



## LoRaWAN® Low Power Cathodic Protection Monitoring Interface for Industrial Applications

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

## TECHNICAL SPECIFICATION

### Sensor

• Interface Configuration	Input for Voltage and for Current	
	<ul style="list-style-type: none"> <li>• Voltage measurement range: -10 to 10V<sub>DC</sub> &amp; AC</li> <li>• Voltage resolution 0.1mV resolution</li> <li>• Current measurement: 0-20 Amps DC &amp; AC (or other customized options on request)</li> </ul>	
• Voltage Resolution	0.1	mV
• Current Resolution	1	mA
• Electric Connection	1m cable, pin connection (or others on request)	
• Operation Temperature	-10 ~ +70	°C

### 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	ASA or POM	
• Weight	450	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 serial terminal	
• Firmware Update	Locally via serial terminal, Over The Air	

# ECP2-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




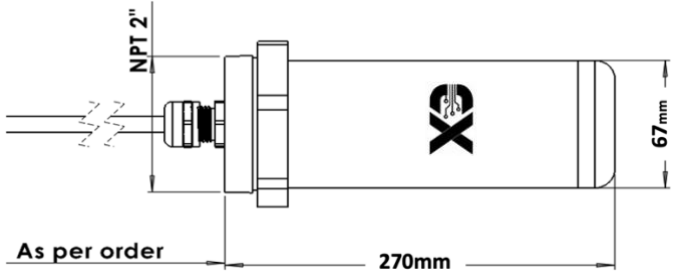

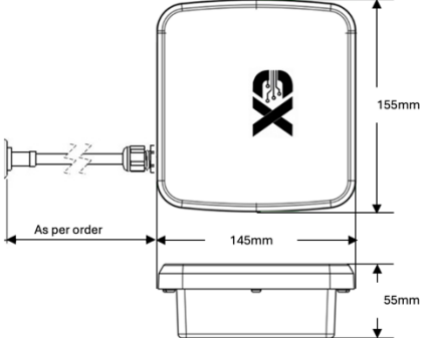
Scalable



Composable & API first

# ECP2-L Spec-sheet

## MODEL GUIDE

Model	Option / Schematic
<p><b>C Model</b></p> 	 <p>C model comes with cylindrical shape housing suitable for battery operated applications with IP68 / IP66 rate and clamp mounting. This model has 2 options of cable output and the pin connection.</p>
<p><b>E Model</b></p> 	 <p>E model comes with rectangular shape housing suitable for battery or external power operated applications with IP68 / IP66 rate, and wall mounting. This model has 2 option of wire cable connection and the pin connection.</p>

## INDUSTRIES



Water



Oil & Gas



Marine

## APPLICATIONS

- Pipes and assets cathodic protection monitoring

## WIRING LAYOUT

- **RED:** Voltage In
- **WHITE:** Current In
- **GREEN:** Current Out

# ECP2-L Spec-sheet

## ORDERING CODE

ECP2-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)				
Interface Options									
S: Standard					Other customised options on request				
Electric Connection									
P: pin connector					3m: 3m wire cable				
Enclosure									
C: Cylindrical (Material: POM)			E: 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) <sup>1</sup>									
ECP2-L	AS	A	S	3m	C	S	E		

### Sample Product Code:

- **ECP-L-AS-A-S-1m-C-S-E**

LoRaWAN® Cathodic protection monitoring interface, frequency of AS923, Over The Air Activated, standard configuration with cylindrical housing, 3m cable, with on-off switch and equipped with external antenna.

### <sup>1</sup>) Product Options:

- **EPB**: sensor with external power supply connector for 12V supply with internal battery backup (only for E type enclosure, adaptor is not included)
- **HG**: high-gain external antenna
- **HCB**: high-capacity battery (only for E type enclosure)