# Product Brief

# Precision Temperature with LoRaWAN<sup>®</sup> long-range low-power radio

## Industrial, Scientific Temperature Monitoring

- LoRaWAN low-power long-range connectivity
- Up to two ±0.1°C precision 24-bit temperature probes
- Up to ten years battery life with 15-minute reporting
- Fully reconfigurable via USB or LoRaWAN downlink
- Temperature alarm mode with periodic sampling
- Optional multi-constellation GNSS (GPS, GLONASS, BeiDou, Galileo)
- Optional 1-Wire bus with support for up to 20 temperature sensors



#### **Product Description**

Definium's low-maintenance precision temperature sensors with LoRaWAN are a drop-in solution for monitoring sensitive, hard-to-reach assets. Based on Definium's Internet of Things sensor platform and backed by long-range low-power LoRa<sup>®</sup> radio, each sensor is designed to last years with a single battery.

The sensors come in compact packaging with IP-rated enclosures and built-in or flying-lead temperature probes, covering use cases from monitoring environmental conditions through to the internals of advanced machinery. Use Artificial Intelligence or advanced real-time analysis to take actions and optimise your asset's performance. Integrating incoming data into existing systems is as easy as connecting to a LoRaWAN server and receiving data within seconds of it being sent.

Dual temperature sensor variants come equipped with two highprecision thermistors and report both values at a configurable interval. Integrated alarms can alert you to anomalous conditions, with configurable thresholds for upper, lower, and differential values.

A standard temperature monitor variant provides a cost-effective way to monitor the temperature of a room or outdoor area.

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

### **Product Selector**

Model	Re	gion		Ser	nsors	Ra	dios	Int	erfac	es	Fea	tures	Enc	osure
	AU915, AS923 (Australia / Asia)	US915 (United States)	EU868 (Europe)	±0.1°C	-40°C to +150°C Range (sensor)	LoRa, LoRaWAN, FSK	Multi-constellation GNSS	USB Serial Console	LoRaWAN Downlink Config	Bluetooth	Periodic Reporting	Threshold-based Alarm	IP65 Polycarbonate	IP67 Polycarbonate
Luna Temp Duo	0	0	0	2	•	•	0	•	٠		•	•	•	0
Luna Temp Solo	0	0	0	1	•	•	0	•	٠		•	•	•	0

Ensure you order the correct product for your LoRaWAN region (see below). • = Included. • = Differs with product variants.



# Luna Temp

Features	
Temperature	Up to two precision thermistor(s) ±0.1°C precision) Range -20°C to +125°C Threshold-based alarm notifications
LoRaWAN	Class A LoRaWAN™1.0.2 Support Supports multiple regions (firmware variants) Supports adaptive data rate Device settings configurable via downlink Pre-configured EUI and keys with QR-code Reconfigurable LoRaWAN™keys via USB serial
GNSS	Concurrent multi-constellation GNSS (3) GPS, Gallileo, GLONASS, and BeiDou support GNSS time synchronisation

# **Electrical Data**

Power	3.6 V Lithium battery (LS14500-compatible)
Input limit	0 V minimum, 3.6 V maximum
Consumption	Up to 120 mA (transmitting) Below 5 uA (sleeping) Up to 10 years battery life (varies with report frequency)

#### Enclosure

IP65 Polycarbonate	95 imes75 imes35 mm, 300 g
IP67 Polycarbonate	82 imes 85 imes 56 mm, 300 g

# Environmental data, quality & reliability

Operati	ng 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 CISPR 32: 2015, AS/NZS 4268:2017

Other certifications planned:

AS/NZS 60950.1:2011, IEC 60950-1, CENELEC EN 60950-1, 47 CFR 15.247, 47 CFR 15.207, 47 CFR 15.247, 47 CFR 15.215, IDA TS SRD

#### Support products

DT1046	Definium Nexus 8 LoRaWAN Gateway with CAN,
	LTE, PoE

LoRaWAN network provision and hosting via partners

#### **Further Information**

For conact information, see www.definium.net/contact.

For more product details and ordering information, see the product data sheet. LoRa\* and LoRaWAN\* are registered marks used under license from Semtech Corporation and the LoRa Alliance\*. 1-Wire is a trademark of Maxim.

1-WITE IS a trademark of Maxim

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