



Digital Water Level Recorder

(As per CGWA Guidelines)



Digital Reports



Cloud Server



GPRS Enabled

ORCATECH ENTERPRISES

A-407, Lalit Society, Nanded City, Sinhagad Road, Pune 411041
Maharashtra (INDIA) email: sales@orcatech.co.in Web.: www.orcatech.co.in



Digital Water Level Recorder

The **Digital Water Level Recorder (DWLR)** is an advanced system that aligns with the **Central Ground Water Authority (CGWA)** guidelines for the precise measurement of groundwater levels. Engineered to compute the water column utilizing hydrostatic pressure principles, the DWLR is pivotal for water e-Governance initiatives, facilitating rigorous monitoring of aquifer water levels as stipulated by the CGWA.

The system’s architecture features a **level-sensing troll**, which is tethered to the **Communicator** through a robust data cable. Users can retrieve data from the Communicator either through a **web-based User Interface (UI) application** or via direct local access. Encased within the submerged troll, the **piezoelectric sensor** operates in conjunction with a data collector module, ensuring accurate data acquisition. This data is amassed at predetermined intervals and relayed via the data cable to the Communicator.

For data dissemination, the Communicator is equipped with dual transmission capabilities: it can either send the collected data to a **cloud server** using **General Packet Radio Service (GPRS)** technology or transfer it directly to a local computer system through a **USB connection**. The resultant data is meticulously presented, showcasing the **Water Column, Water Level below Ground Surface**, and **Water Temperature**.

Incorporating a **vented-type troll** enhances the system by providing additional functionalities such as **pressure and temperature compensation**, which are essential for accurate water column calculations. This sophisticated integration ensures that the DWLR remains a reliable and indispensable tool for water resource management and compliance with regulatory standards.

DWLR Models

Model	Communication	Power Source	Troll Type	Storage	Digital Reporting
DWLR-GnV-24	Non-telemetry	Grid	Non-vented	Yes	No
DWLR-TGnV-24	Telemetry	Grid	Non-vented	Yes	Yes
DWLR-TBnV-24	Telemetry	Battery	Non-vented	Yes	Yes
DWLR-TG-24	Telemetry	Grid	Vented	Yes	Yes
DWLR-TB-24	Telemetry	Battery	Vented	Yes	Yes

Troll Range

Model	Range in mtr.	Model	Range in mtr.	Model	Range in mtr.
OST40	40	OST120	120	OST300	300
OST60	60	OST160	160	OST350	350
OST100	100	OST240	240	OST500	500

Data Cable

Model	Description
DWLR-nVCAB-24	Specially designed DWLR Non-vented Data Cable, 0.5X4C, with strength member for elongation factor, with meter marking
DWLR-VCAB-24	Specially designed DWLR Vented Data Cable, 0.5X4C, with strength member for elongation factor, with meter marking

Installation Options

Model	Method	Description
DWLR-WM-ENC	Wall Mount	MS Powder Coated with Safety Lock, IP54 Grade, Wall Mounted
DWLR-SM-ENC	Surface Mount	Robust structure built of heavy gauge mild steel, Antirust powder coat or Epoxy coat, anti-vandalise design, Communicator, Battery (for Battery powered option), Filter (for Vented sensor option), IP54

Data Logger	
Display	4 rows x 20 I2C display
Menu	Operation 4 tactile keys
Power supply	Internal Battery or external Grid power 230±10% V AC
Operating temperature	0 to +50 °C (32 to 122 °F)
Storage temperature	-10 to +60 °C (14 to 140 °F)
Ingress Protection rating	IP65

Telemetry Option	
Data transfer	Via in-built GPRS modem
Configurable parameters	Server address, Data transmit frequency

Non-Telemetry option	
Local data storage	500 MB sufficient for more than 2 years
Data transfer	Via Serial Cable, USB port
Software	Utility to transfer data to user laptop or computer

Troll			
Compensation and Output			
	Non-Vented Troll		Vented Troll
Compensation	No compensation		Pressure and Temperature
Output to Communicator	4-20 mA DC		RS485
Performance			
Accuracy	Non-vented Troll		Vented Troll
	< ±0.5 % of span		< ±0.25 % of span
Non linearity (IEC 61298-2)	< ±0.2 % of span BFSL		
Repeatability	< ±0.1 % of span		
Operating temperature	-10 to +55 °C (14 to 131 °F)		
Mean temperature coefficient	Zero point		Span
	≤ ±0.2% of span per 10 °K	< ±0.4 % of span per 10 °K	≤ ±0.2 % of span per 10 °K
	For measuring > 0.25 bar	For measuring range ≤ 0.25 bar	
Long term drift	< ±0.2 % of span per year		

Battery (Battery powered option)	
Nominal Voltage	14 V DC
Ingress Protection rating	IP68

Cloud application access (Telemetry option)	
Login	Username and Password provided by Orcatech
Features	View records