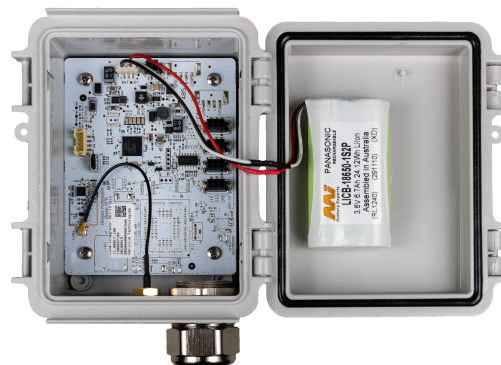


Luna Communicator

Flexible Communications with LoRaWAN® long-range low-power radio

Flexible Communications Node

- LoRaWAN low-power long-range connectivity
- LTE Cat M1 (eMTC) & LTE Cat NB1 (NB-IoT) (optional)
- CANbus with protocol support options
- RS485 with protocol support options
- Mains (plug-pack) or solar powered
- Multi-constellation GNSS (optional)
- Fully reconfigurable via remote communications



Product Description

Definium's Luna Communicator with LoRaWAN is a drop-in solution for monitoring existing infrastructure with industrial communications buses. Full support for CAN and RS485 physical layers is included and support for any protocol can be implemented through a project with us (RS485 Modbus supported already).

Based on Definium's Internet of Things sensor platform and backed by long-range low-power LoRa® radio, each sensor has a designed battery life of multiple days without sunlight available (solar powered).

RS485 support includes protocol support for Modbus, allowing a configurable set of registers to be periodically reported remotely. Custom software requests (via a project with Definium) can implement support for additional protocols, such as DNP3, Modbus RTU, or adding alarm-based reporting with existing protocols.

CAN support includes protocol support for tunnelling CAN over

LoRa radio, with support for CANopen available via undertaking a project with Definium.

Cellular radio is available including support for LTE Cat M1 (eMTC) and LTE Cat NB1 (NB-IoT). Example code for a suitable HTTP REST endpoint for the device is available and support for custom endpoints is available via a project with Definium.

The optional multi-constellation GNSS ensures you won't lose track of your device and that all messages are timestamped with GNSS-synchronised time.

Each sensor comes pre-configured with unique LoRaWAN ids and encryption keys, with optional reconfiguration via LoRaWAN downlinks or USB.

Definium Technologies designs and manufactures its devices in-house in Launceston, Tasmania. Definium produces a broad range of gateways and sensors to use in any IoT network.

Product Selector

Model	Region	Sensors	Radios	Interfaces	Features	Enclosure
	AU915 (Australia / NZ) AS923 (Australia / NZ / Asia) US915 (United States)	RS485 CANbus	LoRa, LoRaWAN, FSK LTE Cat M1/NB1 Multi-constellation GNSS	USB Serial Console LoRaWAN Downlink Config Bluetooth	Periodic Reporting Transition-based Alarm	IP65 Polycarbonate IP66+ Polycarbonate
DT1097-L	○ ○ ○	● ●	● ○	● ●	● ●	●
DT1097-C		● ●	● ● ●	● ●	● ●	●

Ensure you order the correct product for your LoRaWAN region. ● = Included. ○ = Differs with product variants.

Luna Communicator

Features

CAN	CAN port with 12 VDC power supply Custom protocol support CANopen support pending Includes bus termination resistor with jumper
RS485	RS485 port with 12 VDC power supply Modbus RS485 support DNP3 support pending
LoRaWAN	Class A LoRaWAN 1.0.2 Support Class C support if mains power or oversized solar Supports multiple regions (firmware variants) Supports adaptive data rate Device settings configurable via downlink Pre-configured EUI and keys Reconfigurable LoRaWAN keys via USB serial
GNSS (Outback)	Concurrent multi-constellation GNSS (3) GPS, Galileo, GLONASS, and BeiDou support GPS time synchronisation Accuracy < 10 metres

Electrical Data

Power Source	Solar panel or DC plug-pack
Input Limit	0 V minimum, 24 V maximum
Energy (charging)	7 Watt minimum
Battery	Lithium ion rechargeable battery 3.6 V 6.5 Ah Replaceable, protected
Consumption	Up to 120 mA (transmitting) Below 10 mA (Class C LoRa) Below 100 uA (sleeping) Lasts 3+ days without solar (varies with report frequency)

Enclosure

IP65 Clam-Shell	140 × 120 × 80 mm, 500 g
Enclosures may vary slightly, contact us for latest info	

Environmental data, quality & reliability

Operating range	-20°C to 60°C
RoHS compliant (lead-free)	

Security

Secure internal storage of keys
Radio noise-based random number generator

Certifications and approvals

AS/NZS 60950.1:2011, AS/NZS 4268:2012
Other certifications TBA

Support products

Definium Nexus 8	LoRaWAN Gateway with CAN, LTE, PoE
LoRaWAN network provision and hosting via partners	

Product Notes

Communications	We can implement any communications protocol you require as part of a project or volume order.
Power	Single-use non-rechargeable battery option can be added if required as part of a project or volume order.

Further Information

For contact information, see www.definium.net/contact.
For more product details and ordering information, see the [product data sheet](#).
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