## DESCRIPTION

CAMIN (Control And Monitor Instrument Network) is an application developed and designed to collect information, monitor and fully control a network of connected devices. The computer software automatically recognizes each type of device.

Capabilities:

- Monitoring all temperatures
- monitoring the status of all relays and functions
- open-closed door chamber monitoring (for devices with digital input)
- monitoring all the alarms that each device support
- activation-deactivation of each device (ON/OFF)
- export temperature and relay status data to excel file (for further processing, such as creating charts, etc.) and a pdf file with company including the company information
- ability to change device parameters and save them to a file on the computer
- email or SMS notification in the event of an alarm
- sound alarm and display of it in case of a device alarm

The device network operates with a RS485 data transmission system and a Modbus communication protocol.Its operating speed is 9600 Baud Rate, and can grow to a maximum length of 1000m. It needs to be powered by Voltage DC (+ 12-24) DC.

The computer and each device must be provided with an interface that connects them to the network. A suitable interface for the computer is the PC USB interface and the NET-INS-485 interface for the devices. The network devices are connected to each other with a shielded twisted-pair UTP cable.

PC USB INTERFACE	NET-INS-485
INTERFACE PC USB	DEVICE INTERFACE
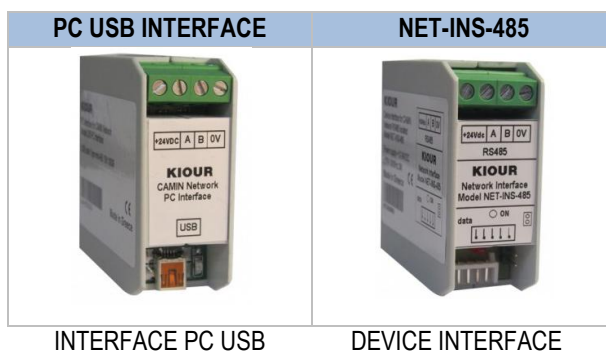
PACKAGE CONTENTS

- Software installation CD-ROM
- Computer interface (model *PC USB Interface)* and USB cable for the connection with the computer's port
- Interface for each device (model *NET-INS-485*) and cable for the connection with the controller
- Network power supply +12VDC

SYSTEM REQUIREMENTS

MINIMUM REQUIREMENTS

- Operating system : Windows 10/8/7/XP/2000/NT*
- CPU : Pentium3/Celeron 600MHz
- RAM memory : 256 MB
- Screen resolution : 1024 x 768
- Free disk space: 50 MB
- USB port
- The use of UPS line on the computer and modem is highly recommended for the timely notification of main power failure

RECOMMENDED REQUIREMENTS

- Operating system : Windows 10/8/7/XP/2000/NT*
- CPU : Pentium4
- RAM Memory: 1 GB
- Screen Resolution: 1024 x 768
- Free disk space: 100 MB

The application does not work in Windows98 or older

APPLICATION INSTALLATION

The installation procedure consists of 3 parts :

1. NETWORK CONNECTIONS

2. SOFTWARE INSTALLATION ON THE COMPUTER

3. PDF CREATOR INSTALLATION

NETWORK CONNECTIONS

Interface connection on the computer

1. First connect the **PC USB Interface** to an available USB port at the computer using the included USB cable.
2. At the PC USB interface connect**:**
   i) at the 0-+24VDC terminals of its power supply, a pair of a UTP cable * (power supply pair).
   ii) at the A-B terminals (network signal), a second pair of the same UTP cable (signal pair).
3. The +12-24Vdc network supply is just plugged into the power supply socket.

Interface connection on the controller :

4. Connect each **controller** with a **NET-INS-485** interface using the included cable.
5. At the **NET-INS-485** terminals connect **:**
   i) the power supply pair of the UTP cable.
   ii) the signal pair of the UTP cable.
6. Shortcut the 2 pins of the **NET-INS-485,** located at the end of the cable with a jumper.
7. Set the addresses of the devices that are connected to the network via the **Add** parameter, so that the smallest address is 1 and all the others are incremented sequentially by one.

NOTE: The circuit described above is illustrated in Figure 1 below.

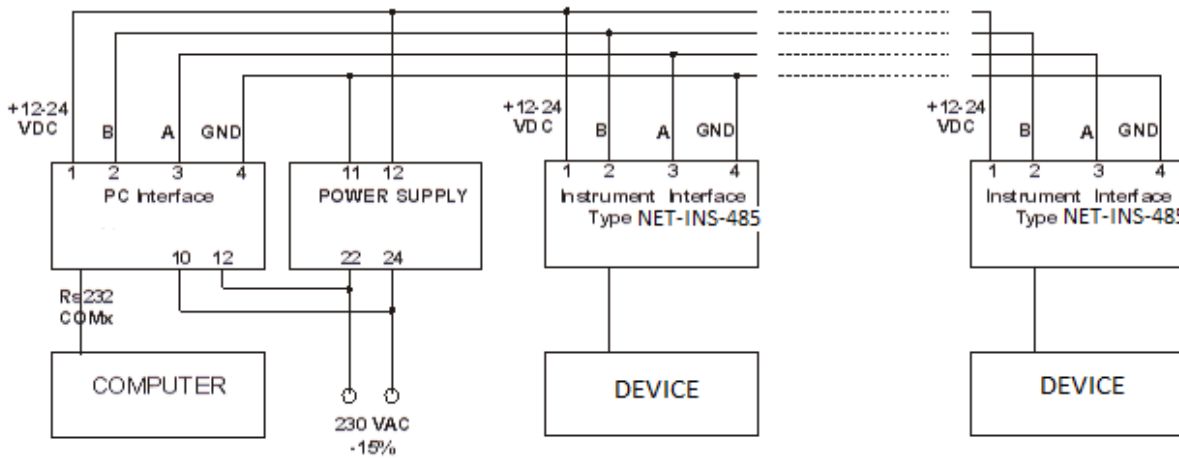*The UTP cable must be shielded twisted-pair and it is not included in the package.*

Figure 1 : Network Circuit

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To install the software, place the CD-ROM on the computer and double-click the setup file to initiate the installation. When the following window appears click Next.

In the next tab and choose the installation folder of the application. If you want to change the address of the file, click on Browse.
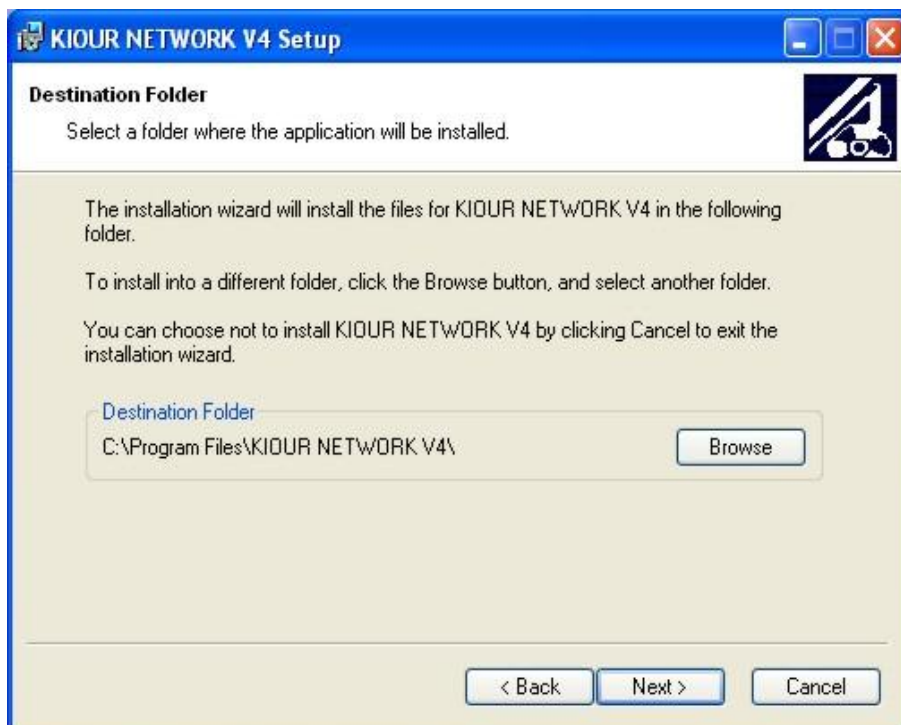
In the next tab click Next to initiate the installation of the application.
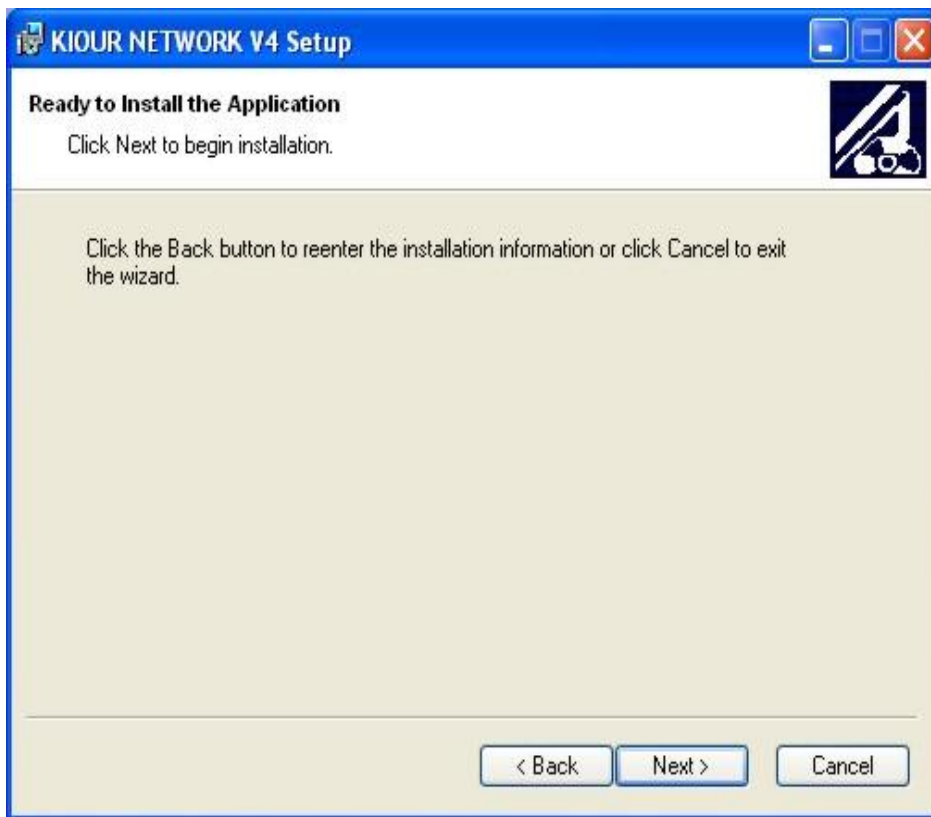
Wait a few seconds until installation is complete and the following tab of the wizzard appears. Click Finish to complete the installation.

ATTENTION! You will have to copy the KIOUR network folder and all of its contents, in C: \ (**it is important that the hard drive is C**)

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PDF CREATOR 2.2.2 INSTALLATION

Besides the main application, it is necessary to install PDF Creator (version 2.2.2) in order for the application to create PDF files. The installation starts by running the PDFCreator-2_2_2_setup.exe file.

ATTENTION! It is necessary that the PDF Creator version is 2.2.2. So you do not have to upgrade if prompted after installing it on the computer and if there is already another version installed on the computer you should remove it and install 2.2.2 inside the CD.

RUNNING THE APPLICATION

The application runs by selecting the CAMIN V7.4 icon created in the Windows Start Menu and in the KIOUR folder or on the desktop
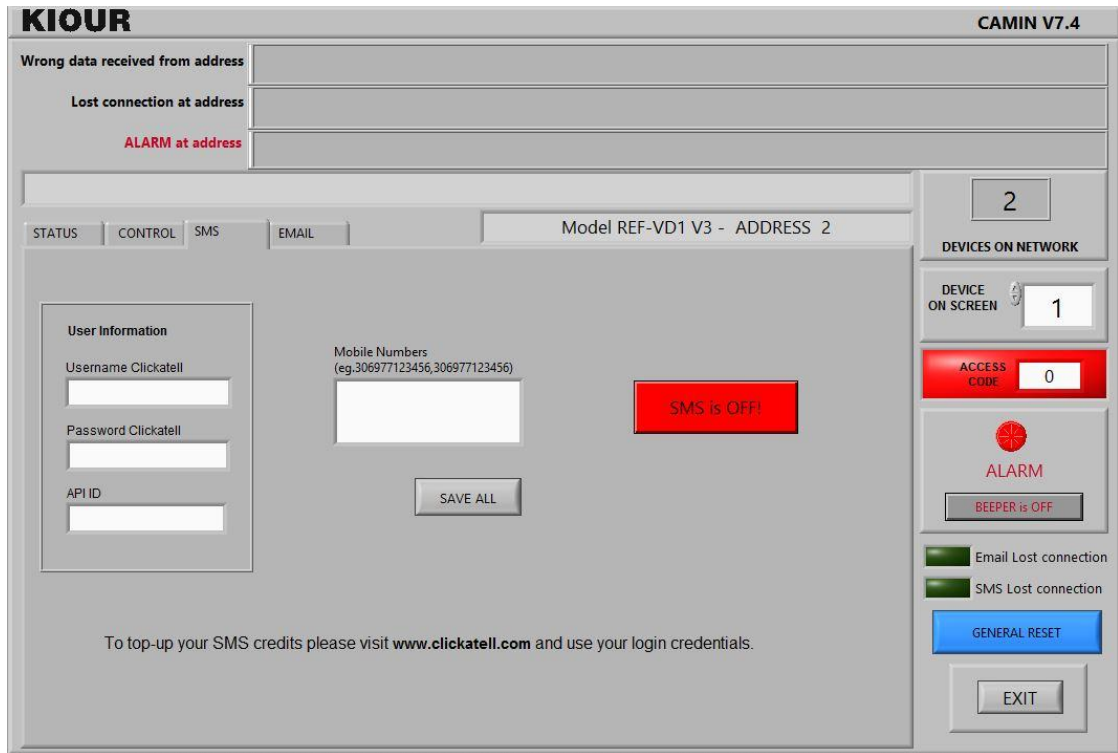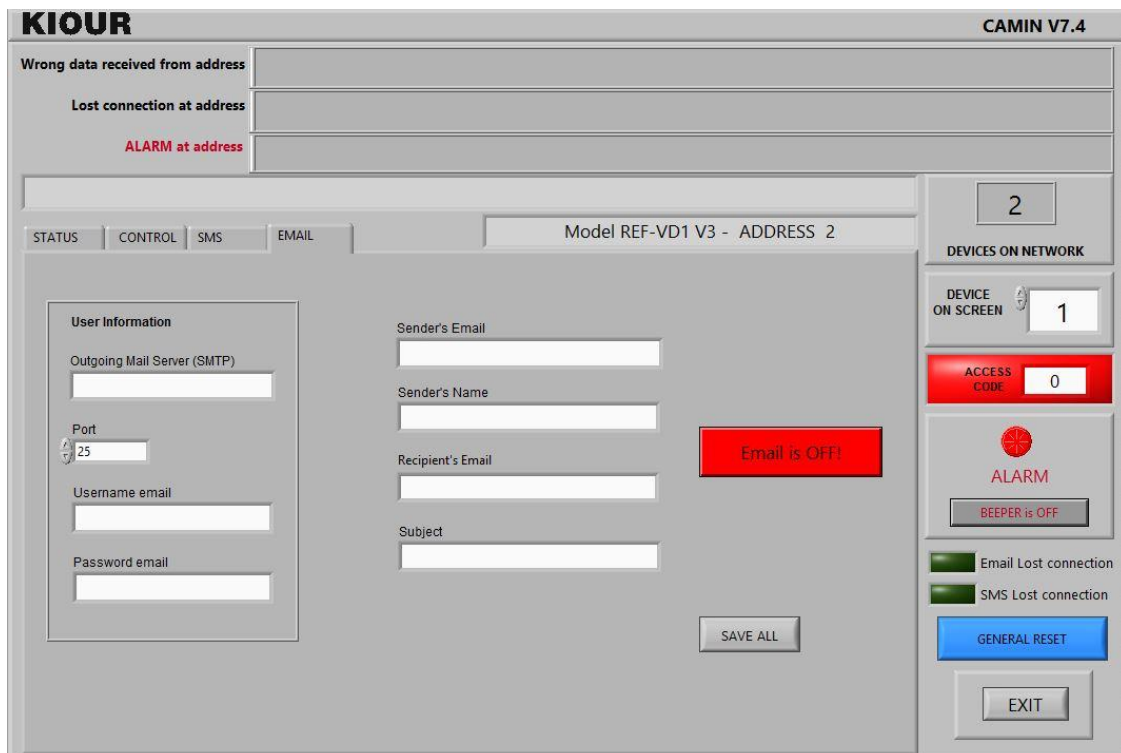

Figure 1

Figure 2

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KIOUR CAMIN V7.4

Wrong data received from address

Lost connection at address

ALARM at address

| STATUS | CONTROL | SMS | EMAIL | | Model REF-VD1 V3 - ADDRESS 2 |

2

DEVICES ON NETWORK

DEVICE ON SCREEN **1**

ACCESS CODE **0**

ALARM

BEEPER is OFF

User Information

Username Clickatell

Password Clickatell

API ID

Mobile Numbers
(eg.306977123456,306977123456)

SMS is OFF!

SAVE ALL

Email Lost connection

SMS Lost connection

GENERAL RESET

EXIT

To top-up your SMS credits please visit **www.clickatell.com** and use your login credentials.

Figure 3

KIOUR CAMIN V7.4

Wrong data received from address

Lost connection at address

ALARM at address

| STATUS | CONTROL | SMS | EMAIL | | Model REF-VD1 V3 - ADDRESS 2 |

2

DEVICES ON NETWORK

DEVICE ON SCREEN **1**

ACCESS CODE **0**

ALARM

BEEPER is OFF

User Information

Outgoing Mail Server (SMTP)

Port
25

Username email

Password email

Sender's Email

Sender's Name

Recipient's Email

Subject

Email is OFF!

SAVE ALL

Email Lost connection

SMS Lost connection

GENERAL RESET

EXIT

Figure 4

DETAILED DESCRIPTION OF APPLICATION FUNCTIONS

The application consists of four sections.

The first one is called **STATUS** (enabled by clicking on STATUS) and shows any information that the selected device can give us. These are the temperatures measured by the device's sensors, the status of its relays, any alarm, whether or not the device is switched on.(figure1)

The second section is called **CONTROL** (enabled by clicking CONTROL) and allows the user to check or change the parameters of the selected device and to make various settings in the application (photo 2).

The third section is called **SMS** (activated by clicking on SMS) and sets which phones will receive a message when there is an alarm (figure 3). Sending is done via a Clickatell internet service where a credit card is linked and the balance of the units is automatically updated for timely SMS delivery.

The fourth section is called **EMAIL** (activated by clicking on EMAIL) and sets which email address will receive an update when there is an alarm (photo 4).

It is recommended to use both SMS and EMAIL for early warning in case of alarm.

- **Connecting a device to the network**

1. Hardware connections, as described at the section "NETWORK CONNECTIONS"
2. Set the addresses of the devices that are connected to the network via the Add parameter, so that the smallest address is 1 and all the others are incremented sequentially by one.

- **Display a device on the screen**

Select the address of the device that you want to display on the screen.

- **Update the application with the device parameter values**

The parameter values shown in the parameter area ,in order to be updated you must necessarily click on the *Load parameters from Device → PC* option.

- **Changing parameters on the device**

In order to change any program settings, a security code must be entered.

1. Enter the number 22 at the *ACCESS CODE* cell
2. Enter the new parameter values into the parameter section. Values that are red cannot be changed by the application.
3. You can enter the values in the device by pressing the Load parameters from PC → Device.
NOTE: To prevent unauthorized modification of parameters, enter a number other than 22 in the ACCESS CODE cell.

- **Saving the parameters values to a file**

By clicking *Save Parameters to file*, a window will appear from which you can select the folder and file name to store the parameters.

- **Loading parameter values from the file**

By clicking on *Load Parameters from file*, a window will appear from which you can select the file containing the parameters you want to load.

- **Monitor the status of the device**

In the STATUS section, we can monitor the status of relays, temperature and alarm related to the selected instrument. Alarms, depending on the monitored device, may be a sensor error, room temperature limitation, open door.

- **Recording**

By clicking on *Temperature recording is ON* the device's temperature and condition recording starts from the application based on the selected time. As long as the *Temperature recording* option is ON, the recording is in progress. When it is red, the recording is paused and displays *Temperature recording is OFF*. For displaying the records, see "Create PDF File" and "Create Excel File" sections.

- **Create PDF File**

The PDF file to be created will contain a table with the temperatures, the status of the relays and the alarms recorded for the selected device. Also, on each page, you are able to see the company information in order to create a document that is compliant with the **HACCP** requirements. The file name will consist of the model of the device, its network address, and the company's information. The listing of the **company's information** is in the CONTROL Company's Info section and are saved by clicking on *SAVE*. Creating the file is done with the Export PDF option. The file will be placed in the "C: \ KIOUR NETWORK \ DATA" folder. An example of a PDF file is shown in Appendix A.

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- **Create Excel File**

The EXCEL file to be created will contain a table of temperatures, relay status, and alarms recorded for the selected device. It can be used by the user to create charts or for further processing. The file name will consist of the model of the device, its network address, and company info. The file is created with the *Export Excel button* and placed in the folder "C: \ KIOUR NETWORK \ DATA". EXCEL . File example is presented in Appendix A.

- **Activation-Deactivation of the device**

1. Enter the number 22 at the ACCESS CODE cell
2. Select the ON/OFF Device option for the device you want to turn ON or OFF. The device, even when OFF, still reads temperature

NOTE: To prevent unauthorized activation-deactivation of a device, enter a number other than 22 in the ACCESS CODE cell.

- **Exit the application**

By clicking on the *EXIT* option the application is terminated after entering the security code.

- **Alarms**

An alarm activates in case of (depending on the model of the device):
i) Communication problem between the device and the application
ii) Sensor malfunction of the device
iii) Open door
iv) Violation of the upper or lower temperature limit set on the device parameters

- **Deactivation of the alarm**

With the option *BEEPER*.

- **GENERAL RESET**

If you want to turn off the alarm, which for some reason has been activated on a device, click the General Reset button.

- **Notification via SMS and EMAIL**

It is important that the user is informed immediately in the event of an alarm (open door, high temperature, etc.) This is done via SMS and email. The entry of the email address and the phone number is made in section 6 and registered with SAVE SETUP. Switching them on / off is done with the buttons SMS is ON or OFF and Email is ON or OFF and they are turned on when they are green. In the event of a problem in sending, Lost Connection and Email Lost Connection will be activated respectively.

TROUBLESHOOTING

❖   A yellow light on the Wrong Received Data line, which corresponds to a device address.

Solution: Usually, when the indicator is on, the status indicators of the relays are not automatically updated or the model of the device is not recognized. The parameter **tr** must be changed through the device.

❖   A red light on the Communication Fail line, which corresponds to a device address.

Solution: Problem connecting the device to that address:
i) Check if there is a device with that address on the network.
ii) Check if the device is connected to the network as described in "Network Connections," (page 2)
iii) Check for any defective cables.

❖   The error message "Unable to locate the LabVIEW Run - Time Engine" appears when trying to run the application.

Solution: Incorrect installation of the application. Reinstall the application as described in "SOFTWARE INSTALLATION" section (page 3).

❖   The error message "Error 7 occurred at open file + .vi: Open file" appears when trying to run the application.

Solution: The "kiour SETUP COM.txt" file has not been copied as described in "SOFTWARE INSTALLATION," section (page 4).

❖   "Error 7 occurred at New file" message appears when trying to run the application.

 Solution: The ''KIOUR NETWORK\DATA'' file has not been copied as described in "SOFTWARE INSTALLATION" section (page4)

❖   The PDF file is not created

Solution: Wrong version of PDF Creator is installed or there is no PDF creator installed. The required version is 2.2.2.

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PDF and EXCEL exportation examples

Made in Greece.

ATTENTION: separate the signal's cables from the power supply's cables to prevent electromagnetic disorders
Signal cables must never be in the same pipe with the power supply cables.

Read and keep these instructions

The application is under two year's guarantee of good operation. The guarantee is valid only if the manual instructions have been applied.
The control and service of the application must be done by an authorized technician. The guarantee covers only the replacement or the service of a device

KIOUR preserves the right to adjust its products without further notice

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