



LoRaWAN Operated Low Power Tipping Spoon Rain Sensor

- Compatible with all LoRaWAN frequencies
- Compact and high accurate
- Designed to meet outdoor harsh environment
- Long-term durable performance in harsh environment
- Ultra-low power



TECHNICAL SPECIFICATION

Sensor

• Measurement principle	Tipping Spoon
• Rainfall Accuracy	Up to 250mm/hr: $\pm 3\%$ of total or \pm one tip of the spoon(0.2mm) whichever is greater
• Rain Rate Accuracy	$\pm 5\%$ for rain rates up to 250mm/hr
• Rain Rate Resolution	0.1mm (configurable)

Power

• Power Supply	Built-in Replaceable Lithium Battery External Power (option)
• Rated Voltage	3.6 V
• Battery Lifetime	Typ. 50,000+ readings / 20,000+ transmission (connected to ellenex platform and standard network quality)

Physical

• Materials	Enclosure: ASA or POM Rain Collector: UV-stabilized ABS plastic
• Weight	2150 g
• Protection Rate	IP66 or IP68 and UV Protected enclosure

Communication

• LoRaWAN® Version, Class	1.0.2revB, Class A (Class C on request)
• LoRaWAN® Frequency Zone	AS923, EU868, US902-928, AU915-928 (other zones available on request)
• LoRaWAN® Activation Type	OTA (default), ABP
• Sampling Type	Periodic (default), Event triggered
• Sampling Period	Configurable via downlink (default 4 hours)
• Transmission Type	Per sample (default), Event triggered, Conditional
• Parameter Configuration	Over-the-air via LoRaWAN® downlinks Locally via wireless connectivity
• Firmware Update	Locally via Wireless Connectivity, Over The Air

MRS2-L Spec-sheet

NETWORK CONNECTION AND VISUALISATION

Network Integration

- Pre-configured to ellenex LNS or configurable to all main network servers (AWS, Netmore, ChirpStack, Helium, Kerlink, Kona Tektelic, Lorient, machine-Q, Orange, Orbiwise, Proximus, Swisscom, TATA, The Things Network (TTN), TTI and any other network)

Visualization And Data Management

- Ellenex white label microservice platform, and Integratable to all main IIoT platforms directly or through the API (AWS, Azure, PTC ThingWorx, Bosch IoT, Cisco Jasper & Kinetic, Sierra Numerex, MathWorks, ThingSpeak, GE Digital Predix, LandisGyr, Siemens MindSphere, Cumulocity, myDevices, Ubidots, TagoIO, HPE IoT and any other major IoT platform).

Ellenex Platform Main Features

- Encrypted ultra-low power communication protocol
- Advanced device inventory
- Integration APIs for enterprise systems
- Multi-tenant role-based access control
- Data export and import
- White-label platform for enterprise runs on private account
- Variable alarm setting for high and low thresholds and multi-channel alerting
- Sampling and transmission interval configuration
- Transmission condition configuration
- Other configurations and customization available on request



Encrypted & ultra-low power



Integratable



Dynamic alerting



Multi-tenant

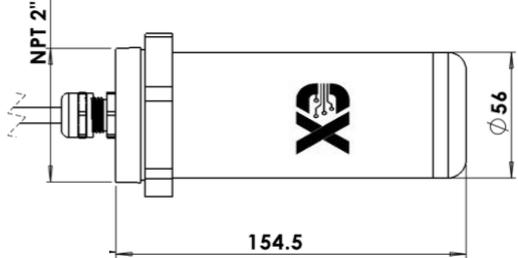


Scalable



Composable & API first

MODEL GUIDE

Model	Option / Schematic
<p>C Model</p> 	

MRS2-L Spec-sheet

INDUSTRIES



Agriculture & Farming



Water & Wastewater



City & Councils



Marine & Oceanography



Environmental Monitoring



Smart Building

APPLICATIONS

- Rain Monitoring Systems
- Weather Stations

ORDERING CODE

MRS2-L									
LoRaWAN Frequency Zone									
AS (AS923)			AUx (AU915-928) (Sub Band x)			EU (EU868)		USx (US902-928) (Sub Band x)	
LoRaWAN Activation									
A (Over the air activation - OTAA)					P (Activation By Personalization - ABP)				
Sensor Type									
TS: Tipping Spoon									
Enclosure									
C5: Cylindrical									
Device Activation									
S: With On/Off Switch					X: No Switch (Always On)				
Antenna Option									
E: External			EHG: High Gain External						
Options									
(On request)									
MRS2-L	AS	A	TS	C5	S	E			

Sample Product Code:

- MRS2-L-AS-A-TS-C5-S-E**
LoRaWAN Operated Low Power Tipping spoon rain sensor, frequency of AS923, Over The Air Activated, with cylindrical enclosure, activated by on-off switch and external antenna.