



LoRaWAN® Low Power Pulse Counter and Meter Interface

- Compatible with all LoRaWAN® frequencies
- Wide range of applications
- Designed to meet outdoor applications
- Long-term durable performance in harsh environment
- Ultra-low power

TECHNICAL SPECIFICATION

Sensor Interface

• Interface	Pulse (Reed Switch) (or other customised options on request)	
• Electric Connection	1m cable (or other options on request)	
• Operating temperature range	-10 ~ +70	°C

Power

• Power Supply	Built-in Replaceable Lithium Battery, External Power (option)	
• Rated Voltage	3.6	V
• Battery Lifetime	Typ. 500,000+ readings and 20,000+ transmission (More than 10 years for most applications)	

Physical

• Materials	ASA or POM	
• Weight	350	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

NETWORK CONNECTION AND VISUALISATION

Network Integration

- Integratable to all main networks (Actility, Alibaba, Cisco, Digita, Everynet, Helium, Kerlink, kpn, Lorient, machine-Q, Objenious, Orange, Orbiwise, Proximus, Senet, Sens, Swisscom, TATA, The Things Network (TTN), TTI and any other network)

Visualisation 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, TagIO, ALSO AllThingsTalk, 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 customisation available on request



Encrypted & ultra-low power



Integratable



Dynamic alerting



Multi-tenant






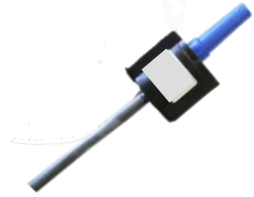


Scalable



Composable & API first

MODEL GUIDE

Housing			
C Model:		E Model:	
	C model comes with cylindrical shape housing suitable for battery operated applications with IP66 or IP68 rate and clamp mounting.		E model comes with rectangular shape housing suitable for battery or external power operated applications with IP66 rate, and wall mounting.
Meter Interface			
			
<p>Type A Size: 20mm Pulse rate: 1pulse/10lit</p> <p>The Cold Water Multijet Meter Reed Switch is inserted into the face of the meter. The Reed Switch has no polarity.</p>	<p>Type B Size: 50mm Pulse rate: 1pulse/ 5lit</p> <p>The Cold Water PD Meter Reed Switch is inserted into the body of the meter. The Reed Switch has no polarity.</p>	<p>Type C Size: 15mm Pulse rate: 1pulse/10 lit</p> <p>The Hot Water Multijet Meter Reed Switch is inserted into the face of the meter. The Reed Switch has no polarity.</p>	<p>Type D Size: 50mm Pulse rate: 1pulse/10lit</p> <p>Suitable for Cold Water Woltman Meter. The Reed Switch has no polarity.</p>

INDUSTRIES



Water & Environment



Agriculture & Farming



Smart Building & HVAC

APPLICATIONS

- Water Supply Monitoring
- Water Pipeline Leakage Monitoring

ORDERING CODE

FMS2-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)				
Meter Interface Options									
X: Without Interface		A: Type A (20mm, 1pulse/10L)		B: Type B (50mm, 1pulse/5L)		C: Type C (15mm, 1pulse/10L)		D: Type D (50mm, 1pulse/10L)	
Connector Options									
S: Standard Cable Length of 0.5m					P: pin connector				
Other options available on request									
Enclosure									
C5: Compact (Material: POM)			E5: Rectangular (Material: ASA)			X: without housing (only board)			
Device Activation									
S: With On/Off Switch					X: No Switch (Always On)				
Antenna Option									
E: External					I: Internal				
Options									
(On request) ¹									
FMS2-L	AS	A	X	S	C5	S	E		

Sample Product Code:

FMS2-L-AS-A-X-S-C5-S-E

LoRaWAN® water meter interface (pulse reader), frequency AS923, over the air activated (OTAA), with compact housing, with standard cable connection, on/off switch and external antenna.

¹⁾ Product Options:

- **EP**: sensor with external power supply connector for 12V supply (only for E type enclosure, adaptor is not included)
- **EPB**: connector for 12V supply with internal battery backup (only for E type enclosure)
- **HG**: high gain external antenna
- **WF**: Active WiFi module on device for communication/ firmware update through Mobile phone NFC module (only for E type enclosure)
- **HCB**: high-capacity battery (only for E type enclosure)
- **Any** other meter interface rather than pulse (Modbus, 4-20mA, etc.)

All details are subject to change without prior notice
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