenue Singapore 787814

Tel: (65) 6553 0366 Fax: (65) 6553 0828

Email: info@flotech.com.sg

Website: www.flotech.com.sg

Reg. No. 198204457H

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