TEMPERATURE CONTROLLER TOUCH LINE Model RSD3   **KIOUR**

DESCRIPTION

RSD3 is a temperature controller for refrigerator rooms using touch technology for the keyboard. Through a **PTC sensor** controls room's temperatures in range -50÷+150°C (-58÷+302°F). In scale -19.9÷+99.9°C there is a decimal analysis with accuracy ±0.1°C. It has **three relays** (compressor, fan, defrost). It has also defrost control and a buzzer activation due to an alarm. The controller has a serial input and can connect to the **KIOUR CAMIN** modbus network for full monitoring and data logging of the device.

INDICATIONS AND BUTTON OPERATIONS

Indications	
❄	compressor ON
💨	fan ON
❄❄	defrost ON
⊶O	locked keyboard
🔧	sensor malfunction

button	Operations		
	pressed once	pressed more than 3 sec	pressed at the same time
↵	enter parameter's menu **confirm** new value	-	-
▲ T2	-	-	-
▼⏻ MUTE	temperature scale indication °C/°F mute buzzer	ON/OFF controller	unlock device
SET dF	**cancel** new value	manual defrost	

STARTING UP THE DEVICE

At the startup of the device, the temperature controller performs a self-check for 7sec and the room's temperature is displayed. Do not touch the screen during self-check.

By pressing at the same time **SET** and ▼ , a countdown of 3 seconds starts and the temperature controller unlocks.

The keyboard locks automatically after 50sec without activity.

⏻ ON/OFF DEVICE

By pressing more than 3sec the button ▼ we **switch ON or OFF**.

PROGRAMMING THE PARAMETERS

By pressing [↵] we enter the parameter's menu.
The first parameter **"SPO"** is displayed and with [▲], [▼] we scroll into the parameters with the order they appear to parameters table below   .
By pressing [SET] the value of the parameter is displayed and with the [▲], [▼] we change 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 and the name of the parameter is displayed.
By pressing [↵] we **exit** the parameters menu.

TECHNICAL SPECIFICATIONS

Power supply: 230VAC 50/60Hz / Maximum power consumption: 3W
It is recommended to use a power supply safety switch: fuse 0,5A (not included)
Cabinet's temperature sensor PTC 1K 25°C / Accuracy: 0.5°C
Relay compressor 250VAC 30A resistive load / Relays fan, defrost 250VAC 10A
Operating temperature: -15÷+70°C / Storage temperature: -20÷+80°C
The device is mounted through panel hole 29x71mm and secured with snap-in brackets. Connection with terminal tabs 6.3×0.8mm

CONNECTIONS - DIMENSIONS
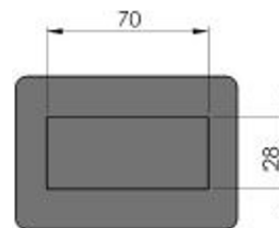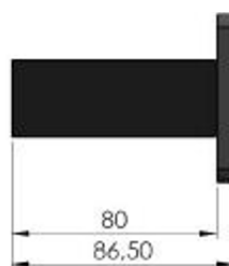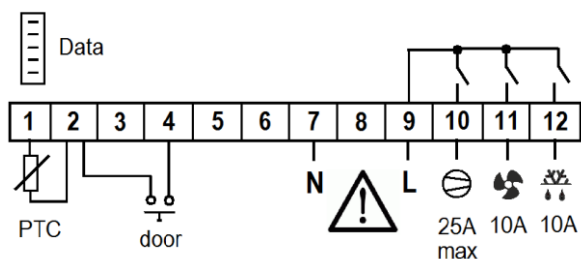
SERIAL INPUT

RSD3 can connect to the **key programmer** or to the data logger **Mini Logger** or to the **KIOUR CAMIN** network or to any **modbus network**.

- **Key programmer:** controller's parameter values can be saved or retrieved from the programming key. Plug in the programming key to the controller and press at the same time [SET]+[▲]. The device connects to the key and the message "**Eo**" is displayed. By pressing [▲] the device downloads the parameters from the key and the message "**ro**" = read O.K. or "**rF**" = read Fail is displayed. By pressing [▼] the device uploads the parameters to the key and the message "**Yo**" = Write O.K. or "**YF**" = Write Fail is displayed. In case of failure (**rF** or **YF**) reenter the key to the serial input and repeat the procedure from the beginning. The key can connect to all **KIOUR** devices. If you try to read the parameters of a different device, message "**rF**" is displayed. At any time, we can perform the aforesaid operation. After 10sec the key is disconnected.
- **Data logger Mini Logger:** the controller is connected to the data logger via cable and by programming the parameter **Add = 1**. Automatically, based on selected minutes, the data logger writes to a microSD memory card the controller's temperatures, status and alarms.
- **CAMIN network:** the controller can connect to the **CAMIN** network via an interface **NET-INS-485**. **CAMIN** is an PC software application designed to collect information, watch and fully control a net of **KIOUR** devices while sending SMS and email in case of an alarm. The maximum length of the net can be 1000 meters.

PARAMETER TABLE

#	code	description	min	max	RSD3	UOM
1	SPo	SET POINT: temperature control room	SLo	SHi	0.0	°C/°F
2	ALo	**lower alarm limit** temperature of the room	-50	AHi	-4.0	°C/°F
3	AHi	**higher alarm limit** temperature of the room	ALo	+150	15.0	°C/°F
4	dFr	**deFrost repetition time** in hours	1	12	4	h
5	Cod	code to enter parameter's menu = "**22**" with **Cod=1 and exit the menu → back to factory settings**	0	255	0	-
6	diF	**differential** operating temperature of SPo	0.1	25.0	3.0	°C/°F
7	CFA	In case of **sensor's malfunction (LF1)**, the compressor operates as follows: 0 = 40% compressor's operation (3min ON, 4min OFF), 1 = 100% compressor's operation (ON continuously).	0	1	0	-
8	Crt	minimum **pause time** of the compressor	0	4	2	min
9	dti	maximum duration of **deFrost**	1	90	25	min
10	dLE	**Temperature limit of deFrost**: above this temperature the automatic deFrost stops and it is not possible to start the procedure again manually. Manual deFrost lasts 20 min and does not stop based on "**dLE**" temperature limit.	0.0	25.5	10.0	°C/°F
11	doP	type of **deFrost**: compressor OFF (not programmable)	-	-	0	-
12	dri	**dripping time,** in which the compressor remains OFF after **deFrost** ends	0	10	0	min
13	tdF	During **deFrost** the indication "**dFr**" is displayed, where: 0 = the room's temperature is displayed during defrost.	0	99	20	min
14	AJ1	**zero adjustment** of temperature sensor	-9.9	+15.5	0.0	°C/°F
15	AJ2	(not in use)			0.0	
16	tSd	**time delay for refreshing the temperature indication** on screen	0	20	0	sec
17	F_C	**switch °C/°F** (0=°C, 1=°F) **ATTENTION**: changes between °C/°F do not apply on SPo	0	1	0	°C/°F
18	brA	baud rate (9600mbps)	-	-	-	-
19	trE	time response of the device to the **CAMIN network**	0	100	20	msec
20	FFu	Fan's relay operation (**1=**ON continuously, **0=**ON when the compressor is ON). The fan operates during deFrost.	0	1	0	-
21	UFu	**serial input operating mode**, where 0 = operates with the network and the serial key,1 = connects with an external device for exporting alarms. **ATTENTION**: if the value in **"Add"** parameter is ≠ 0, then the "**Ufu**" is programmed automatically to 0.	0	1	0	-
22	SLo	**minimum** temperature limit of SPo	-50	SHi	0.0	°C/°F
23	SHi	**maximum** temperature limit of SPo.	SLo	+150	+8.0	°C/°F
24	Odo	**Door input polarity** (0=OFF, 1=ON with **NO** contact, 2=ON with **NC** contact). When the door opens, the fan turns OFF immediately.	0	2	0	-
25	At2	**Start delay time alarm, where:** 0 = activate immediately, 1 ÷ 120 min = the alarm is activated after the selected minutes. For sensor and door failure alarms, the above rules do not apply.	0	120	20	min
26	U3	(not in use)	-	-	-	-
27	U4	(not in use)	-	-	-	-
28	U5	(not in use)	-	-	-	-
29	Add	**address of the device** in the CAMIN network	0	255	1	-

ALARM TABLE

1	LF1	cabinet sensor malfunction
2	ALo	alarm low temperature in the cabinet
3	AHi	alarm high temperature in the cabinet
4	dor	open door alarm (if the door is open more than 2min the alarm is activated and the compressor stops)

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

Made in Greece.

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.