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P/N:	Newsteo LOG range Temperature Humidity
Author:	AC

Newsteo LOG range Temperature Humidity
Product Specification

Revisions

Revision	Issue Date	Author	Comments
1.0	August 18th, 2011	AC	
1.1	April 13th, 2018	AC	New annex with details on casing size
1.2	October 5th, 2018	AC	Modification of the reference and size of the antenna

Table of contents

Table of figures

1   Introduction

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

Products: LOG temperature and humidity range

	References	Description
	PFPN-LOG20-001	Newsteo temperature and humidity Data logger
	PFPN-LOG22-001	Newsteo High Accuracy temperature and humidity Data logger
	PFPN-LOG25-001	Newsteo Very High Accuracy temperature and humidity Data logger

2   Summary of the product functioning

1 - The Data Loggers
They are spread in the area which has to be monitored. They send to the RF-to-USB key by radiofrequency the measures they take. They can be wireless configured and updated.

2 - The RF-to-USB Key
It is the bridge between the PC and the loggers

3 - The RF Monitor
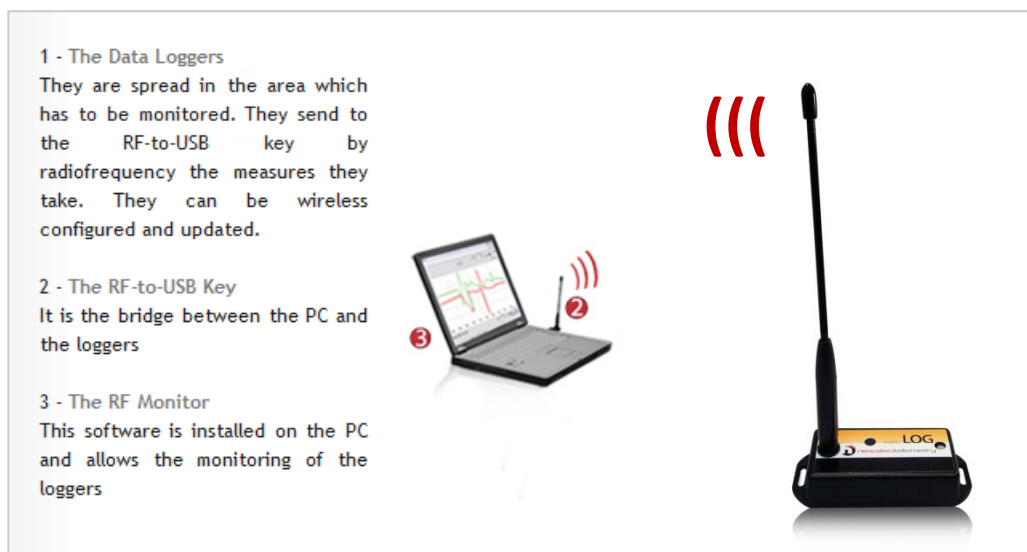This software is installed on the PC and allows the monitoring of the loggers

Figure 1: Functioning

The data loggers can be used in two different modes:
- **Monitoring** (real time monitoring applications): the data logger sends in real time its measurements to a PC or a Gateway. 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
- **Record / Restitution** (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.

3 Newsteo data logger

3.1 Technical characteristics

Preliminary specification – Subjected to change without prior notification.
TBC : To be confirmed
TBD : To be defined
NA: Not applicable

3.1.1 Measurement accuracy

Model	LOG20	LOG22	LOG25
Type	Temperature & Humidity		
Sensors range	Temp : -40 to +70 °C Hum : 0..100%RH		
Operating temperature	-40°C to +70 °C		
Temperature Accuracy (see curves below)	+/- 2.3°C at -40°C +/- 0.5°C at 25°C +/- 1.7°C at 70°C	+/- 2.1°C at -40°C +/- 0.4°C at 25°C +/- 1.6°C at 70°C	+/- 1.5°C at -40°C +/- 0.3°C at 25°C +/- 1°C at 70°C
Temp resolution	Temperature @14 bits (0.01°C)		
Humidity Accuracy @ 25°C (see curves below)	+/- 4.5% RH (20...80% RH)	+/- 3% RH (20...80% RH)	+/- 2% RH (10...90% RH)
Humidity Resolution	Humidity @12 bits (0.025%RH)		
Product latency (response time)	Temperature ≤10 min Humidity > 1 hour (to have a better response time on humidity, the user can remove the protection over the sensor. The IP level is then reduced)		
Sensor drift	Temperature: not significant drift during 4 years as the sensor does not undergo a change greater than 125 °C, no guarantee beyond Humidity: loss of precision less than 0.5% per year (without contamination*) for 4 years, no guarantee beyond		

* contamination: the humidity sensor can be contaminated by a chemical-type such as solvent, alcohol or silicone that can cause serious and irreversible damage.
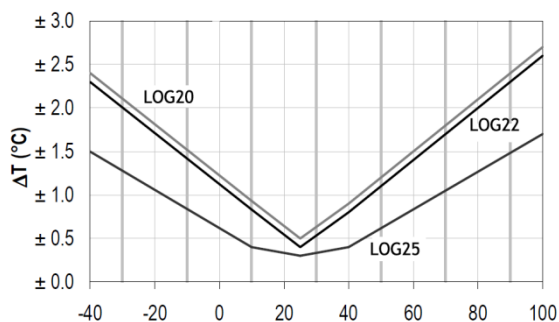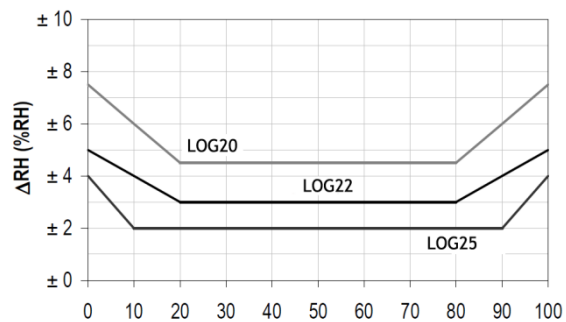

Figure 2: Temperature accuracy

Figure 3: Humidity accuracy

3.1.2 Casing

Characteristics	Newsteo LOG range
Temperature range of use of the Data logger	-40°C to +70 °C
IP Level of the Data logger	IP54, **cannot be used in a condensing area**

3.1.3 Power supply / Autonomy

Characteristics	Newsteo LOG range
Battery	½ AA lithium Thionyle
Autonomy @ 25°C	Up to 2 years At 25°C with a frequency measures of 10 minutes. Average value which can slightly vary depending on the use. It is given with the product working in non alert mode.

3.1.4 Other characteristics

Characteristics	Newsteo LOG range
Antenna RF Connector	SMA connector
Antenna	1/2 wave antenna (included)
RF range in free land	100m 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	Main battery life time. Time kept: - 3 min if the main battery is removed, when the main battery is at 3,6V - 1 min if the main battery is removed, when the main battery is at 2,2V - Time lost if the main battery is under 2 V.
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: - wakeup of the product in hibernate mode - take of a measure outside of the frequency measure set

3.2   Casing specification

Figure 4: LOG casing

Characteristics	Newsteo LOG range
Features	ABS plastic casing.
Fixation	The casing integrates 2 holes for fixation on a wall or inside a parcel
Colour	Black
Dimensions (w/o antenna)	

	Flanged lid included, without antenna
Length	96 mm
Width	40 mm
Height	20 mm

To have more details on the casing size, please refer to the Annex 1.

Weight	45g
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

3.3   Starting of the data logger

The product is delivered with a battery inserted, in hibernate mode.
The user has to pass a magnet on the product to wake up it and to set it.
The time is set in production.

3.4 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, Newsteo can provide COFRAC certification for its products.

ANNEX 1

VUE DE DESSUS

HUMIDITE SAUF LOG26

LED

87,8

173

20

26

24

19

41

80

12

40

96

20

3

		DIMENSIONS ARE IN INCHES		NAME	DATE	
		TOLERANCES:	DRAWN	DEGRACIA		
		FRACTIONAL±	CHECKED			
		ANGULAR: MACH± BEND±				
		TWO PLACE DECIMAL ±	ENG APPR.			
		THREE PLACE DECIMAL ±	MFG APPR.			
		MATERIAL	Q.A.			
			COMMENTS:			

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ENCOMBREMENT IMPLANTATION LOG20-22-25-26

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