

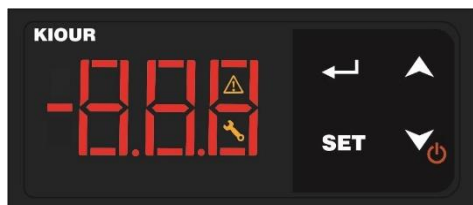
**ATTENTION**

Firmware V4.0.0

Read carefully these instructions before installing and using this device and keep them for future reference. Attention to installation and electrical wiring. Use this device only as described in this document and never use itself as a security device. The device must be disposed of in accordance with local standards for the collection of electrical and electronic equipment.

**DESCRIPTION**

MICF0 thermometer displays temperatures via a sensor. The temperature is controlled with an NTC / PTC type sensor. The sensor can be adjusted via parameter to NTC scale  $-50 \pm 112^{\circ}\text{C}$  ( $-58 \pm 230^{\circ}\text{F}$ ) or PTC scale  $-50 \pm 150^{\circ}\text{C}$  ( $-58 \pm 302^{\circ}\text{F}$ ). Possibility of alarm display in case of high or low temperature as well as possibility of alarm in case of sensor's malfunction. It has 3 indication digits of temperature display with an accuracy of  $0.5^{\circ}\text{C}$  and 4 buttons. The device is mounted on a panel hole  $29 \times 71 \text{mm}$  and it is restrained with plastic side brackets. Through the serial input it can be connected to a network either through Cloud IoT on the CORTEX platform, or through a local computer in the CAMIN program for complete local recording and monitoring of the device.

**INDICATIONS - CONNECTIONS - DIMENSIONS**

| Indications |                |
|-------------|----------------|
|             | alarm ON       |
|             | malfunction ON |

| Keyboard |                                                        |
|----------|--------------------------------------------------------|
|          | enter/exit the parameter's menu<br>store new parameter |
|          | display the parameter's value                          |
|          | up arrow                                               |
|          | down arrow<br>ON/OFF device (check below)              |

For more indications regarding the alarms please see the alarm's table below.

**PROGRAMMING A PARAMETER**

**ATTENTION:** to gain full access to the parameter's menu, the 3<sup>rd</sup> parameter **Cod** must be adjusted to **22** (see parameter table next page)

- Press to enter the parameter menu.
- Choose the parameter you want to adjust by pressing or and press to display its value.
- Press or to change its value and then press to store the new value.
- Press to exit the parameter menu.

**INDUSTRIAL FACTORY SETTINGS**

- Press to display the parameter **Cod**.
- Press to display its value and press and press to enter the value **31**. By pressing to store the value to parameter **Cod**.
- Press again to exit the parameter menu, 'YES' is displayed on the screen. All appropriate factory settings are now stored in the device.

**SWITCHING ON / OFF THE DEVICE**

To activate or deactivate the device, press for 3 seconds .

**SERIAL INPUT**

MICF0 connects via serial input to the cloud and the online CORTEX platform or to a local computer with the CAMIN program or to the memory key or to any Modbus network.

- Cloud and CORTEX platform: connection to the cloud and the CORTEX platform for monitoring - recording and managing the thermometer from your mobile, tablet or any computer. Also, send email and Viber SMS in case of alarm.
- CAMIN program: local connection and monitoring - recording and management of the thermostat through the CAMIN program installed on a local computer.

**TECHNICAL SPECIFICATIONS**

Model **MICF0** power supply: 24VAC/DC 50/60Hz / Maximum power consumption: 3W. Model **MICF0W** switching power supply 100-264VAC 50/60Hz 5W.

It is recommended using a power supply safety fuse: 0.5A (not included)

Room temperature sensor NTC 10K 1%  $25^{\circ}\text{C}$  IP68 with temperature range  $-50 \pm 112^{\circ}\text{C}$  ( $-58 \pm 230^{\circ}\text{F}$ ) (or PTC 1K  $25^{\circ}\text{C}$  with temperature range  $-50 \pm 150^{\circ}\text{C}$  ( $-58 \pm 302^{\circ}\text{F}$ ) not included) / Accuracy:  $\pm 0.5^{\circ}\text{C}$

Serial input with 5pin connector

Connections: cable cross section from 0.25 to 1.0 mm<sup>2</sup> for the sensors

Connections with terminal blocks 18A using cable with cable cross section up to 2.5 mm<sup>2</sup> / It is recommended using a torque wrench with maximum torque 0.4Nm

Operating temperature:  $-15 \pm 55^{\circ}\text{C}$  / Storage temperature:  $-20 \pm 80^{\circ}\text{C}$

Dimensions  $28 \times 70 \times 60 \text{mm}$  / The device is mounted on a panel hole  $29 \times 71 \text{mm}$  and it is restrained with plastic side brackets / Protection IP65 front

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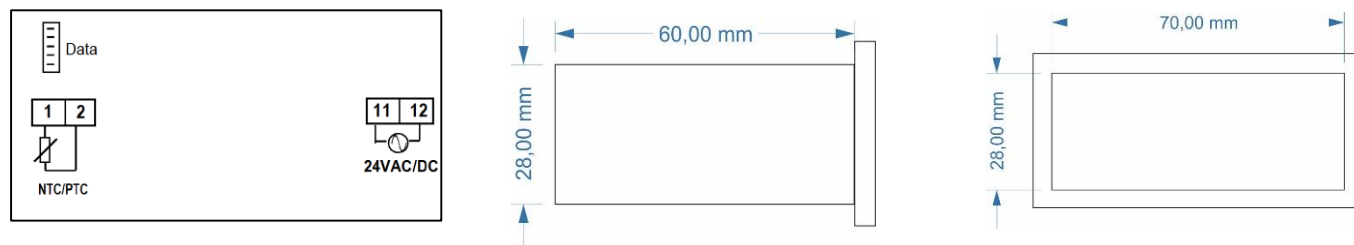
**ELECTRICAL DIAGRAM - DIMENSIONS**

**ATTENTION:** according to safety standards, the device must be properly positioned and protected from any contact with electrical parts. The device must be fastened in such a way that it cannot be removed without the use of tools. Disconnect the main safety switch of the installation before proceeding to any maintenance. Disconnect the power supply of the device before proceeding to any maintenance. Do not place the device near heat sources, equipment containing strong magnets, in areas affected by direct sunlight or rain. Prevent electrostatic discharges and sharp objects from been inserted to the device. Separate signal cables from power supply cables to prevent electromagnetic disorders. Signal cables must never be in the same pipe with the power supply cables.

**ATTENTION:** Read carefully the technical specifications and make sure that the working conditions are appropriate. According to safety standards, the device must be fastened in such a way that it cannot be removed without the use of tools.



Dimensions are in mm. The device is mounted on panel hole with cut 29x71mm and restrained with plastic side brackets.



PARAMETER TABLE

| No.                                |     | description                                                                                                                                                      | min   | max  | MICF0 | uom   |
|------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|-------|-------|
| 1                                  | Cod | enter password code Cod = 22 and press  to enter the other parameters                                                                                            | 0     | 255  | 0     | -     |
| <b>ANALOG INPUTS - TEMPERATURE</b> |     |                                                                                                                                                                  |       |      |       |       |
| 2                                  | SEn | sensor type NTC/PTC, where: 0 = PTC , 1 = NTC                                                                                                                    | 0     | 1    | 1=NTC | -     |
| 3                                  | SE1 | room sensor offset                                                                                                                                               | -10.0 | 10.0 | 0.0   | °C/°F |
| 4                                  | tdS | delay in displaying the actual room temperature on the screen                                                                                                    | 0     | 255  | 0     | sec   |
| 5                                  | C_F | toggling °C / °F , where: 0 = °C , 1 = °F<br><b>ATTENTION:</b> toggling between °C / °F do not adjust the ALo, AHi automatically, it must be changed by the user | 0     | 1    | 0=°C  | -     |
| <b>ALARMS</b>                      |     |                                                                                                                                                                  |       |      |       |       |
| 6                                  | ALo | lower alarm limit temperature of the cabinet                                                                                                                     | -50.0 | +150 | +4.0  | °C/°F |
| 7                                  | AHi | higher alarm limit temperature of the cabinet                                                                                                                    | -50.0 | +150 | +40.0 | °C/°F |
| 8                                  | At2 | Time delay in activating "ALo", "AHi".<br>This setting does not apply to sensor failure "LF1"                                                                    | 0     | 200  | 0     | min   |
| <b>NETWORK - GENERAL SETTINGS</b>  |     |                                                                                                                                                                  |       |      |       |       |
| 9                                  | Add | device address on network.                                                                                                                                       | 0     | 255  | 1     | -     |
| 10                                 | trE | response time of the device on network.                                                                                                                          | 10    | 100  | 40    | msec  |
| 11                                 | bAU | Baud rate: 0 = 2400 / 1 = 4800 / 2 = 9600 / 3 = 19200<br>Enter the new value, exit the parameter menu by pressing  and toggle the power supply of the device.    | 0     | 3    | 3     | -     |
| 12                                 | Pro | cabinet's program (factory settings) is displayed – no access                                                                                                    | -     | -    | 1     | -     |
| 13                                 | tPE | unique product number – no access                                                                                                                                | -     | -    | 71    | -     |
| 14                                 | UEr | Firmware version – no access                                                                                                                                     | -     | -    | 4.0.X | -     |

ALARM TABLE

|                                                                                  |     |                                       |
|----------------------------------------------------------------------------------|-----|---------------------------------------|
| 1                                                                                | LF1 | sensor malfunction                    |
| 2                                                                                | ALo | low temperature alarm in the cabinet  |
| 3                                                                                | AHi | high temperature alarm in the cabinet |
| The alarms are automatically deactivated when the cause of the alarm disappears. |     |                                       |

Made in Greece.



RoHS



**ATTENTION** according to safety standards, the device must be properly positioned and protected from any contact with electrical parts. All parts that provide protection must be fastened in such a way that they cannot be removed without the use of tools. **ATTENTION:** disconnect the power supply of the device before proceeding to any kind of maintenance. **ATTENTION:** do not place the device near heat sources, equipment containing strong magnets, in areas affected by direct sunlight or rain. **ATTENTION:** prevent electrostatic discharges at the side slots of the device and sharp objects from been inserted. **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. **Use the device only as described in this document, not to use itself as a security device. The device must be disposed of in accordance with local standards for the collection of electrical and electronic equipment. Read and keep these instructions.** The device 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 device must be done by an authorized technician. The guarantee covers only the replacement or the service of the device.

KIOUR preserves the right to adjust its products without further notice.