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Newsteo LOG range Temperature Humidity Product Specification

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Revisions

Revision	Issue Date	Author	Comments
1.0	June 16 th , 2022	AC	First specification

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1 Introduction

Object:

Define the products specifications in term of technical characteristics, physical dimensions, aperture, accessories and casing.

Products: LOG temperature and humidity range

	Référence	Description
	PFPN-LOG17-001	Newsteo Temperature & Humidity Data Logger
	PFPN-LOG87-001	Newsteo Temperature & Humidity Data Logger

2 Summary of the product functioning



Figure 1: Operation in local mode

A PC is used as a supervision station. All the data loggers present communicate their measurements to this PC, via a receiver connected to the PC's USB port.

The data loggers can be used in two different modes:

- **Monitoring mode** (real time monitoring applications): the data logger sends in real time its measurements to a PC. If a measurement is not received by it, it stores it inside its internal memory and sends it to the receiver on the next communication channel
- **Recording mode** (a posteriori monitoring): the data logger records in its embedded memory the measurements it takes. The user can download on the PC all the stored measurements when he wants.



Figure 2: Operation in Cloud mode

The data loggers transmit their measurements by radio wave (wireless) to the gateways (Gateway CUB22). The gateways receive the measurements from the dataloggers (by radio) and then transmit them to the storage server (by Ethernet). The external storage server stores all measurements in a database and also hosts the visualization application, Webmonitor. Webmonitor is a web application that can be accessed through a web browser. The software allows to display the measurements but also to make remote settings.

If the measurement is not received by the gateway (gateway disconnected, communication problem...), the data logger stores the measurement in its buffer. As soon as communication is restored, the buffer measurements are automatically sent.

4 Newsteo data logger

4.1 Technical characteristics

Preliminary specification – Subjected to change without prior notification.

TBC : To be confirmed

TBD : To be defined

NA: Not applicable

4.1.1 Characteristics of the measurement

Model	LOG17 / LOG87
Type	Temperature & Humidity
Sensors range	Temperature: -40 ... +70 °C Relative humidity: 0 ... 100%RH
Operating temperature	-40°C to +70 °C
Temperature Accuracy	±0.20°C (0°C...70°C) ±0.30°C rest of the range
Temp resolution	0.016°C
Humidity range*	0 ... 100%RH
Humidity Accuracy @ 25°C	±3% RH (0...85%RH) ±4% RH (85...95%RH)
Humidity Resolution	0.03%RH

* Condensation can induce a significant desaturation time in atmospheres above 95%RH

4.1.2 Power supply / Autonomy

Characteristics	LOG17	LOG87
Battery (supplied)	Lithium thionyl chloride battery 3.6V ½ AA size	Lithium thionyl chloride battery 3.6V A size with wires
Autonomy*	Up to 2 years	Up to 5 years
Battery change	Battery accessible and replaceable by the user	

*At 25°C and with a measurement frequency of 15 minutes. Average value which may vary according to use. Value given when the product is not in alert mode, LED set to inactive.

4.1.4 Other characteristics

Characteristics	LOG17	LOG87
Antenna RF Connector	NA	SMA connector
Antenna	Internal antenna included	1/2 wave antenna (included)
RF range in free land	Up to 100m (depending on the antenna used on the reception side)	Up to 1Km (depending on the antenna used on the reception side)
LED	1 bi-color LED	
Memory Capacity	32 256 measurements with date and time	
Time resolution	1s	
Time deviation	+/- 2 min/month @ 25°C	
Time retention	Time kept as long as the product is powered (Hibernate mode included)	
Data memory retention	100 years	
Flash life time	Up to 100 000 cycles (meaning 100 years is a measure is done every second)	
ILS	ILS integrated for several functions: <ul style="list-style-type: none"> - wakeup of the product in hibernate mode - take of a measure outside of the frequency measure set 	

4.2 Casing specification



Figure 3: LOG17 casing



Figure 4: LOG87 casing

Characteristics	LOG17	LOG87
Features	ABS plastic casing	ABS plastic casing
Fixation	The casing integrates 2 holes for fixation on a wall or inside a parcel	The casing integrates 2 holes for fixation on a wall or inside a parcel
Colour	Black	Beige
Dimensions (w/o antenna)	Length 96 mm Width 40 mm Height 20 mm	Length 115 mm Width 58 mm Height 40 mm
Stickers	2 stickers on the product : - 1 sticker on the top face, giving the product range - 1 sticker on the side, giving the complete product reference and its serial number	
Operating temperature	-40°C to +70 °C	
IP Level	IP52	

4.3 Starting of the data logger

The product is delivered with a battery inserted, in hibernate mode.

The user must pass a magnet over the product in the presence of a PC with RF-to-USB key and RF Monitor software running to wake it up and start it.

The time is set in production.

4.4 Certification

Products certified for radio use in Europe, on the frequency of 868 MHz (ISM band). For use in another area, check with local authorities.

On order (with additional fees), Newsteo can provide individual calibrations performed under its COFRAC accreditation. COFRAC is equivalent to UKAS (UK's National Accreditation Body), DAkkS (Germany), ENAC (Spain), ACCREDIA (Italy).