

# Water Quality Sensor

## MacSync-LWQS8



### MacSync-LWQS8 Overview :

MacSync-LWQS8 is a rugged, intelligent LoRaWAN® water quality sensor built for reliable, long-term monitoring in lakes, rivers, industrial discharge sites, and water treatment plants. It supports multi-parameter analysis in a single unit, enabling precise insights into water conditions without the need for multiple sensors or manual sampling.

With seamless LoRaWAN® connectivity, IP-rated construction, & built-in auto-cleaning ideal for environmental compliance, smart agriculture, aquaculture, and industrial wastewater monitoring, MacSync-LWQS8 helps automate quality tracking, reduce maintenance costs, and support data-driven decisions in remote or hard-to-reach areas

#### Sensors

Dissolved Oxygen

ORP

Turbidity

pH

Ammonia Nitrogen

Temperature

Conductivity

Salinity

### Features

#### Wireless Technology



#### High-Precision Multi-Parameter Sensors

For accurate water quality sensing

#### Automatic Self-Cleaning)

No need to manual cleaning

#### IP66-Rated Enclosure (Sensor)

Designed for industrial & outdoor environments

#### Supports periodic, threshold-based, & event-driven uplinks

#### BLE Support

Easy local configuration and diagnostics with Maya

#### Ultra-long-range transmission

Up to 08 km line of sight

#### Supports Macnman Beam Protocol

Direct control, & local device-to-device actions

#### Secure onboarding with pre-flashed DevEUI / AppEUI / AppKey

#### Optional Onboard Data Buffering

To prevent data loss in case of network downtime

#### Compatible with all LoRaWAN® network servers & gateways

Specifications

Measurement

Dissolved Oxygen

Range	0-20mg/L
Accuracy	2%F.S, t0.5°C
Resolution	0.01 mg/L

Turbidity

Range	0-200NTU/0-1000NTU
Accuracy	< 3%F.S.
Resolution	0.1NTU

pH

Range	0-14pH
Accuracy	+/- 0.1pH
Resolution	0.01pH

ORP (Oxidation-Reduction Potential)

Range	-1500mV - 1500mV
Accuracy	-6mV
Resolution	1 mV

Ammonia Nitrogen

Range	0-10mg/L or 0-100mg/
Accuracy	+5FS / 13mg/L,
Resolution	0.01 mg/L(0~10 mg/L)

Measurement

Temperature

Range	0-50°C
Accuracy	+0.5°C
Resolution	0.1°C

Conductivity

Range	0 – 2000 $\mu$ S/cm
Accuracy	$\pm$ 1.5% F.S.
Resolution	1 $\mu$ S/cm

Salinity

Range	0 – 70 PSU
Accuracy	$\pm$ 1.5% F.S.
Resolution	0.1 PSU

Wireless Transmission

Technology	LoRaWAN® (v1.0.4), Macnman Beam Protocol
Antenna	Internal high-efficiency antenna
Supported Bands	IN865 / RU864 / EU868 / US915 / AU915 / KR920 / AS923-1/2/3/4
Tx Power	16 dBm @ 868 MHz 20 dBm @ 915 MHz 19 dBm @ 470 MHz
Sensitivity	-137 dBm @ 300 bps
Activation	OTAA / ABP
LoRaWAN® Class	Class A (default), Configurable to Class C via Maya

Led Status

LED Type	1 Internal Multi-Color LED
Solid Blue	Device is connected with Maya App
Flashing Blue	OTA (Over-the-Air) update in progress
Slow Blinking Green	Attempting to connect to the LoRaWAN® network
Single Red Blink	A confirmed parameter of MacSync is being modified

Configuration

Configuration	Via Macnman Maya Android App
Maya Fatures	Threshold / Trigger / Sample based alarm triggers
Stored Records	30,000 Records (accessible via Maya) (optional)
Remote Configuration	Yes - JSON format Data

Physical Characteristics

Power Supply	Inbuilt Battery - 19,000 mAh , Optional Solar Panel
Operating Temp	-40°C to +80°C
Humidity Range	0% to 100% RH (non-condensing)
Ingress Protection	IP65 standard (IP67 optional variant)
Housing Material	SS Metal(Sensor) , Glass field Nylon (MacSync)
Color	Matte White
Weight	~190g (with 19Ah battery)
Dimensions	Approx. 96 mm X 96 mm X 23 mm (customizable branding available)
Mounting Options	Pole Mounting / Wall Mounting

Device Dimensions



y to serve you. तुमची सेवा करण्याची संधी दिल्याबद्दल धन्यवाद. మీకు సేవ చేసే అ  
के अवसर के लिए धन्यवाद भवतः सेवायाः अवसरस्य कृते धन्यवादः તમારી સેવા કરવાની

## Say Hello 🙌

- 🌐 [www.macnman.com](http://www.macnman.com)
- ✉ [info@macnman.com](mailto:info@macnman.com)
- 📞 +91 7972856163
- 📍 SHOP-15, 635 1B, Bibwewadi, Pune,  
Maharashtra 411037

### Support Mails

- ✉ [chat@macnman.com](mailto:chat@macnman.com)
- ✉ [helpdesk@macnman.com](mailto:helpdesk@macnman.com)
- ✉ [support@macnman.com](mailto:support@macnman.com)

This manual and all its contents are the intellectual property of Macnman Technologies Pvt. Ltd. and are protected under Indian copyright laws and applicable international conventions.

All trademarks, certifications, and logos mentioned in this document or related products are used with appropriate licensing. These may include, but are not limited to, certifications such as CE, FCC, RoHS, REACH, BQB, WEEE, and others. Ownership of trademarks, logos, and trade names remains with their respective owners. For instance, the Bluetooth® trademark and logo are the property of Bluetooth SIG, Inc. Other trademarks belong to their rightful proprietors.

Given the compact size of the module, the "®" symbol is omitted from Bluetooth-related trademarks in compliance with applicable regulations.

Macnman Technologies Pvt. Ltd. reserves the right to modify the content of this manual to align with advancements in technology. Updated versions may be released without prior notification. Unauthorized modification, reproduction, or use of part or all of this manual without written consent from Macnman Technologies Pvt. Ltd. is strictly prohibited. Legal action will be taken against violators in accordance with Indian law.

By using this manual, you agree to comply with the terms stated herein.