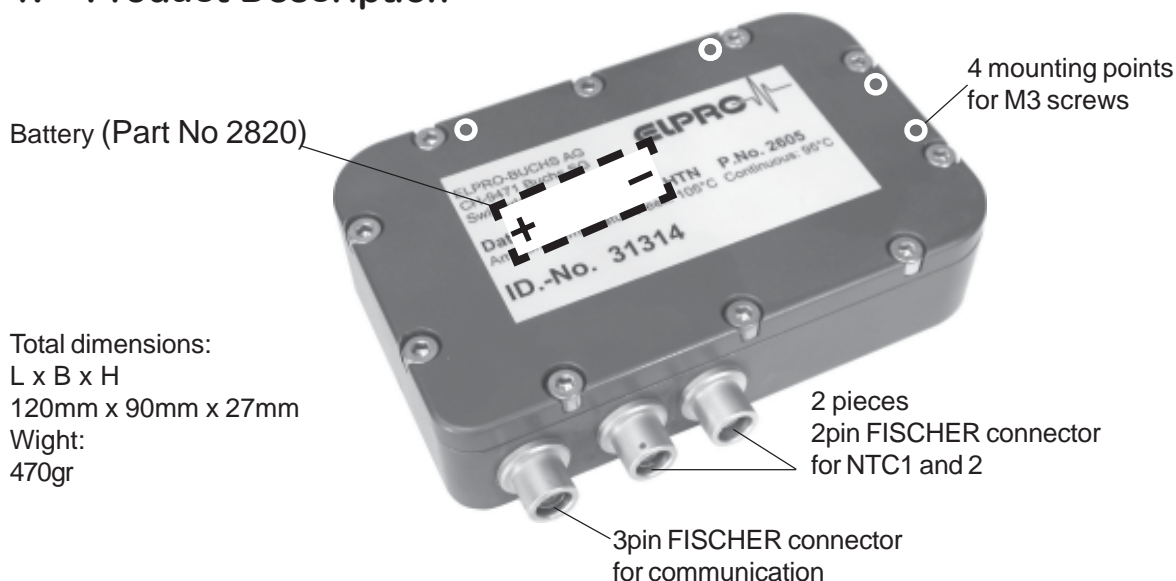


# HOTBOX HTN

## 1. Product Description



### 1.1 Applications

The HOTBOX HTN (part no 2605) was developed to record conditions during pasteurisation and belt drying (pasta production) processes.

The robust and stabile construction of the aluminium housing guarantee that the HOTBOX HTN will survive a fall of 1 meter onto a hard surface.

### 1.2 Function

The HOTBOX HTN datalogger is a battery-operated, self-contained data recording unit. The operating range of the HOTBOX HTN is  $-40^{\circ}\text{C} \dots +95^{\circ}\text{C}$ . For a short period of time peaks up to  $+110^{\circ}\text{C}$  are possible.

The 2 external temperature probes are used to record the ambient and product temperature ( $-50^{\circ}\text{C} \dots +140^{\circ}\text{C}$ ). They are connected to the HOTBOX HTN using a 2 pin FISCHER connector (see chapter 5).

The unit has an internal memory capacity for 64,000 measured values. The mode of measurement (loop or start-stop memory) and the measurement interval (1s to 3h) can be defined with the software.

Data evaluation and datalogger programming is done with the elproLOG PC software.

### 1.3 Battery

3.6V lithium battery with large temperature range. The user can replace the battery himself without any problems.

Refer to chapter 2 Applications and Safety Regulations for more information about the operative range of the battery and the battery replacement procedure.

**广州虹科电子科技有限公司** 广州市五山华南理工大学国家科技园 2 号楼 504-505 室 ( 510640 )

电话 : 020-3874 3030; 3874 3032 e-mail: [sales@hkaco.com](mailto:sales@hkaco.com) 网站: [www.hkaco.com](http://www.hkaco.com)

## 2. Applications and Safety Regulations

### 2.1 Operating Temperatures

- The loggers can be used in the temperature range between -40°C and +95°C and peak temperatures up to +110°C.
- Battery self-discharging increases at temperatures exceeding 45°C and continuous operation at temperatures above 45°C can reduce the serviceable life by approx. 1/3.
- Lithium battery passivation, due to long-term use at temperatures above 40°C, can result in temporary read problems (self-discharge protection). This can be rectified by repeated evaluation.
- Long-term use at low temperatures down to -40°C does not present any problems.
- We can not guarantee that the logger will always function properly if it is implemented at temperatures below -40°C. Experience has shown that the battery freezes at approx. -50°C, that it is no longer possible to perform measurements and that the timer tracking function can be temporarily interrupted. To make further operation possible, the logger must be reprogrammed when room temperature is reestablished.

### 2.2 Exceptional Environmental Conditions

Pay attention to the following when loggers are used under exceptional environmental conditions:

- A vent hole should be drilled at negative pressures of <0.4 bar abs.
- There is a risk that the battery may explode if the logger is used in conjunction with microwaves

### 2.3 Precautionary Measures for Handling Units with Lithium Batteries

- Do not short-circuit batteries: Danger of explosions
- Do not throw units which contain batteries into fire: Danger of explosions
- Do not subject the batteries to mechanical stress and do not dismantle them. The leaking battery fluid is highly corrosive and lithium can generate severe heat when it comes into contact with moisture or it can ignite fire.
- Do not heat up battery-driven units to temperatures exceeding 110°C: Danger of explosions
- Follow the manufacturer's specifications for battery storage
- Return the batteries to the supplier for correct waste disposal

### 2.4 Software

HOTBOX HTN data loggers require an evaluation software of version 2.05 or higher.

### 2.5 Maintenance

To ensure proper functioning of the logger the following steps should be part of a periodical maintenance plan:

- Readout of the data logger and saving the file
- Battery replacement (Part No 2820, set of 2, storage time 5 years; Lithium 3.6V, 1900mAh, AM3/LR6/AA). At room temperature battery life time is approximately 2 years.  
After the battery has been replaced, the function „Programming of battery change time“ in menu item „Extended Setup“ has to be executed.

### 2.6 Error Message - Logger Status in elproLOG Win

RAM IMG-BMP destroyed

This error message is visible in the logger status information, line: Module time. The reason for such an error message might be, a battery replacement where the battery change time has not been set.

## 2.7 Technical Alterations

In the interest of our customers, we reserve the right to perform alterations resulting from subsequent technical developments without any particular notice. For this reason, diagrams, descriptions and the information concerning the scope of delivery are not binding.



- This product must be certified with CE
- The manufacturer guarantees that this product complies with the relevant recommendations

## 3. Settings in elproLOG

Those settings should not be change for a proper operation of the datalogger:

- Datalogger Setup - Sensors - 2 ext. NTC
- Extended Setup - Displaymode / Powersave - on



**It is possible to select an internal sensor in menu point: Datalogger Setup - Sensors, but the datalogger HOTBOX HTN is not equipped with such a sensor!**

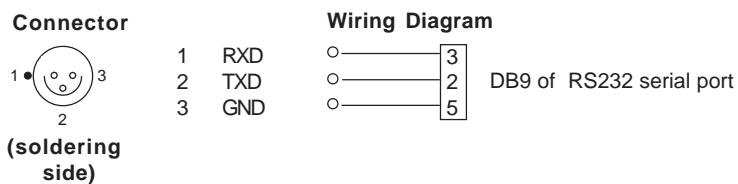
## 4. Definition of Alarm Parameters

The Hotbox HTN is equipped with limit value supervision. These values are defined in the „Setup of Alarm Parameters“ window.

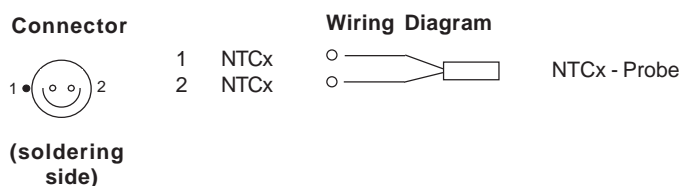
Any limit value violation is shown in the measurement graphic and table. Also the limit value violations may be printed out as an alarm protocol.

## 5. Pin Assignment and Connection Diagram

Wire the 3pin FISCHER connector for the HOTBOX HTN as shown below:



Wire the 2pin FISCHER connector for the HOTBOX HTN as shown below:



## 6. Measurement- Operating-Ranges and Accuracy

### Temperature Measurement

	Range	Resolution	Accuracy
(Logger with sensor typical; logger at room temperature)	-50°C....-25°C	0.1°C	± 0.4°C
	-25°C....0°C	0.1°C	± 0.3°C
	0°C....70°C	0.1°C	± 0.3°C
	70°C....100°C	0.1°C	± 0.5°C
	(100°C....140°C	0.1°C	± 1.0°C)

### Operating Ranges

Datalogger	-40°C..95°C (permanent operation) -50°C.. 110°C (pressure less and temperature peaks) 0%.. 100%rF, with condensation IP68, with open connectors
NTC; External	-50°C..140°C (permanent operation)

## 7. Accessories / Spare Parts / Service

	Part No
PC evaluation software	2338-CDV
PC data cable	2615
NTC Temperature sensors	30xx-Lyy
NTC air probe temperature plug on type	2612
2pin connector incl. soldering	2621-B
Calibration service	

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**广州虹科电子科技有限公司** 广州市五山华南理工大学国家科技园 2 号楼 504-505 室 ( 510640 )

**www.elpro.com** 电话 : 020-3874 3030; 3874 3032 e-mail: [sales@hkaco.com](mailto:sales@hkaco.com) 网站: [www.hkaco.com](http://www.hkaco.com)