

DIGITAL WATER LEVEL QUALITY RECORDER

(DWLQR)

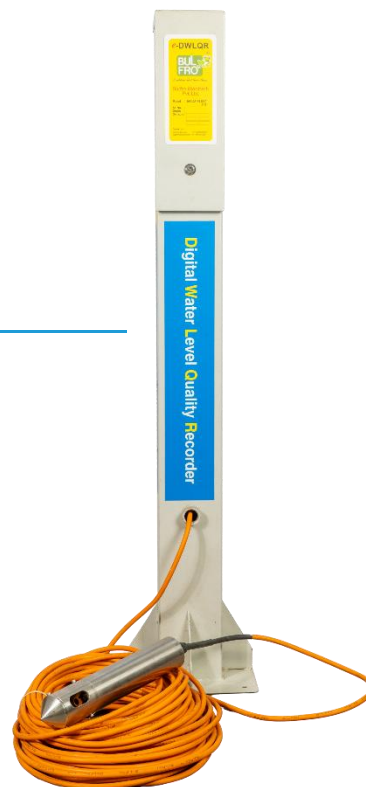
Groundwater Level & Quality Monitoring — CGWA-Compliant IoT System

DWLQR complies with CGWA Guidelines, calculating water column via hydrostatic pressure and monitoring water quality (TDS, pH, Electrical Conductivity & optional parameters) — built for water e-Governance.

DWLQR is a system which complies with the CGWA Guidelines to measure groundwater level & quality. It is designed to calculate the water column based on hydrostatic pressure & water quality parameters — TDS, pH, Electrical Conductivity, and optional parameters.

This system is used for water e-Governance to monitor the water level in the aquifer/resource, as mandated by the CGWA.

The structural design integrates a rugged stand pole with communicator, and a troll fitted with sensors for level and quality parameters.



WHY CHOOSE BULFRO DIGITAL WATER LEVEL QUALITY RECORDER ?

- **Level & Quality Monitoring in One System** - Simultaneously measures groundwater level and key water quality parameters.
- **CGWA-Compliant IoT Solution** - Designed to meet regulatory requirements with real-time digital reporting.
- **Reliable Remote Monitoring** - Cloud connectivity, high-accuracy sensing, and long-term data storage for continuous operation.

KEY FEATURES

- **Dual Monitoring Technology** - Measures both groundwater level and water quality in a single integrated system.
- **Multi-Parameter Water Quality Analysis** - Monitors pH, TDS, Electrical Conductivity (EC) and optional quality parameters.
- **IoT-Based Remote Monitoring** - Real-time data transmission via GPRS with cloud dashboard access.
- **High-Accuracy Sensing** - Vented sensor technology delivers water level accuracy up to $\pm 0.25\%$.
- **Multiple Power Options** - Available in both **battery-powered** and **grid-powered** configurations.
- **Rugged IP-Rated Design** - IP68 sensor and IP65 communicator ensure reliable performance in harsh environments.
- **CGWA-Compliant Reporting** - Simplifies regulatory compliance with digital monitoring and reporting.

PERFORMANCE CHARACTERISTICS

Parameter	Specification
Non-linearity (IEC 61298-2)	$< \pm 0.2\%$ of span BFSI
Repeatability	$< \pm 0.1\%$ of span
Operating Temperature	-10 to $+55\text{ }^{\circ}\text{C}$ (14 to $131\text{ }^{\circ}\text{F}$)
Mean Temp. Coefficient — Zero Point	$\leq \pm 0.2\%$ of span per $10\text{ }^{\circ}\text{K}$
Mean Temp. Coefficient — Span	$\leq \pm 0.2\text{--}0.4\%$ of span per $10\text{ }^{\circ}\text{K}$
Long-term Drift	$< \pm 0.2\%$ of span per year

DWLQR OPTIONS

Feature	Options
Troll	Vented Non-Vented
Data Transfer	Telemetry Non-Telemetry
Power Source	Grid Battery

DWLQR MODELS (All models are CGWA Guidelines compliant)

Model	Troll Signal OP	Troll Type	Data Transfer	Digital Reporting	Local Data Store	Power Source
BDWLQR-TB-1802	RS485	Vented	Telemetry	Yes	No	Battery
BDWLQR-TG-1802	RS485	Vented	Telemetry	Yes	No	Grid

TECHNICAL SPECIFICATIONS — TROLL

Troll Model	Water Column Depth (m)
TSB20	20
TSB100	100
TSB200	200
TSB600	600
TSB1000	1000
TSB1500	1500

COMPENSATION & OUTPUT

Parameter	Non-Vented Troll	Vented Troll
Compensation	No compensation	Pressure and Temperature
Output to Communicator	NA	RS485
Accuracy for Water Level *	< ±0.5 % of span	< ±0.25 % of span

* Performance for level measurement only; quality parameters have no effect on accuracy.

SENSOR SPECIFICATIONS

Sensor	Range	Make	Output (ADC)
pH Sensor	0–14 pH	Bulfro	0–4095
Conductivity Sensor	0–1400 µS/m	Bulfro	0–4095
TSS (Total Suspended Solids)	0–1000 mg/L	Bulfro	0–4095

BATTERY (BATTERY-POWERED OPTION)

Parameter	Specification
Nominal Voltage	14 V DC
Ingress Protection Rating	IP68



Stand pole with Communicator



Troll with Sensors

TELEMETRY OPTION	NON-TELEMETRY OPTION
Data Transfer: Via in-built GPRS modem Configurable Parameters: Server address, data transmit frequency	Local Data Storage: 500 MB — sufficient for 2+ years Data Transfer: Via USB port Software: Utility to transfer data to laptop/PC

SERVICES

- Installation
- Data Management and Security
- Maintenance
- Legal Compliance

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