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. <u>The device must be disposed of in accordance with local standards for the collection of electrical and electronic equipment.</u>

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÷+112°C (-58÷+230°F) or PTC scale -50÷+150°C (-58÷+302°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 °C and 4 buttons. The device is mounted on a panel hole 29x71mm 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
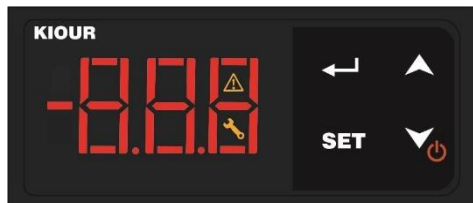
Indications	
⚠	alarm ON
🔧	malfunction ON

Keyboard	
↵	enter/exit the parameter's menu store new parameter
SET	display the parameter's value
▲	up arrow
▼ ⏻	down arrow ON/OFF device (check below)

For more indications regarding the <u>alarms</u> please see the alarm's table below.

PROGRAMMING A PARAMETER

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

1. Press ↵ to enter the parameter menu.

2. Choose the parameter you want to adjust by pressing ▼ or ▲ and press SET to display its value.

3. Press ▼ or ▲ to change its value and then press ↵ to store the new value.

4. Press ↵ to exit the parameter menu.

INDUSTRIAL FACTORY SETTINGS

1. Press ↵ to display the parameter **Cod**.

2. Press SET to display its value and press and press ▲ to enter the value **31**. <u>By pressing</u> ↵ <u>to store the value to parameter **Cod.**</u>

3. <u>Press</u> ↵ 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: 230VAC 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°C IP68 with temperature range -50÷+112°C (-58÷+230°F) (or PTC 1K 25°C with temperature range -50÷+150°C (-58÷+302°F) not included) / Accuracy: ±0.5°C
Serial input with 5pin connector
Connections: cable cross section from 0.25 to 1.0 mm² for the sensors
Connections with terminal blocks 18A using cable with cable cross section up to 2.5 mm² / It is recommended using a torque wrench with maximum torque 0.4Nm
Operating temperature: -15÷+55°C / Storage temperature: -20÷+80°C
Dimensions 28x70x60mm / The device is mounted on a panel hole 29x71mm and it is restrained with plastic side brackets / Protection IP65 front
Firmware: V4.0.0

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.
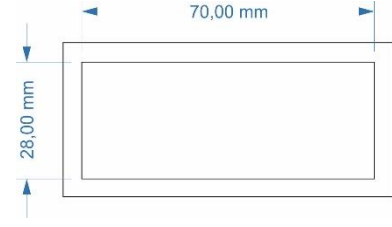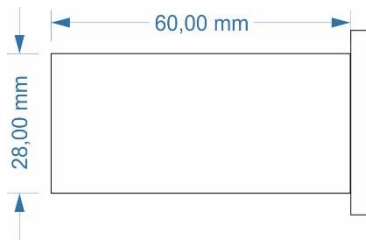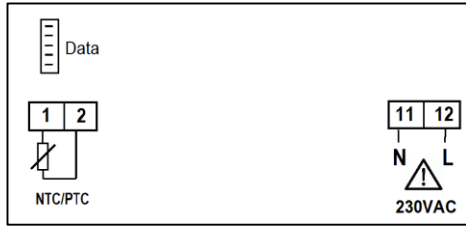
PARAMETER TABLE

No.		description	min	max	MICF0	uom
1	**Cod**	enter password code Cod = 22 and press ⊙ to enter the other parameters	0	255	0	-
ANALOG INPUTS - TEMPERATURE						
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 *ATTENTION:* toggling between **°C / °F** do not adjust the ALo, AHi automatically, it must be changed by the user	0	1	0=°C	-
ALARMS						
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".* This setting does not apply to sensor failure "LF1"	0	200	0	min
NETWORK - GENERAL SETTINGS						
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* 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.		

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