

Doc. Type:	Product
Sub. Type:	Specification
Status:	Rev 1.0
P/N:	Newsteo LOG range Temperature Humidity
Author:	AC

Newsteo LOG range Temperature Humidity Product Specification

Proprietary Notice: This document contains proprietary information of NEWSTEO SAS, and neither the document nor said proprietary information shall be published, reproduced, copied, disclosed or used for any purpose other than consideration of this document without the express written permission of a duly authorized representative of said company.

Revisions

Revision	Issue Date	Author	Comments
1.0	August 18th, 2011	AC	

Table of contents

1	Introduction	4
2	Summary of the product functioning	4
3	Newsteo logger	5
3.1	Technical characteristics	5
3.1.1	Measurement accuracy	5
3.1.2	Casing	6
3.1.3	Power supply / Autonomy	6
3.1.4	Other characteristics	6
3.2	Casing specification	7
3.3	Starting of the logger	7
3.4	Certification	7

Table of figures


Figure 1: Functioning	4
Figure 2: Temperature accuracy	5
Figure 3: Humidity accuracy	5
Figure 4: LOGcasing	7

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 Logger
	PFPN-LOG22-001	Newsteo High Accuracy temperature and humidity Logger
	PFPN-LOG25-001	Newsteo Very High Accuracy temperature and humidity Logger

2 Summary of the product functioning

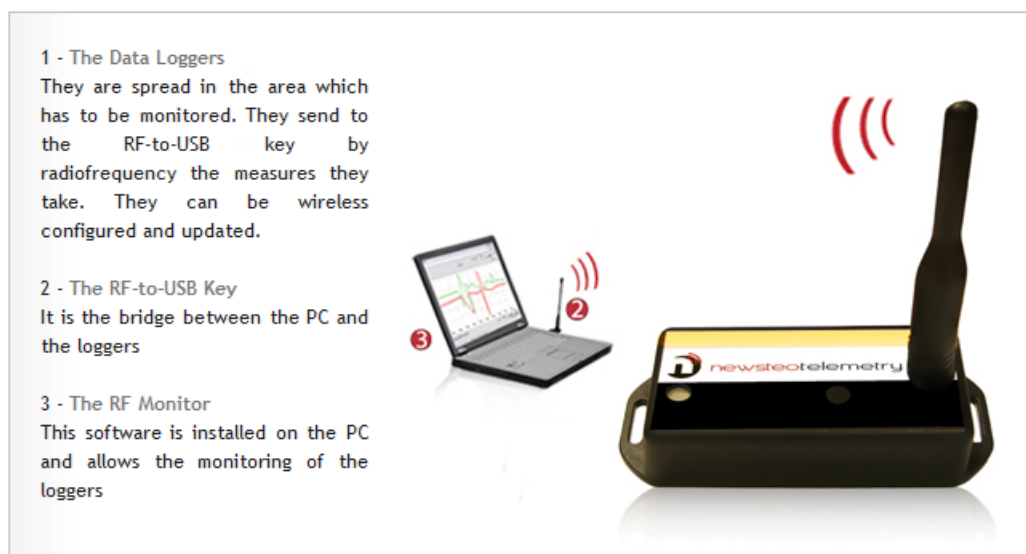


Figure 1: Functioning

The loggers can be used in two different modes:

- **Monitoring** (real time monitoring applications): the logger sends in real time its measurements to the PC. If a measurement is not received by the PC, it stores it inside its internal memory and sends it to the PC on the next communication channel
- **Record / Restitution** (a posteriori monitoring): the 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 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 (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.

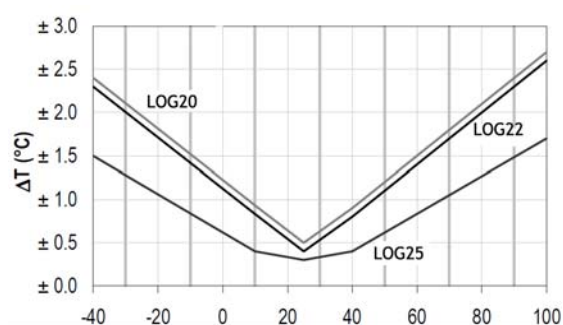


Figure 2: Temperature accuracy

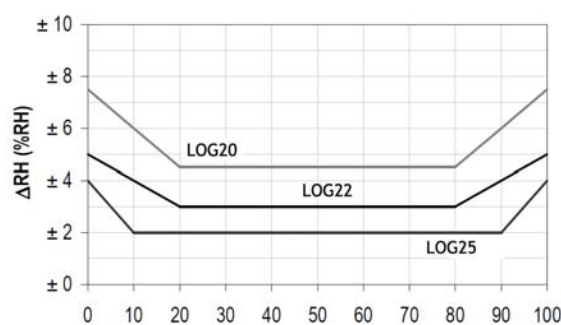


Figure 3: Humidity accuracy

3.1.2 Casing

Characteristics	Newsteo LOG range
Temperature range of use of the Logger	-40°C to +70 °C
IP Level of the 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	1/4 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: <ul style="list-style-type: none">- 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: <ul style="list-style-type: none">- 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)		Without flanged lid	Flanged lid included	
	Length	80 mm	96 mm	
	Width	40 mm	40 mm	
	Height	17 mm	20 mm	
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 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.