



# SOLAR POWERED DIGITAL WATER LEVEL RECORDER WITH TELEMETRY

## Telemetry Digital Water Level Recorder (TDCLR)

### Overview

Real-time water level monitoring is made possible by the **Solar-Powered Digital Water Level Recorder (Telemetry Digital Water Level Recorder (TDCLR), Automatic Water Level Recorder)**, a cutting-edge, environmentally friendly technology. It offers remote access to crucial data using Wireless technology, and its solar-powered operation and high precision measurements offer a complete solution for water level monitoring.

### Key Features

- **Easy Installation:** *Swift setup usually <5 minutes*, hassle-free deployment.
- **Door open/lock notification enabled:** A unique feature that's rare to find anywhere else in the industry.
- **Solar-Powered:** Unleash uninterrupted, self-sustaining energy from the sun. Delivers efficiently in cloudy weather.
- **Longer Back-Up Battery Life:** Operates uninterruptedly between 48 to 72 hours in case disconnected from solar panel.
- **Water Level Recorder:** Digitally captures precise water levels for reliable data.
- **Wireless Technology:** Swiftly transmits global data for efficient monitoring (Customizable: NB-IoT, GPRS, GSM, and Edge-based options available).
- **Data Logging:** Automate data recording, optimize collection, and reduce manual effort.
- **Real-Time Monitoring:** Stay in the know with continuous monitoring for immediate action.
- **Remote Access:** Access data from anywhere, empowering real-time decision-making.
- **High Accuracy:** Pinpoint precision for rock-solid data integrity.
- **Weatherproof and Corrosion-Resistant Design:** Brave the elements, ensuring unwavering performance.
- **Scalable System:** Grow your network to match evolving monitoring needs.
- **Zero Maintenance:** Minimize upkeep hassle and cut operational costs.

### Benefits

- **Renewable Energy and Sustainability Champion:** Harness **clean**, sustainable **solar power** for environmental responsibility.
- **Cost Efficiency:** Slash operational costs with solar power and **minimal maintenance**.
- **Remote Monitoring:** Boost *efficiency* with real-time, remote access to water level data.
- **Data Accuracy:** Make informed decisions with highly precise and reliable measurements.
- **Data Analysis Made Easy:** Streamline storage, retrieval, and analysis of water level data.
- **Real-Time Alerts:** Stay ahead with instant notifications of critical changes.
- **Smarter Decision Making:** Access real-time and historical data for informed choices.
- **Reliability Unleashed:** Uninterrupted operation even in harsh conditions.
- **Flexibility and Scalability:** Expand and adapt effortlessly to evolving monitoring needs.
- **Uninterrupted Performance:** Minimize downtime
- **Regulation-Ready:** Meet water resource management and reporting requirements seamlessly- IP 68 for sensor and IP 65 for data logger.

### Applications:

- [Groundwater monitoring](#)
- [Water resource management](#)
- [Flood monitoring and early warning systems](#)
- [Environmental research](#)
- [Irrigation management](#)
- [Hydrological studies](#)

Sensor that goes underground



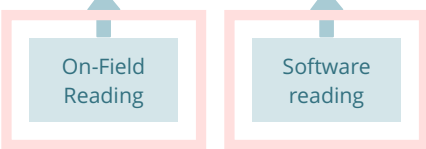
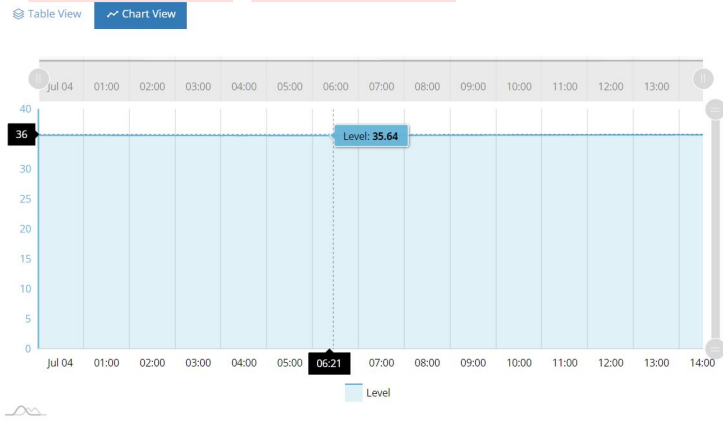
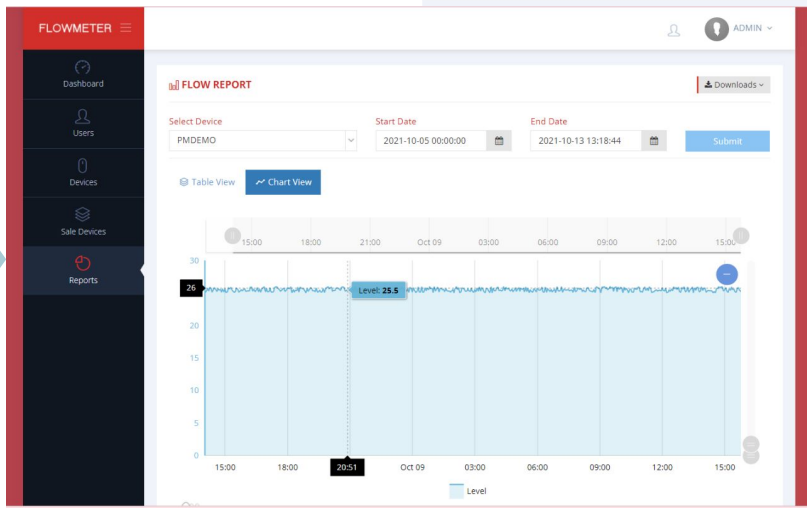


Chart format and tabular format



Date - Time	Level (Mtr)
Tue Jul 04 2023 14:30:53 GMT+0530 (India Standard Time)	35.75 ATM Pressure: 0.957 Bar, ATM Temp.: 46.78 °C, Water Temp: 26.1 °C, Battery: 13.27 V
Tue Jul 04 2023 14:20:53 GMT+0530 (India Standard Time)	35.74 ATM Pressure: 0.958 Bar, ATM Temp.: 46.49 °C, Water Temp: 26.09 °C, Battery: 13.83 V
Tue Jul 04 2023 14:10:54 GMT+0530 (India Standard Time)	35.75 ATM Pressure: 0.958 Bar, ATM Temp.: 46.61 °C, Water Temp: 26.09 °C, Battery: 13.27 V
Tue Jul 04 2023 14:00:54 GMT+0530 (India Standard Time)	35.75 ATM Pressure: 0.958 Bar, ATM Temp.: 47.15 °C, Water Temp: 26.1 °C, Battery: 13.25 V
Tue Jul 04 2023 13:54:30 GMT+0530 (India Standard Time)	35.75 ATM Pressure: 0.958 Bar, ATM Temp.: 47.28 °C, Water Temp: 26.09 °C, Battery: 13.84 V
Tue Jul 04 2023 13:50:54 GMT+0530 (India Standard Time)	35.74 ATM Pressure: 0.958 Bar, ATM Temp.: 47.2 °C, Water Temp: 26.09 °C, Battery: 13.87 V
Tue Jul 04 2023 13:49:15 GMT+0530 (India Standard Time)	35.74 ATM Pressure: 0.958 Bar, ATM Temp.: 47.23 °C, Water Temp: 26.09 °C, Battery: 13.21 V
Tue Jul 04 2023 13:39:13 GMT+0530 (India Standard Time)	35.74

Software screen



\*The field readings and software readings provided serve merely as illustrative examples and are not acquired synchronously.



Contact us for more information. Ask for quotations @  
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## Technical Specifications

<b>Model Name.- AIPL_ADV_TDWR</b>	
<b>Model no.- TDWR_REV01</b>	
<b>Sensor: TDWR Water Level Sensor with Temperature Sensor</b>	
Sensor type	Submersible pressure transducer with Non-Vented Pressure Sensor with Barometric Pressure Correction for Individual Sensor
Measuring Range (Sensor Cable Length)	0 to 1000 m of Water Level (Customizable)
Installation Depth	10-30 m Below the Groundwater Table
Dimensions	Outer Diameter of Sensor Unit: <50 mm
Material	Stainless Steel (SS-316/304) (or Corrosion Resistant Alternative)
Ingress Protection	IP 68/ IP 69 with Impact Resistance
Overvoltage Protection	Includes Lightning, Over-Voltage, and Surge Protection
Accuracy	0.1% FSO
Resolution	1 mm
Reproducibility	0.05% Full Scale
Long-Term Stability	Ensures Long-Term Stability Without Any Field Calibration Requirements Except Barometric Compensation
Temperature Measuring Range, and Measuring Accuracy	0°C to 60°C, and Better than 0.20°C
Operating Humidity	Up to 100%
Burst Pressure	Greater Than Thrice Full-Scale
Overload Pressure	Twice Full-Scale or Better Without Affecting Calibration
Output	RS-485, Inbuilt Telemetry (GSM) system
Sensor Cable	<p>The Cable comes with Strength Members for Good Longitudinal Stability of Cable, and Polyurethane Jacket or Better. It is Corrosion-Free and Moisture-Free (Works Well in Underwater Conditions), Flexible and Durable.</p> <ul style="list-style-type: none"> <li>• A Cable Suspension Bracket Allowing the TDWR to be Adjusted to the Required Depth, in a Stable and Reproducible Manner.</li> <li>• Electrical Wires have Enough Conductivity to Allow for the Extension of the Cable Up to 1000 m- Without Degrading Accuracy, Stability, and Data Communication.</li> </ul>



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## Technical Specifications

Data Logger	
Atmospheric Pressure Correction	Applies Automatically
Resolution	16-bit ADC with $\pm 1$ LSB Accuracy, 1 mm or better
Log Intervals, and Transmission intervals	1 Minute to 24 Hours for both
Settling Time	<5 minutes After Submersion
Recording Capacity	Stores More Than a Year's Data
Memory Type, and capacity	Non-Volatile Flash Memory (With) 15 minutes Logging Intervals, and Expandable up to Minimum 4 GB Using SD Card
Power Supply	Solar power module with Battery Back-up (Replacable without any data loss ) that can power the system for at least 48-72 hours in case disconnected from Solar Panel
Battery Voltage Monitoring	Monitors and Transmits Battery Voltage Level
Installation Location	Above 5 Feet from Ground Surface
Built-in Real-Time Clock	Time Synchronization with IST when data transmits
Displayed Time Resolution	1 Second
Display Unit	Shows Real-Time Data 24x7
Over-Voltage Protection	Provided, Along With Lightening Protection and Surge Protection
Ingress Protection	IP 65, with Impact Resistance
Enclosure/Housing	Concealed into a Single (Waterproof + Corrosion Proof) Enclosure, with Watertight Connectors
Port for Configuration	One Serial Port for Communication with Laptop
Software for Data Logger	
Operating System	Cloud-based Server
Version	English Language Version
License	✓
Communication Interface	
Computer Interface	Logger Connects with a Computer Via Serial and, Contact-Less Data Transfer Over WiFi
File Format	CSV File



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## Technical Specifications

### GSM & GPRS Transmitter

Transmission System	GSM/GPRS/Edge-Based Data Transmission System (Customizable, can employ NB-IoT Technology as well)
Frequency Range	900 MHz: 824 MHz-960 MHz, 1800 MHz: 1710 MHz-1880 MHz
Performance	95% Data-Reception Availability or Better
Communication Direction	GPRS Network for Two-Way Connection with Server, TCP/IP (Internet) Connection using MQTT
Transmission Trigger	Data Collection to be Triggered by Interrogation from Data Center, Or By Event-Based Transmission Triggered by Remote Site
Power Saving	Ability to Disable Interrogation System
Communication	Data Transmission to Execute TCP Port to Transmit Data to the Data Center

### Data Transmission System (Telemetry)

	Strongly Integrated with the TDWLR System, along with Compact Remote Field Mounted Systems (Consisting of Sensor, Sensor Cable, Data Logger, Modem and Antenna).
	Integrated Energy Management System Using Free Programmable Time Slots for Measurements and Transmission to Minimize Power Consumption
	Software Provided Allows Download of the Data in the Standard Form, from the TDWLR Data Logger to a Laptop/ Hand-held Devices in the Field

### Warranty

Solar Panel Module	1 year, can be extendable at added cost
Sensor	1 year, can be extendable at added cost
Data Logger	1 year, can be extendable at added cost

\*We retain the prerogative to effect modifications or adjustments, without prior notification, at our discretion.



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