

Loggicar R

On-board wireless temperature and humidity logger



OPERATION MANUAL v6.3 BT

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1. Introduction

LOGGICAR - R has been designed to control such parameters as temperature and humidity of the products carried in refrigerated vehicles - in accordance with Commission Regulation (EC) No 37/2005.

Read this manual to increase your satisfaction with reliable, safe and low cost operation.

2. Description of the operation

The data logger has 4 measurement channels to which sensors can be connected to measure temperature or temperature and humidity and 4 digital channels for connecting door closing/opening sensors. The device provides full control over the refrigerator compartment of the vehicle.

The logger is equipped with a report printer for a recipient of goods or inspection personnel to print a delivery report.

The (non-volatile) memory of the logger is capable of storing approx. 32,000 measurements.

When the memory is full, the oldest samples are deleted and new ones are saved (written over).

The contents of the logger memory (for archiving purposes) can be transferred to a computer using Loggisoft LC (optional).

Sample summary memory storage depending on the logging frequency can be found in clause 3 *TECHNICAL DATA*.

The built-in graphic display (OLED) provides local visualisation of measurements and makes the device easy to use.

Logger software also allows you to programme alarm thresholds (lower/upper threshold), exceeding which is indicated by a flashing display and it is shown in the printed report.

The only operating cost of our logger is the printer paper.

3. Technical data

Overall dimensions	105 x 75 x 45 mm	
Weight	0.5 kg	
Ingress protection rating	IP 21	
Power supply*	12-24 V	From cigarette lighter socket
Power input	Max. 18W	
Battery power supply	7.4V ; 1500mAh	Li-ion battery
Battery life	24 hours	Without printing
Logger memory	98000 samples	
Logging frequency	1-180 minutes	
Printer	thermal	
Printer paper	Fi=30 mm	
	L=56 mm	
Number of measurement channels	4 channels	For connecting temperature and humidity sensors
Number of digital channels	4 channels	For connecting open/closed door sensors

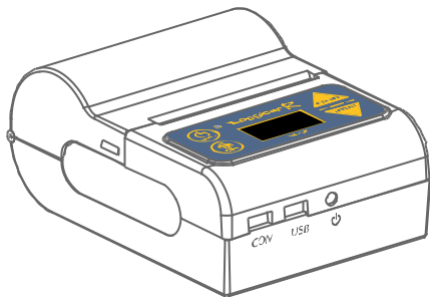
* - If you connect the logger directly to the vehicle battery, an external power supply is required, catalogue number C228, manufactured by MIKSTER.

Sample summary logging time depending on the sampling frequency.

Sampling frequency	Logging in days
5 minutes	340
10 minutes	680
15 minutes	1020
30 minutes	2041

4. Loggicar – R package contents

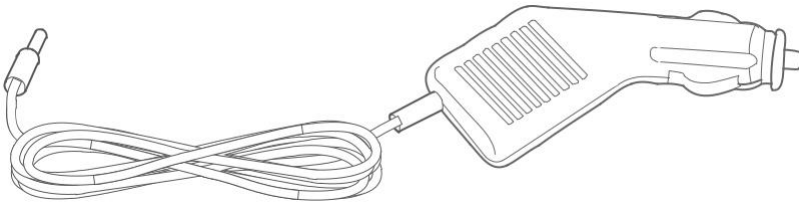
Loggicar-R logger.



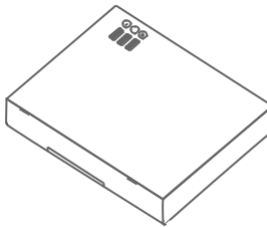
USB/mini USB cable: It is used to connect the logger to a PC in order to read/send logged data (via LOGGISOFT LC software).



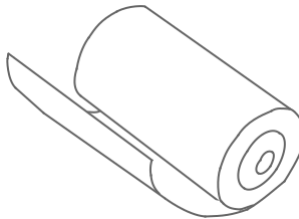
Car charger LCC-01: input voltage - 12V-24V DC, output voltage - 9V DC.



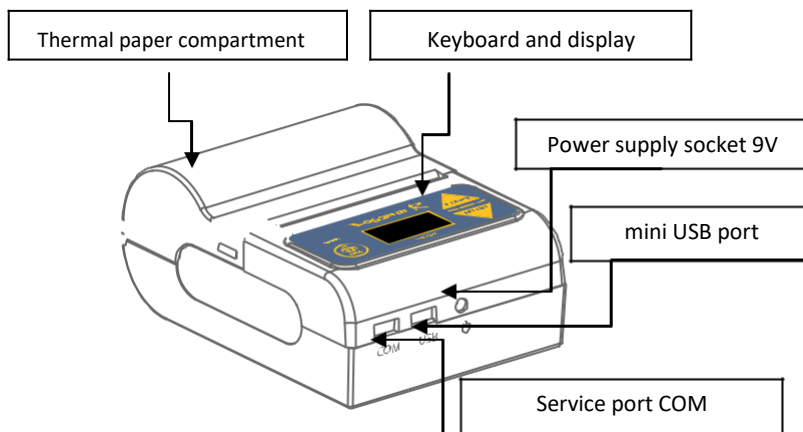
Battery: Li-ion 7.4V / 1500mAh.



Thermal paper: width 56 mm and diameter 30 mm.



5. Logger overview

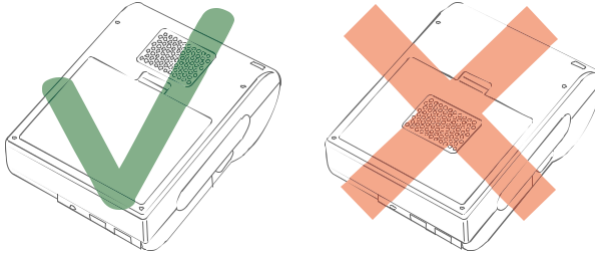


6. How to install the logger

Loggicar – R is a mobile device and this is why no specific place of installation is defined. The user must put the device in a place which is safe for the operation of the vehicle, both while driving and at a standstill. The set includes industrial grade Velcro, which does not guarantee a permanent and lasting fastening of the device to a vehicle's structure, but it is sufficient to keep it in place. The force which keeps the logger in place depends on how clean the substrate is, the type of substrate and care with which the installation is made.

If you suspect that the logger is not fixed well enough, move it in another place. The logger can be mounted with the use of automobile handles for mobile devices.

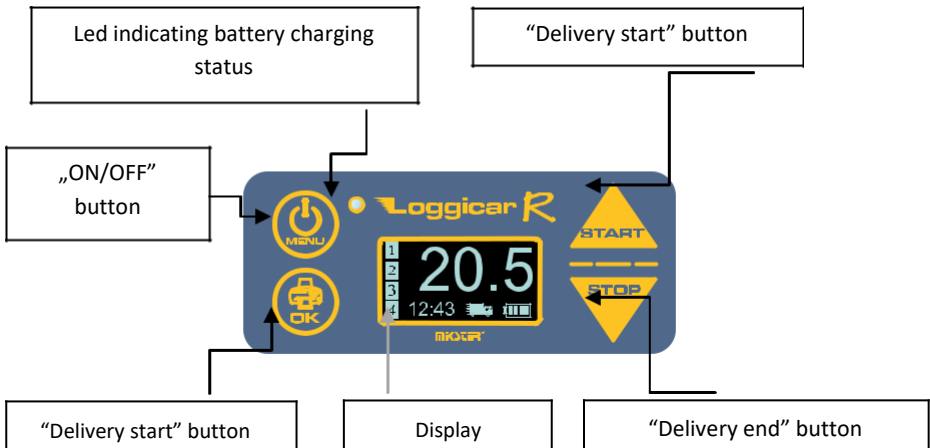
Suggested place application of the industrial-grade Velcro.



NOTE!

The fixing Velcro should not be glued on the battery cover, as the cover may detach, which puts the logger at risk of uncontrolled movement.

7. Keyboard and display



Note!

The keys have the following additional features.



- Call the system menu, return to the previous function



- confirm your choice

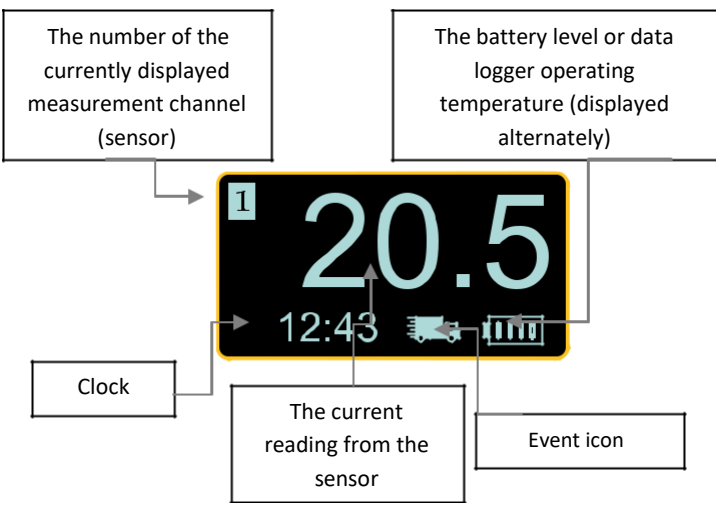


- increment the numerical value, move the cursor/list up







- decrement the numerical value, move the cursor/list down

8. Display

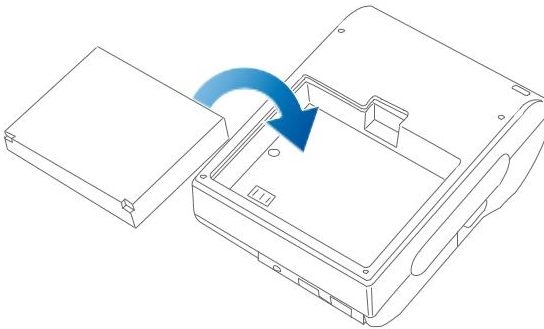


Event icons:

Icon	Description
	No paper
	Delivery
	Alarm
	Battery status

9. First installation

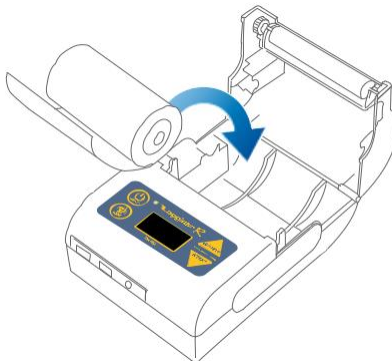
- Insert the battery into the logger.



Note!

It is recommended that the first charge should last until the green LED lights up on the device keyboard. The illumination of the red LED indicates that the battery is being charged. To extend battery life, never discharge it completely.

- Place a roll of thermal paper in the logger paper compartment.

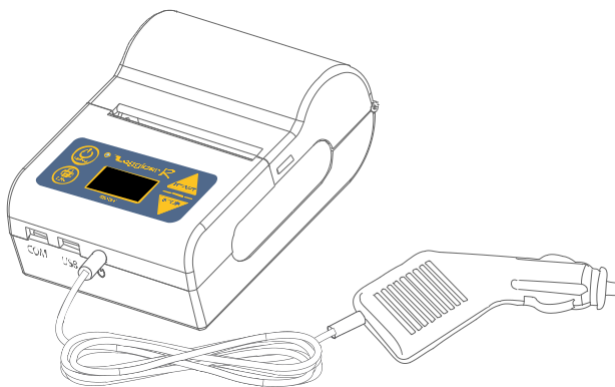


Note!

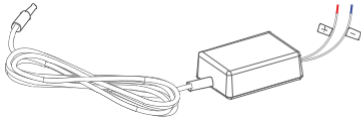
***Thermal paper can be printed over only on one side.
If the print output is not visible, install the paper roll so that the paper is
unwrapped from the other side.***

- Connect the logger to a power supply.

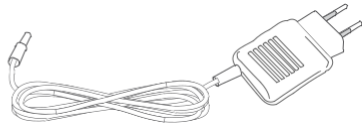
Plug in the LCC-01 logger's car charger into the vehicle's cigarette lighter socket.



Additionally, you can power the logger from the vehicle electrical system using the additional power supply **LCPS-01**, or the AC charger **LCWPS-01**.



Additional power supply LCPS-01



AC charger LCWPS-01

Power supply LCPS-01 and charger LCWPS-01 can be purchased as optional accessories.

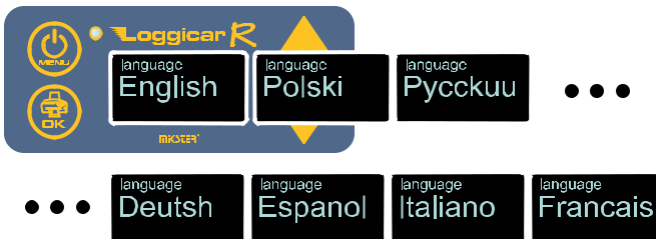



Power on the logger using the power button .



After the display lights up, enter logger's first configuration settings by putting in the basic system parameters such as language, date and time.


Follow the instructions and drawings of this manual.

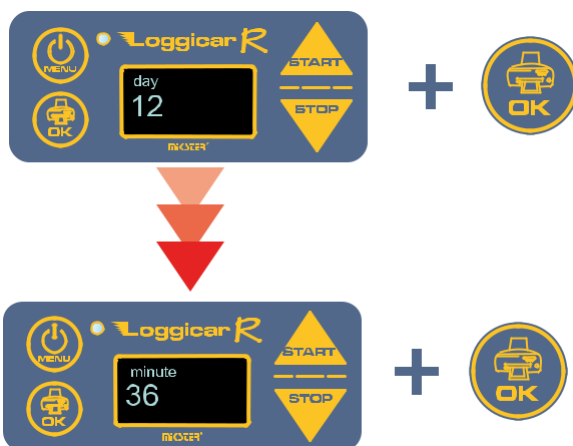
Use the arrow keys  and  to select the system language.



Confirm by pressing  .

Use keys  and  to set the day, month, year, hour and minute of the system clock.

Confirm each selection by pressing .

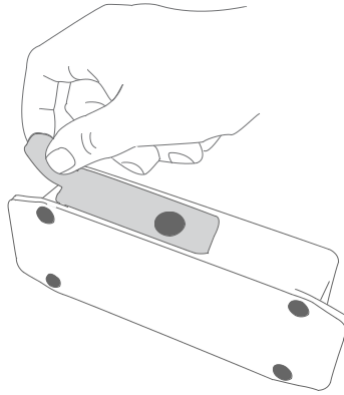


Note!

After these steps the logger is ready for connecting sensors.

10. Adding sensors (logging in sensors)

Prior to pairing the sensors with the logger remove the protection film from the sensor to put the sensor in operating mode – ON. From that moment Loggicar – R will see the sensor in the menu options. No film means that the sensor has been put on.



When you want to pair more than one sensor with the logger, proceed to add sensors in accordance with the following instructions and drawings.

Call:



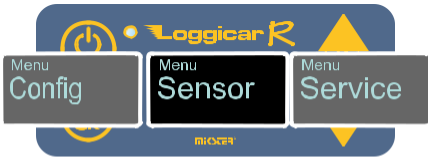
Press button



Use keys



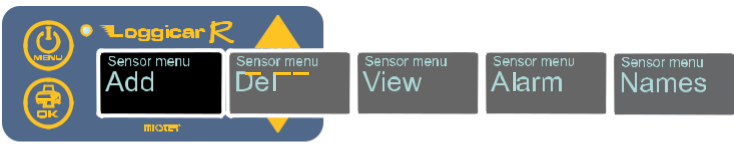
to select the SENSOR option from the menu.



Confirm by pressing



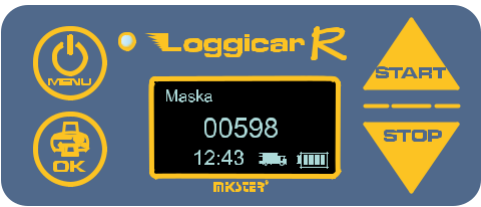
Use keys **START** and **START** to select the ADD option from the menu.



Confirm by pressing



Use keys **START** and **STOP** to enter the address of the sensor.



Example: add the sensor address 598.





Confirm the selection of each digit by pressing input item.

to move to the next



Confirm the value entered by holding down the key for 3 seconds.

After approx. 1 minute, the logger will display the address of the sensor on the list of sensors.

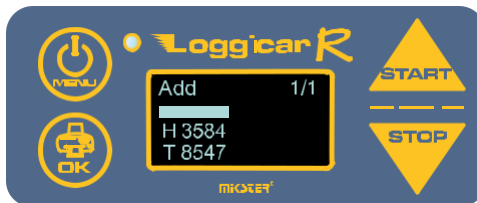
You can also add a sensor by searching its address in the list of “visible” sensors. To do this, enter the address of the sensor mask 00000.



Confirm the selection by holding .



Use keys **START** and **STOP** to select from the list the sensor number to be logged into the logger.



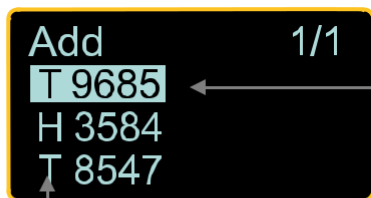


Confirm by pressing key

Note!

If the sensor number to be connected is not on the list does, check whether the sensor is secured by protection film, see clause 10.

Description of sensor identification:



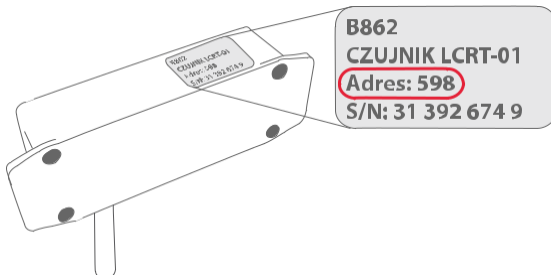
Sensor number

Sensor type:

T – temperature, **H** – humidity, **D** – digital sensor used for event logging: doors opened/closed, unit ON/OFF, thawing ON/OFF.

Note!

Sensor number is placed on the sensor body.



Once you have completed these actions, the logger is ready for use.

11. Logger configuration functions (settings)

11.1. Date and time

Call:



Press button



and



to select the SETTINGS option from the menu.



Confirm by pressing he key






and




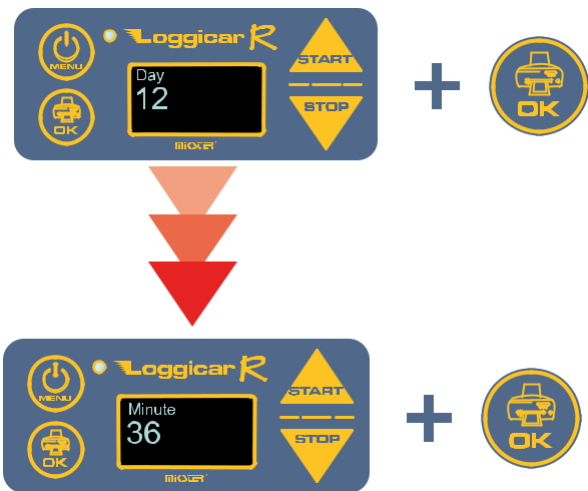
to select the TIME option from the menu.



Confirm by pressing key 

Use keys  and  to set/change the day, month, year, hour and minute of the system clock.

Confirm each selection by pressing 



11.2. Logging frequency (SAMPLE)



Data is logged in the data logger memory by periodically saving measured values in the logger's non-volatile memory.

The data logging interval is referred to as the sampling rate - SAMPLE.

In practice, the sampling rate is dependent on the duration of the shipment process and is usually in the range of 5-60 minutes.



Call:

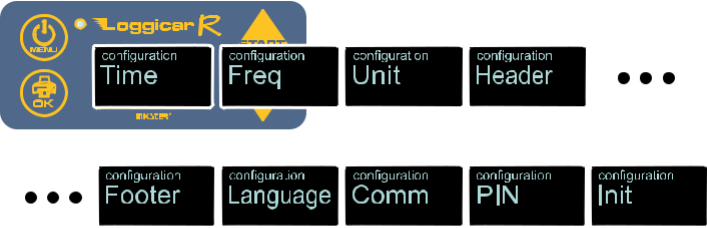
Press button  .


Use keys  and  to select the SETTINGS option from the menu.



Confirm by pressing key  .


Use keys  and  to select the SAMPLE option from the menu.



Confirm by pressing key  .

Use keys  and  to set the sampling frequency.



Confirm by pressing key  .

11.3. Header

The header is the text at the beginning of the printout, which usually contains user information, e.g. the company name, the vehicle registration plate number.

You can print up to two lines of text, with 32 characters per line.

Note!

Due to the size of the logger display the text is entered as 4 lines of 16 characters.



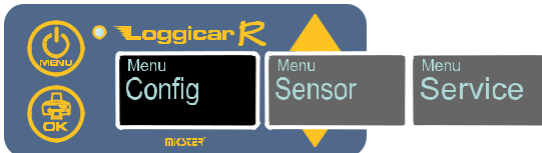
Call:



Press button

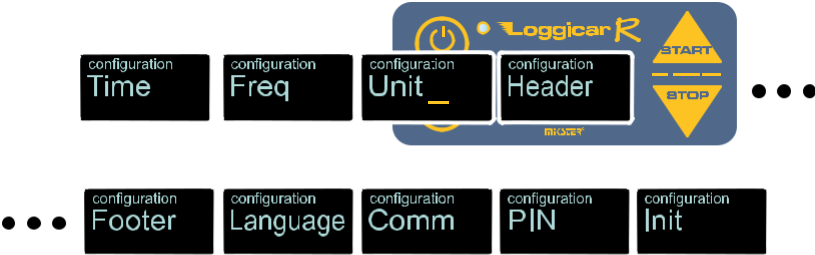



Use keys **START** and **STOP** to select the SETTINGS option from the menu.





Confirm by pressing key


Use the buttons  and  to select the HEADER option from the menu.



Confirm by pressing key  .

Use keys  and  to enter next letters of the header text.



Confirm each selected letter by pressing  .

IMPORTANT:



After entering the header text, press and hold for 2 seconds. The header will be in the logger memory.

11.4. Footer

The footer is the text printed at the end of printout. You can print up to two lines of text, with 32 characters per line.

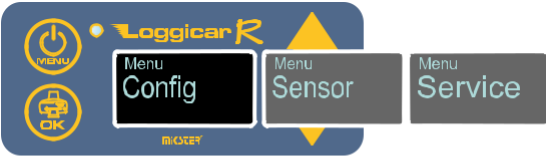


Call: Press button

Use keys  and



to select the SETTINGS option from the menu.





Confirm by pressing key .

Use the buttons  and  to select the FOOTER option from the menu.



Confirm by pressing key .

Use keys  and  to enter next letters of the footer text.





Confirm each selected letter by pressing



IMPORTANT: After entering the footer text, press and hold for 2 seconds. The footer will be stored in the logger memory.

11.5. System language

LOGGICAR-R has a multilingual menu.

The user can choose from several system languages.

Note!

The default system language is English.

The number of available languages may vary depending on the logger firmware version.

Call:



Press button

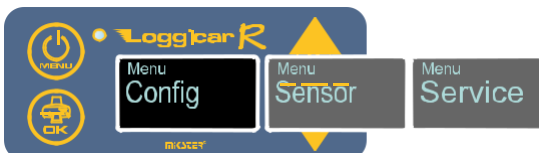


and



to select the SETTINGS option from the



menu.

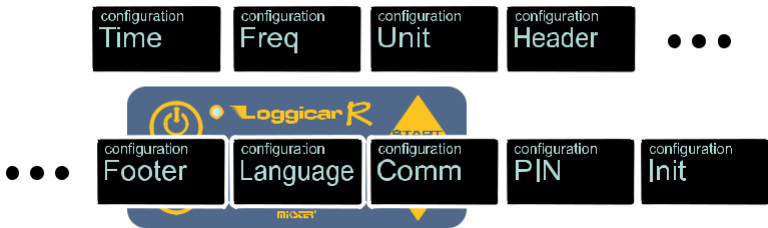




Confirm by pressing key .





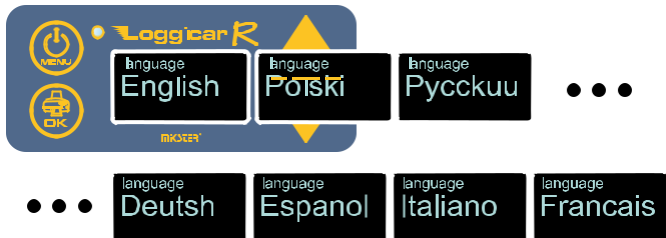
Use keys  and  to select the LANGUAGE option from the menu.



Confirm by pressing key .



Use keys  and  to select the system language from the menu.



Confirm by pressing key .

11.6. Communication

NOTE!

Loggicar-R loggers are fitted with the optional Bluetooth module!

Logger communications is via a communication cable or the Bluetooth module.

Communication port operation mode	
0	Communication via COM port (located on the logger front panel).
1	Communication via Bluetooth module *

* - Loggicar-R BT has the feature of printing from an external device (tablet, smartphone), and requires additional software.

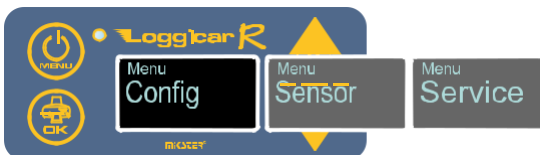
Call:



Press button



Use keys  and  to select the SETTINGS option from the menu.

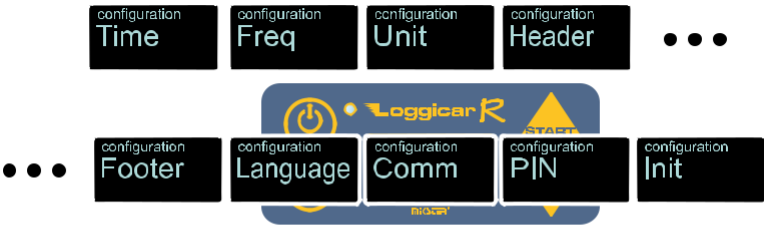
to select the SETTINGS option from the menu.






Confirm by pressing key

Use keys  and  to select the COMMUNICATION option from the menu.



Confirm by pressing key

Use keys  to enter the mode operation number of the communication module, table item 11.6.





After entering the entire code, press and hold for 2 seconds.

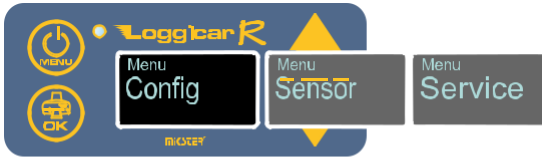
11.7. PIN code

Enter the PIN code to pair the logger with the Loggicar radio unit. The PIN in the radio unit and the logger must be the same.



Call:

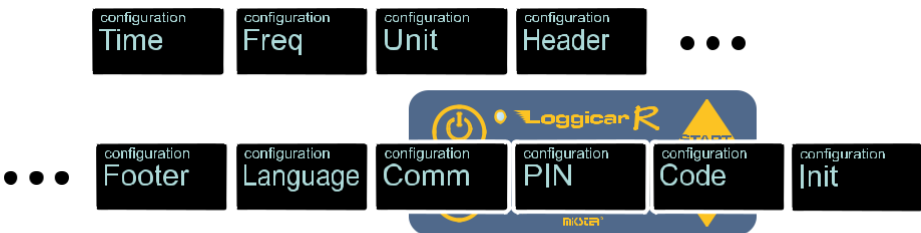
Press button  .

Use keys  and  to select the SETTINGS option from the menu.



Confirm by pressing key  .

Use keys  and  to select the PIN option from the menu.



Confirm by pressing key  .

Use keys  and  to enter further digits of the code.





After entering the entire code, press  and hold for 2 seconds.

11.8. Menu code

It is recommended to use the security code for the main MENU to prevent unauthorised logger reconfiguration.

Call:



Press button .

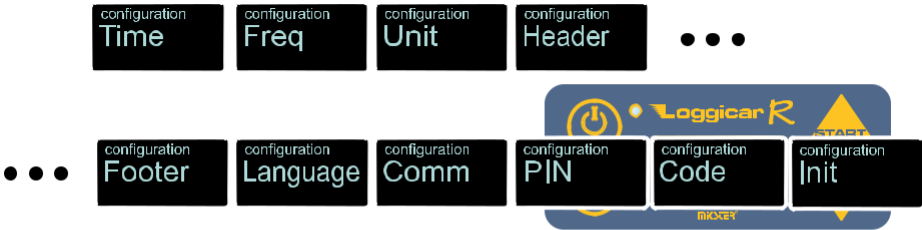
Use keys  and  to select the SETTINGS option from the menu.





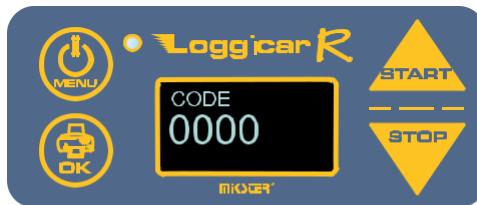
Confirm selection by pressing .

Use keys  and  to select the CODE option from the menu.



Confirm selection by pressing .

Use keys  and  to enter further digits of the code.



Confirm each by pressing .



After entering the entire code, press and hold for 2 seconds.

From that moment the logger Menu can be accessed only by providing the correct CODE.

11.9. Initialisation

NOTE!

When the logger is initialised all recorded data will be reset and default configuration setting values restored. Starting the initialisation procedure is protected by the code 02010.

Call:



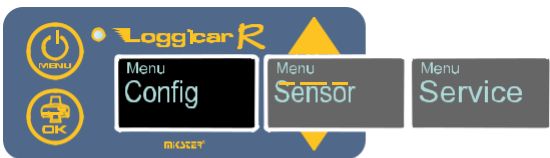
Press button



and



to select the SETTINGS option from the menu.



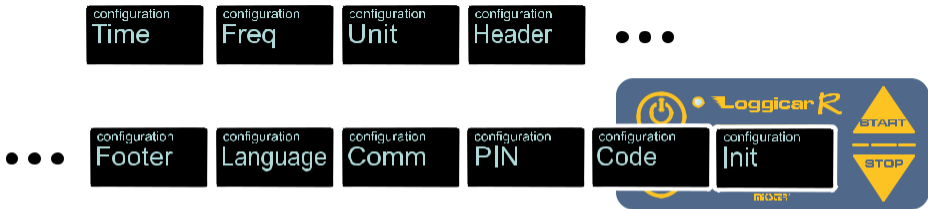
Confirm selection by pressing




and

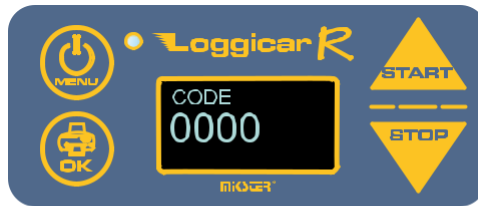



to select the INITIALISATION option from the menu.



Confirm selection by pressing .

Use keys  and  to enter further digits of the code.



Confirm each digit by pressing .

After entering the entire code, press  and hold for 2 seconds.

If the correct code is entered, the logger memory will be cleared irrevocably, and the configuration values are set to default.

12. Sensor configuration

12.1. Adding sensors (logging in sensors)



See clause 10.

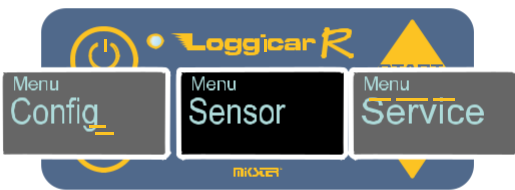
12.2. Removing a sensor


This feature allows you to remove a sensor from the list of logged in sensors.



Call:

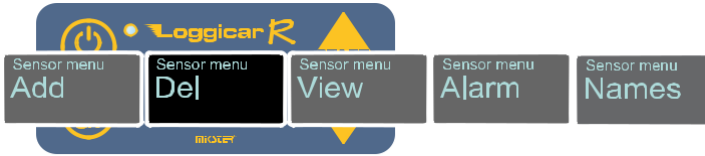
Press button  .

Use keys  and  to select the SENSOR option from the menu.





Confirm selection by pressing  .

Use keys  and  to select the REMOVE option from the menu.





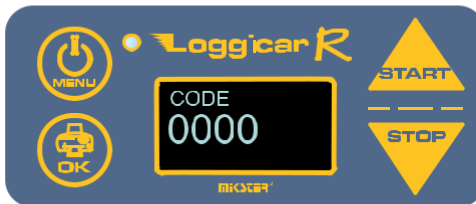
Confirm selection by pressing .

Use keys  and  to select from the list the sensor number to be removed (logged out) from the logger.



Confirm selection by pressing .

Use keys  and  to enter further digits of the security code.



Confirm each digit by pressing .



After entering the entire code, press and hold for 2 seconds.

If the correct code is entered, the sensor will be removed from the list. The default code is 01234.

12.3. Overview of the logged in sensor list

This function displays a list of logged in sensors.

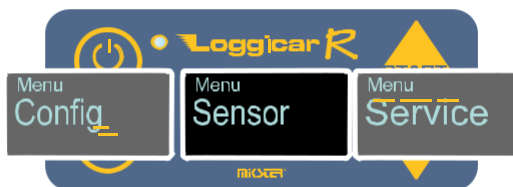
Call:



Press button .



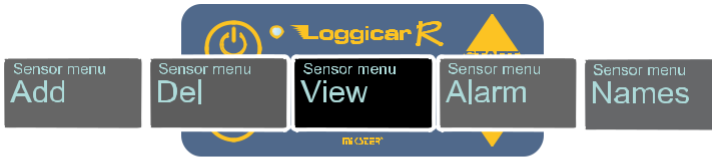
Use keys and to select the SENSOR option from the menu.



Confirm selection by pressing .



Use keys and to select the OVERVIEW option from the menu.



Confirm selection by pressing . Use keys  and  to display the list of logged in sensors.



12.4. Defining alarm thresholds

For each logger logged in sensor the maximum and minimum value can be defined, exceeding which is indicated on the logger display by flashing (alarm).

An exceeded alarm value is recorded in the logger memory, and the value is marked on the printout added to indicate that the alarm value has been exceeded.

Rejestracje			
Czas	T1	T2	T3
13:13	19.1	18.7	19.1
13:18	19.8	19.3	19.7
13:23	20.7>	20.1<	20.4
13:28	21.3>	20.7<	20.1
13:33	21.2>	20.8<	19.2
13:38	21.0>	20.6<	18.7
13:43	20.7>	20.5<	18.9
13:53	20.8>	20.6<	18.9

13.09.2013		13:56	
Koniec raportu			
F.T. Zygmunt Nowak			
96-982 Jurki, ul. Flagowa 59			
www.mikster.com			

Mark indicating exceeding the minimum value.

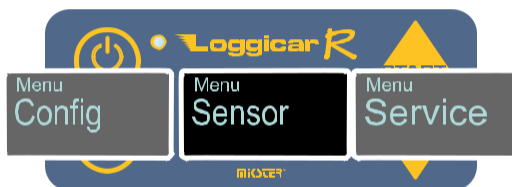
Mark indicating exceeding the maximum value.

Call:



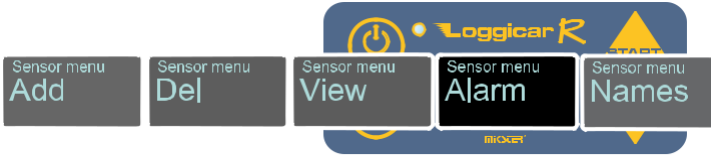
Press button Use

keys **START** and **STOP** to select the SENSOR option from the menu.





Confirm selection by pressing

Use keys **START** and **STOP** to select the ALARM option from the menu.





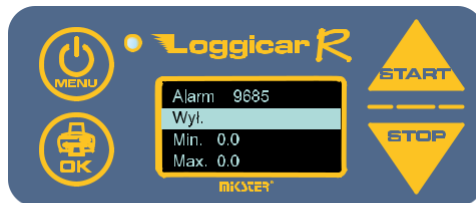
Confirm selection by pressing .

Use keys  and  to select the sensor for which you want to define an alarm.



Confirm selection by pressing .

Use keys  and  to select the parameter to edit. ON/OFF, the maximum alarm value, the minimum alarm value.





Confirm selection by pressing .


Note!


If you the ON/OFF box each time the key  is pressed will turn the alarm on or off.

If you select to edit the Min and Max box, the parameter edit screen is displayed.



Use keys  and  to enter further digits of the parameter.

Confirm each digit by pressing  .

After entering the entire parameter value, press  and hold for 2 seconds.

Note!

To enter a minus sign set the cursor on the first position from the left and

press  . .

12.5. Sensor labels (sensor name)

In order to make it easier to identify sensors logged into the logger, a 16-character text with the sensor description can be assigned.

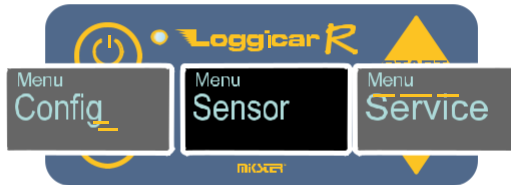
Call:



Press button .



Use keys **START** and **STOP** to select the SENSOR option from the menu.



Confirm selection by pressing .



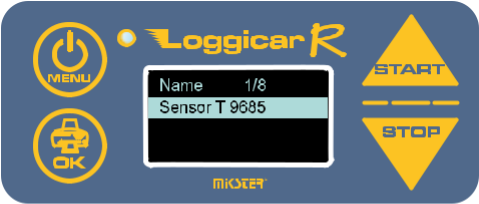
Use keys **START** and **START** to select the NAME option from the menu.




Confirm selection by pressing




Use keys **START** and **STOP** to select the sensor for which you want to enter the name.




Confirm selection by pressing  .

Use keys  and  to enter next letters of the text.



Confirm each selected letter by pressing  .

After entering the footer text, press and hold  for 2 seconds. The name will be stored in the logger memory.

13. Printouts

One of the basic functions of LOGGICAR - R is to print the report of the logged data.

The user has a choice of the following types of reports.

- delivery report
- period report “from date to date”
- device configuration report
- current measurement data report.

13.1. Last delivery report

Printing the last delivery report is a fast method of reporting during the delivery or after its completion.

The procedure for the beginning and end of the delivery is described in clause 14.

If the delivery is completed, the report will be printed from the time of loading until the delivery end.

If the printout is triggered during a delivery, a report will be printed from the time of loading to the time of printing.

Call:



Press button



Use keys  and



to select the DELIVERY option from the menu.



Confirm selection by pressing .



Use buttons **START** and **STOP** to select the LATEST option from the menu.



Confirm selection by pressing .

If deliveries are logged in the logger memory a report will be printed.

13.2. Delivery report from a list

Print a report from the list to print a report of any delivery recorded in the logger memory.

Call:




Press .

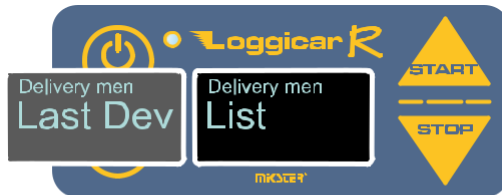



Use keys **START** and **STOP** to select the DELIVERY option from the menu.





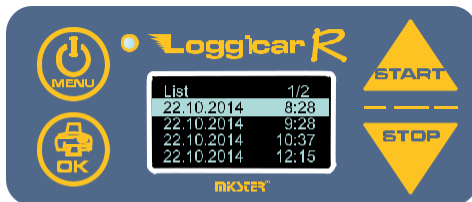
Confirm selection by pressing .


Use **START** and **STOP** to select the LIST option from the menu.



Confirm selection by pressing .

Use keys  and  to select the start date of the delivery from the list.



Confirm selection by pressing  .

13.3. Report from “date to date”



Note! LOGGICAR-C logs data continuously from the time sensors are logged in regardless of whether a delivery has been started or not.

This DATE print option can be used to print a report for a period specified from date to date.


Call:



Press  .

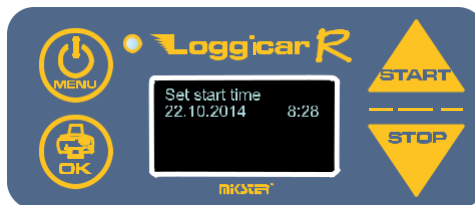



Use  and  to select the DATE option from the menu.



Confirm selection by pressing .

Use keys  and  to enter the digits of the date and time of the report to be printed.



Confirm each digit by pressing .



Confirm the date by pressing and holding Select for 2 seconds.
the report end date in a similar manner.

If the logger has logged any data for the selected period, a report will be printed.

13.4. Settings report

Print Settings option can be used to print logger configuration.

Call:



Press .



Use keys **START** and **STOP** to select the SETTINGS option from the menu.



Confirm selection by pressing .

RAPORT KONFIGURACYJNY
LOGGICAR - R 5/N 65104 v0.70

1.Nagłówek
FIRMA TRANSPORTOWA
Zygmunt Nowak

2.Stopka
F.T. Zygmunt Nowak
96-982 Jurki, ul. Flagowa 59

3.Aktualna data
07.12.2015

4.Aktualny czas
16:38

5.Częstotliwość próbkowania (próbka)
5min.

6. Załogowane czujniki
T1: Czujnik 102 - agregat
T2: Czujnik 19 - pojemnik

Koniec raportu

13.5. Current measurement data report

This option can be used for immediate printing of current measurement data.

Call:




Hold to start printing.



14. Delivery logging

A “delivery” means the shipment process from the time of loading until unloading.

To log the beginning of a delivery press .

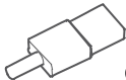

To log the end of a delivery press .

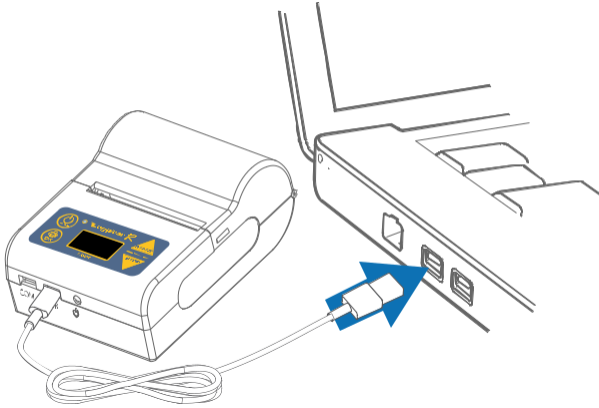
If the logger recorder is in the delivery mode, the icon shown in the picture is displayed.



15. Connecting Loggicar – R to a computer

In order to connect the logger to a PC using a USB/miniUSB cable. The

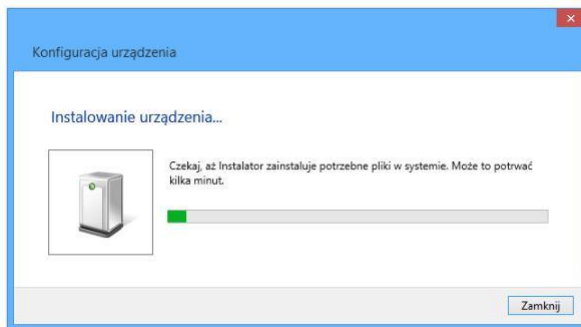
 end of the USB cable connect to a free USB port on your PC and inset the other miniUSB end  into the logger socket recorder marked as USB.



After connecting turn on Loggicar – R.



The computer will install the drivers necessary for the proper logger operation.

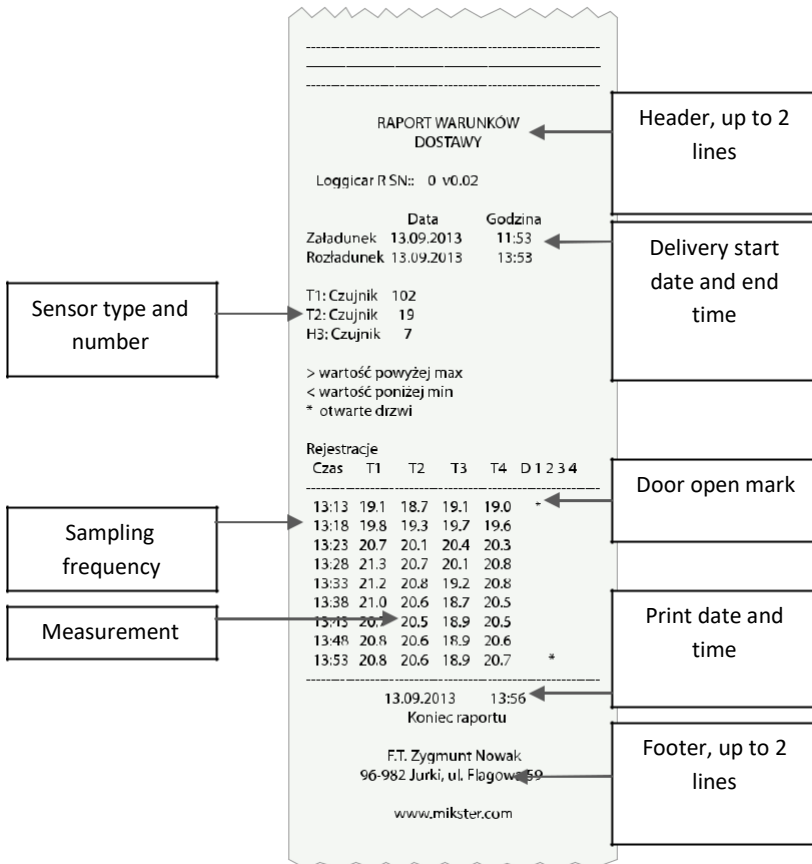


If the computer fails to find a suitable driver, it must be downloaded from the webpage www.mikster.pl, the Software section.

Overview of the logging including the configuration software allows of Loggisoft LC, it must be downloaded from the webpage www.mikster.pl, the Software section.

16. Printout description

Printout:



Deliveries: From the delivery menu you can print the latest delivery or select it from the list (previous deliveries).

Date: You can also print by the date. To do so introduce the start time, the end time and select the delivery, which was carried out in this period.

17. Notices and comments

- LOGGICAR is a device for professional use and should be used for its intended purpose.
- Do not use the device with visible mechanical damage e.g. cracked housing, damaged cable insulation, broken connectors, etc.

18. Copyright

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19. EC Declaration of Conformity (page 1)

	Mikster Sp. z o.o. ul. Wojkowska 21 41-250 Czeladź POLAND	NIP: 954-21-13-188 REGON: 273545050 Rachunek bankowy: 50 1050 1214 1000 0022	tel. +48 32 763 77 77 fax +48 32 763 75 94 e-mail: info@mikster.pl website: www.mikster.pl
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EC Declaration of Conformity

No. **01/14**

The undersigned, representing the manufacturer mentioned below

Manufacturer: **Mikster Sp. z o.o.**
Address: **ul. Wojkowska 21, 41-250 Czeladź, POLAND**

or the following authorised representatives duly authorised by the manufacturer established in the Community (or EEA) (if necessary)

Authorised representative:
Address:

I hereby declare that the product

product identification:

Loggicar - R

is compliant with the provisions of the following EC directive(s) (including all amendments and supplements thereto)

Directive number (document)	Title
89/336/EEC 91/263/EEC amendments 92/31/EEC 93/68/EEC	Council Directive 89/336/EEC of 3 May 1989 on the approximation of the laws of the Members States relating to electromagnetic compatibility.

and that the standards and/or technical specifications listed on the second page were applied.

The last two digits of the year of the CE marking:.....

(if compliance is declared with the provisions of the Low Voltage Directive 73/23/EEC)

Place: Czeladź


date: 09.04.2014r.

WICEPREZES ZARZADU
Zbigniew Ponitka
Zbigniew Ponitka

Signature

(Name and job title of the signatory authorised to represent the manufacturer or the authorised representative)

20. EC Declaration of Conformity (page 2)

	Mikster Sp. z o.o. ul. Wojkowska 21 41-250 Czeladź POLAND	NIP: 954-21-13-188 REGON: 273545050 Rachunek bankowy: 50 1050 1214 1000 0022	tel. +48 32 763 77 77 fax +48 32 763 75 94 e-mail: info@mikster.pl website: www.mikster.pl
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EC Declaration of Conformity

No. **01/14**

Standards and/or technical documentation or parts thereof applied to the product, to which this declaration of conformity pertains:

- harmonised standards:

No.	Nr. normy	Title
1	PN-92 / E-08106	Ingress protection rating of enclosures (IP Code)
2	PN-EN 50082-2:1997	Electromagnetic compatibility (EMC). General Requirements for immunity to disturbances. Industrial Environment
3	PN-EN 61000-4-5:1999	Electromagnetic compatibility (EMC). Testing and measurement techniques. Surge immunity test. Basic EMC publication.
4	PN-EN 61000-4-4: 1999	Electromagnetic compatibility (EMC). Testing and measurement techniques. Electrical fast transient/burst immunity test. Basic EMC publication.
5	PN-EN 61000-4-2: 1999	Electromagnetic compatibility (EMC). Testing and measurement techniques. Electrostatic discharge immunity test. Basic EMC publication.
6	EN 61000-4-11: 1997	Electromagnetic compatibility (EMC). Testing and measurement techniques. Voltage dips, short interruptions and voltage variations immunity tests.
7	PN-EN 61000-4-8:1998	Electromagnetic compatibility (EMC). Testing and measurement techniques. Power frequency magnetic field immunity test.
8	PN-EN 12830:2002	Temperature recorders for the transport, storage and distribution of chilled, frozen, deep-frozen/quick-frozen food and ice cream. Tests, performance and suitability

- other standards and/or technical documents:

No.	Title
9	Operation manual

- other technical solutions, details, which are included in the technical documentation:

- Other documents or information required by the EC relevant directive(s)¹:

Certificate of calibration carried out on behalf.....
Verification certificate.....
.....

(1) To be completed in case of relying on parts and chapters of the standards or technical documentation

 Loggicar R

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