

DESCRIPTION

FBX is a heating controller for heating rooms (bain-marie). It has one **external heater relay (30A)** which is held from a mounting frame on the thermostat. It also has an internal relay 5A to control room's lamp or fan. The sensor can be either **NTC** scale $-37\pm+110^{\circ}\text{C}$ ($-34\pm+230^{\circ}\text{F}$) or **PTC** scale $-50\pm+110^{\circ}\text{C}$ ($-58\pm+230^{\circ}\text{F}$) by adjusting a parameter.

INDICATIONS AND BUTTON OPERATIONS OUTSIDE THE PARAMETER'S MENU

Indications	
	heater ON
	fan ON
	alarm ON
	malfuction ON

button	Operations outside the parameter menu	
	pressed once	pressed more than 3 sec
	enter parameter's menu	-
	temperature scale °C/°F	device ON/OFF
	-	-
SET	-	-

PROGRAMMING THE PARAMETERS

By pressing [] we **enter or exit** the parameter's menu.

The first parameter "SPo" is displayed and with the [, , we scroll into the parameters based on the parameter's table below.

By pressing [SET] the value of the parameter is displayed and with the [, , we adjust the value.

By pressing [, we **confirm** the new value and the name of the parameter is displayed.

By pressing [SET] we **cancel** the new value, the old one is kept and the name of the parameter is displayed

SWITCHING ON/OFF THE DEVICE

By pressing **more than 3 sec** the button [, we **switch ON or OFF** the device.

TECHNICAL SPECIFICATIONS

Power supply: 230VAC 50/60Hz / Maximum power consumption: 3W

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

Cabinet's temperature sensor NTC 10K 1% 25°C IP68 (or PTC 1K 25°C is not included) / Accuracy: 0.5°C

External relay for heater 250VAC 30A resistive load

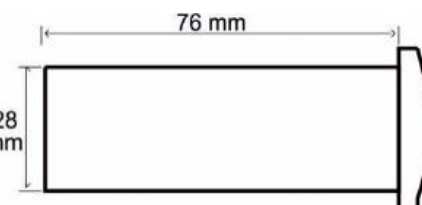
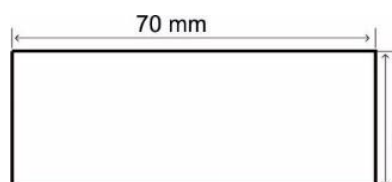
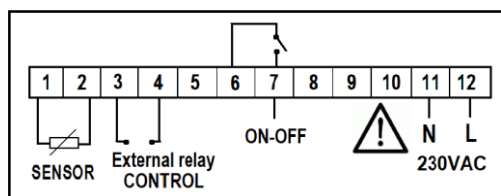
Internal relay for the cabinet lamp or fan ON/OFF 250VAC 10A

Operating temperature: $-15\pm+70^{\circ}\text{C}$ / Storage temperature: $-20\pm+80^{\circ}\text{C}$

The device is mounted through panel hole 29x71mm and is restrained with two plastic side brackets

Connection with terminal blocks 18A

CONNECTIONS - DIMENSIONS



PARAMETER TABLE

#	code	description	Max. Min	Default Ρυθμίσεις	
				Program 31	Program 32
1	SPo	SET POINT: temperature control of the cabinet	SLo... SHi	75	70
2	Cod	code to enter parameter's menu Cod = 22. reset to Programs 31 till 32 we choose Cod = 31 till 32(desired program) and exit from parameter's menu	0...255	22	22
3	SLo	minimum temperature limit of SPo	-50.0... SHi	25	25
4	SHi	maximum temperature limit of SPo	SLo... +150	90	72
5	diF	differential relay function	0.1... 25.0	5	3
6	AJ1	zero adjustment of temperature sensor	-9.0... +10.0	0	3
7	LAo	ON or OFF fan indicator on the display, where: Lao=0 the fan indication is activated και Lao=1 the fan indication is deactivated	0...1	1= OFF	0= ON
8	dEC	temperature indication as integer or decimal , where dEC=0 integer , dEC=1 decimal	0...1	0	0
9	Sen	NTC/PTC sensor selection for Sen = 0 PTC and Sen = 1 NTC	0...1	0	0
10	C_F	switch °C/°F (0=°C, 1=°F) ATTENTION: changes between °C/°F do not apply on SP	0...1	0	0

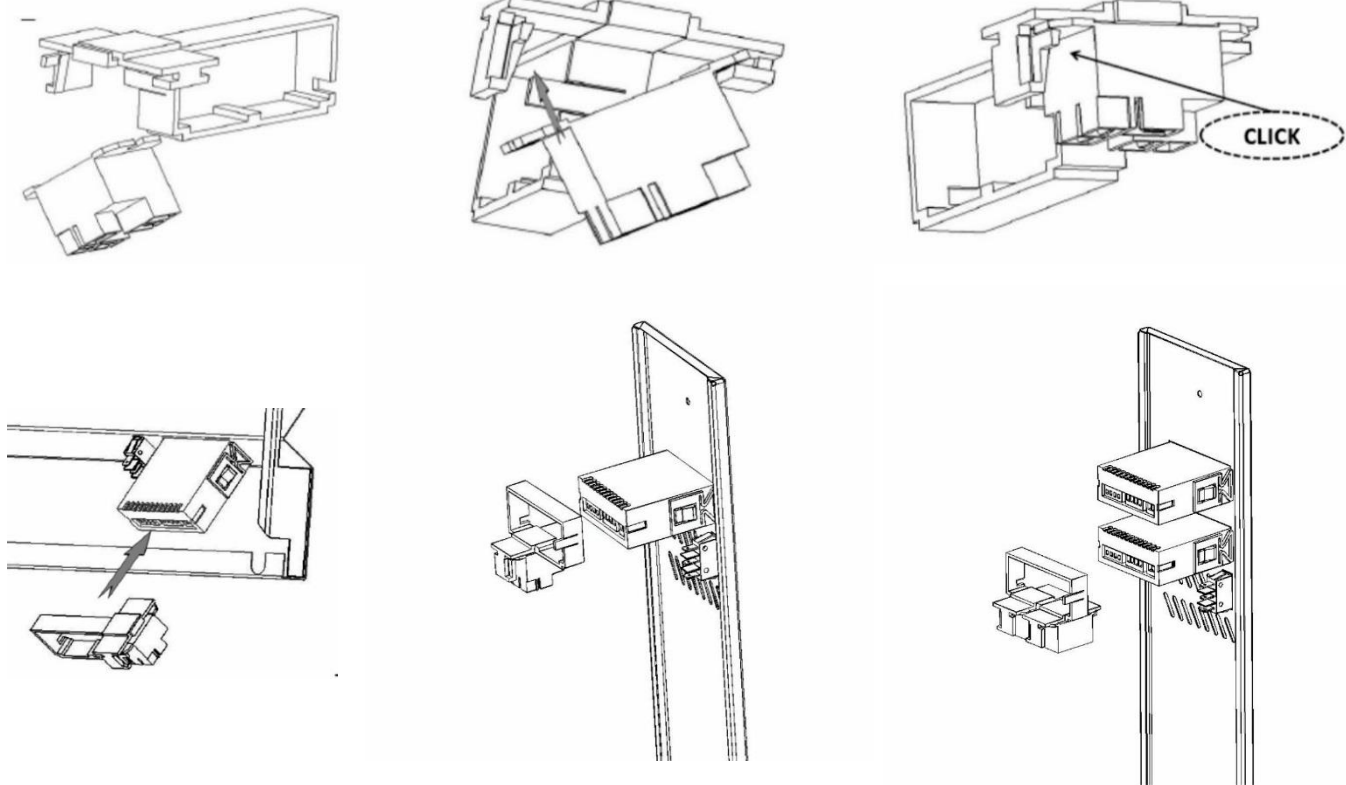
ALARM TABLE

1	LF1	cabinet sensor malfunction
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HOLDER OF THE EXTERNAL RELAY

The alarms are automatically deactivated when the cause of the alarm disappears.

The holder of the relay consists of a frame and a base restraint. Each frame can hold up to three relays, while each relay requires its own base restraint. The relay is secured over the frame with the help of the restraint and then the frame is secured over the controller's shell. The connections of the relay should be facing down to be protected from falling liquid, as in the following pictures



Made in Greece.



CE RoHS

TÜV
AUSTRIA
HELLAS
EN ISO 9001:2015
No.: 01010102

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 being 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.