

CLM-LVR05

Non-Contact Automatic Water Level & Surface Velocity Monitoring System

*Real-Time River Intelligence for Flood Forecasting,
Early Warning & Climate Resilience*



NON-CONTACT RADAR TECHNOLOGY
No sensor in water



REAL-TIME DATA & CLOUD CONNECTED
Anywhere, Anytime



EARLY WARNING & SMART ALERTS
WhatsApp, SMS, Email



SOLAR POWERED AUTONOMOUS SYSTEM
Built for remote locations

Accurate • Reliable • Robust • Intelligent
Designed for Rivers. Built for Extremes.

APPLICATIONS



**RIVER
MONITORING**



**FLOOD
EARLY WARNING**



**RESERVOIR &
DAM MONITORING**



**CANAL
MONITORING**



**HYDROPOWER
MONITORING**



**CLIMATE INTELLIGENCE
INFRASTRUCTURE**



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MAKE IN INDIA



DESIGNED &
ENGINEERED
IN INDIA

CLM-LVR05

Non-Contact Automatic Water Level & Surface Velocity Monitoring System

PRODUCT OVERVIEW

CLM-LVR05 is a non-contact radar based monitoring system that accurately measures river water level and surface velocity in real-time.

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Non-Contact Measurement
No sensor in water
- 

High Accuracy
Reliable & precise data
- 

Cloud Connected
Real-time data from anywhere
- 

Early Warning Ready
Alerts via Aap, SMS, Email

CLM-LVR05 DEVICE



- 

Rugged Enclosure
- 

**-40°C to +70°C
Operating Temp.**
- 

**Low Maintenance
High Durability**
- 

**Made in India
Make in India**

SYSTEM ARCHITECTURE



KEY FEATURES



NON-CONTACT MEASUREMENT
Radar technology without any sensor in water



HIGH ACCURACY & RELIABILITY
Millimeter-level accuracy for level & precise velocity measurement



SOLAR POWERED SYSTEM
Autonomous operation with LiFePO₄ battery for remote locations



REAL-TIME DATA & CLOUD CONNECTED
Seamless data transmission to cloud platform anytime, anywhere.



EARLY WARNING & SMART ALERTS
Instant alerts via Aap, SMS, Email on thresholds and critical events



RUGGED & RELIABLE
Designed for harsh environments, built to last

CLM-LVR05

Non-Contact Automatic Water Level & Surface Velocity Monitoring System



TECHNICAL SPECIFICATIONS

WATER LEVEL RADAR (61 GHz FMCW)	
Technology	61 GHz FMCW Radar
Measurement Type	Water Level
Measuring Range	0.1 to 40 m (Customizable)
Accuracy	±1 mm
Resolution	0.5 mm
Beam Angle	8° × 8°
Sampling Frequency	1 Hz (default), up to 10 Hz (configurable)
Output Signals	4–20 mA, RS-485, RS-232, SDI-12, LoRa, MQTT
Rugged Enclosure	Yes
Operating Voltage	9–30 VDC
Operating Temperature	-40°C to +70°C

SURFACE VELOCITY RADAR (24 GHz DOPPLER)	
Technology	24 GHz K-Band Doppler Radar
Measurement Type	Surface Velocity
Velocity Range	0.02 to 20 m/s
Accuracy	±1% of measured velocity
Resolution	0.01 m/s
Detection Range	Up to 20 m
Beam Angle	12° × 25°
Output Signals	4–20 mA, RS-485, RS-232, MQTT
Rugged Enclosure	Yes
Operating Voltage	9–30 VDC
Operating Temperature	-40°C to +70°C

COMMUNICATIONS	
Cellular	4G LTE
GSM	Supported
LPWAN	LoRa
NB-IoT	Supported (Optional)
Wi-Fi	802.11 b/g/n (2.4 GHz)
Ethernet	10/100 Mbps
Serial Interfaces	RS-485, RS-232, SDI-12
Protocols	MQTT, MODBUS RTU, ASCII
Data Security	Secure authentication & encrypted communication
Remote Access	Secure remote configuration & diagnostics
Over-the-Air Update	Supported

POWER SYSTEM	
Solar Panel	40 – 60 W (Monocrystalline)
Battery	LiFePO ₄ (Site dependent)
Charge Controller	MPPT
Power Input	Solar / Battery (12 VDC)
Power Consumption	< 2.5 W (Average)
Power Backup	Site dependent based on solar availability and configuration
Protection	Over-voltage, Under-voltage, Short Circuit Protection
Operating Temperature	-25°C to +70°C

TECHNICAL COMPLIANCE STATEMENT



The CLM-LVR05 Non-Contact Automatic Water Level & Surface Velocity Monitoring System is designed and manufactured in compliance with applicable international standards.

- ✓ **ISO 9001:2015 Certified Organization** – Quality Management System
- ✓ **Rugged Enclosure** – Built for harsh outdoor and flood environments
- ✓ **High Reliability** – Built for continuous operation in extreme weather conditions
- ✓ **Data Integrity** – Encrypted secure communication with cloud platform
- ✓ **Field Proven** – Successfully deployed in rivers, canals, reservoirs and hydropower projects across India

 NON-CONTACT No sensor in water	 ±1 mm ACCURACY High precision measurement	 MULTI-COMMUNICATION 4G LTE, LoRa, NB-IoT, Wi-Fi & more	 SOLAR POWERED Autonomous operation with LiFePO ₄ battery	 CLOUD CONNECTED Real-time data from anywhere	 RUGGED ENCLOSURE Reliable performance in extreme conditions
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CLM-LVR05

Non-Contact Automatic Water Level & Surface Velocity Monitoring System



REAL-TIME MONITORING DASHBOARD (ClimMaTech Cloud)



Cloud Platform

Dashboard

Devices

Map View

Data View

Alerts

Reports

Users

Settings

Search Location / Device



WATER LEVEL

2.487 m

21 May 2025, 10:30 AM

SURFACE VELOCITY

1.256 m/s

21 May 2025, 10:30 AM

SIGNAL STRENGTH

-65 dBm

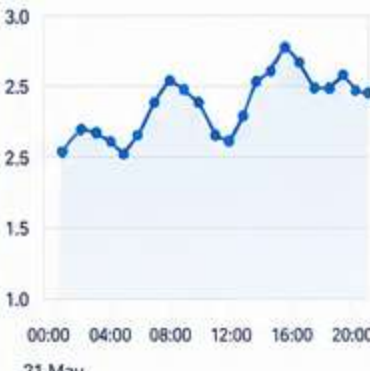
21 May 2025, 10:30 AM

BATTERY

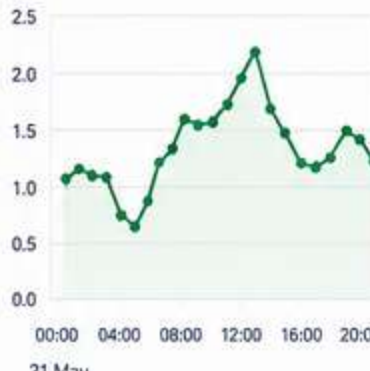
86 %

21 May 2025, 10:30 AM

Water Level (m)



Surface Velocity (m/s)



Latest Alerts [View All](#)

High Water Level

2.80 m

21 May 2025, 10:15 AM

High Velocity

1.85 m/s

21 May 2025, 09:45 AM

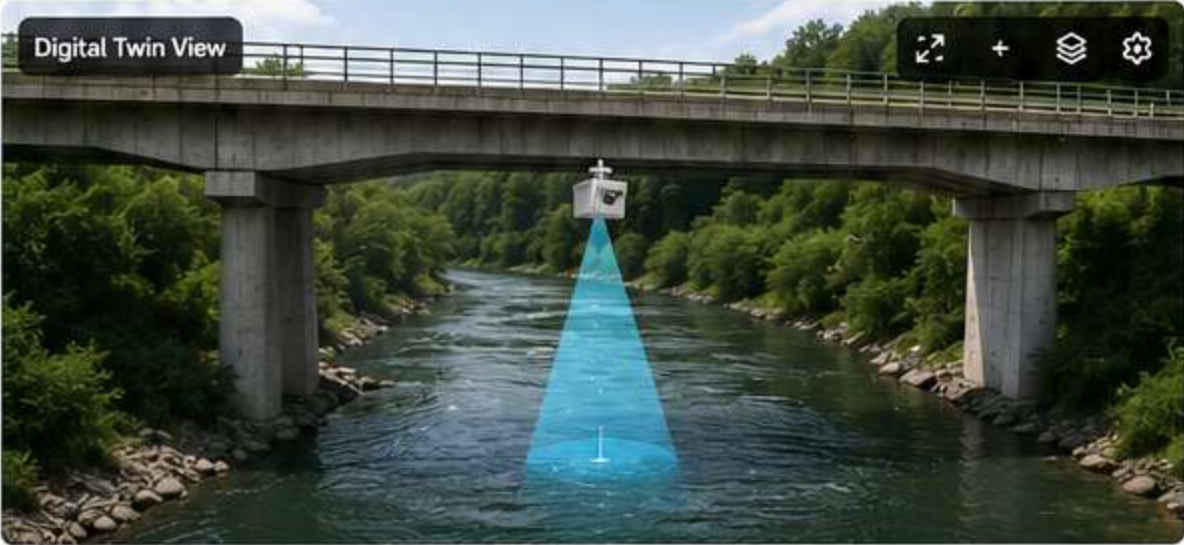
System Info

Device Online

21 May 2025, 09:30 AM

DIGITAL TWIN – RIVER MONITORING

Digital Twin View



3D Digital Twin platform for visualization, analysis, and scenario simulation.

Real-time data overlay on 3D model

Flood simulation & forecasting

Infrastructure & obstruction mapping

Decision support for early warnings

Historical playback & trend analysis

APPLICATIONS



DAMS & RESERVOIRS

Real-time monitoring of storage & inflow



RIVERS & STREAMS

Water level & velocity monitoring for flood early warning



CANALS & IRRIGATION SYSTEMS

Water management and flow monitoring



URBAN DRAINAGE & STORMWATER

Smart monitoring for urban flood mitigation



HYDROPOWER PLANTS

Inflow monitoring for efficient operations



BRIDGES & CRITICAL INFRASTRUCTURE

Structural safety & scour monitoring



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Predicting the unpredictable

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