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-cleaningIdeal 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 |

Wireless Technology — LoRa

Features

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 μS/cm
Accuracy	±1.5% F.S.
Resolution	1 μS/cm

Salinity

Range	0 – 70 PSU
Accuracy	±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

152 mm

43 mm

62 mm

MACNMAN

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