MILK TANK CONTROLLER Model AGR

KIOUR

DESCRIPTION

AGR is a milk tank controller, which controls temperatures in range - 50° ÷ +99 °C (-58° ÷ +302 °F), through a **PTC** sensor. In temperature range -19.9° ÷ +99.9 °C, the accuracy is ±0,1 °C. It has **two** relays, one for the **compressor 30A** and one for the agitator (10A). The plastic case of the device is suitable for Ω rail with 70mm width. 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 OUTSIDE THE PARAMETER'S MENU

Indications	
❄	compressor ON
⟲	agitator ON
🔧	malfunction ON

button	Operations outside the parameter menu	
	pressed once	pressed mode than 3 sec
↵	enter parameter's menu	-
▼ ⏻	temperature scale °C/°F and mute the buzzer	ON/OFF controller
▲ ⟲	-	manual agitator
SET	cancel new value of parameter	-

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 and the name of the parameter is displayed.

⏻ SWITCHING ON/OFF THE DEVICE

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

TECHNICAL SPECIFICATIONS

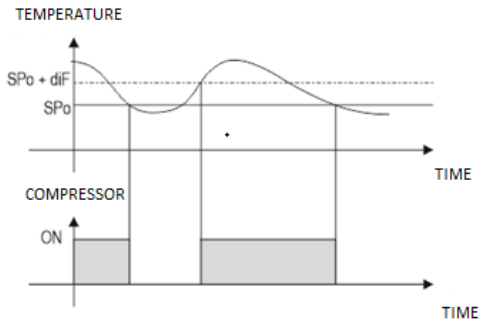
Power supply: 230VAC 50/60Hz / Maximum power consumption: 3W
It is recommended using a power supply safety fuse 0.5A (not included)
Cabinet's temperature sensor PTC 1K 25ºC / Accuracy: 0.1°C
Serial Input
Relay compressor 250VAC 30A resistive load / Relay agitator 250VAC 10A
Operating temperature: -15÷+55°C / Storage temperature: -20÷+80°C
The device is mounted in Ω rail / Connection with terminal blocks 18A and terminals 6.3mm

SERIAL INPUT

AGR 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.

COMPRESSOR OPERATION



The regulation is performed according to the temperature measured by the thermostat probe with a positive differential(diF) from the set point. If the temperature increases and reaches set point (SPo) plus differential the compressor is started and then turned off when the temperature reaches the set point (SPo) value again. In case of fault in the thermostat probe the start and stop of the compressor are timed through parameter "**Cf**".

AGITATION CYCLE

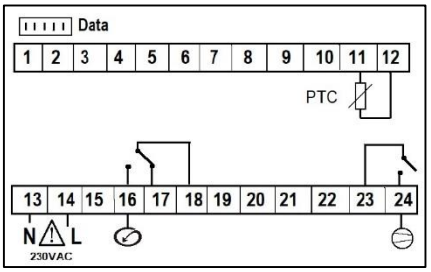
The function of the agitator can be selected by means of the "**AGC**" parameter:

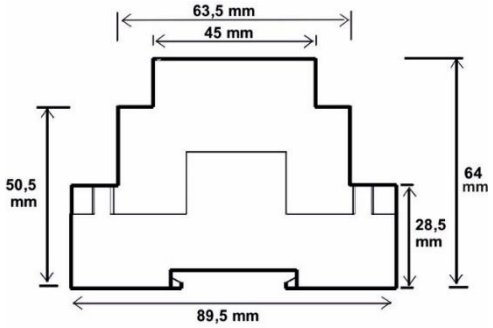
- **AGC = 0** , the agitator operates when the compressor is running and continues to do so for a length of time - which can be set in parameter "**AGt**" (duration of agitation cycle)- even after the compressor stops. If the compressor does not run longer than the time set in parameter "**iAG**" (interval between agitation cycles), the agitator will start to function anyway for the length of time set in parameter "**AGt**".
- **AGC = 1,** the agitator is switched ON and OFF according to the "**iAG**" parameter independently from the state of the compressor. It operates for the time set in the "**AGt**" parameter.

MANUAL AGITATION

. By keeping pressed for 3 sec the [▲] the agitator is started. It remains ON for time equals the parameter "**AGt**", regardless the state of the compressor.

CONNECTIONS - DIMENSIONS





PARAMETER TABLE

#		description	min	max	AGR	UOM
1	**SPo**	SET POINT: temperature control tank	SLo	SHi	4.0	°C/°F
2	**Cod**	code to enter parameter's menu= "**22**"	0	255	0	-
3	**SLo**	**lower** limit temperature of SPo	-50.0	SHi	-2.0	°C/°F
4	**SHi**	**maximum** limit temperature of SPo	SLo	+150	8.0	°C/°F
5	**diF**	**differential** of set point SPo	0.1	25.0	0.5	°C/°F
6	**Cr**	ελάχιστος χρόνος **OFF του συμπιεστή**	0	4	0	min
7	**Cf**	in case of sensor's fault **(LF1)**, the compressor operates as follows: **0 =** 40% operation of the compressor (3min ON, 4min OFF) **1 =** 100% operations of the compressor (ON continuously)	0	1	0	-
8	**dF**	(not in use)	-	-	-	-
9	**dt**	(not in use)	-	-	-	-
10	**dL**	(not in use)	-	-	-	-
11	**do**	(not in use)	-	-	-	-
12	**dr**	(not in use)	-	-	-	-
13	**td**	(not in use)	-	-	-	-
14	**AJ1**	**zero adjustment** of sensor	-10.0	+10.0	0.0	°C/°F
15	**ts**	refresh delay of temperature indication at display	0	20	0	sec
16	**FC**	**switch** °C/F (**0=**°C, **1=**°F) **ATTENTION:** changes between °C/°F do not affect SPo	0	1	0	°C/°F
17	**Br**	baud rate (9600mbps)	-	-	-	-
18	**tr**	time response: the respond time of the device to the network	5	100	20	msec
19	**FF**	(not in use)	-	-	-	
20	**Uf**	**serial input configuration** where: **0 =** operates with the **serial key** and the **network**, **1 =** connects to an **outer device** for exporting alarms, **ATTENTION!:** when the value of **Add** parameter is ≠ 0, automatically is programmed to **Uf** = 0.	0	1	0	-
21	**ALo**	ρύθμιση ενεργοποίησης **alarm χαμηλής θερμοκρασίας** θαλάμου	-50.0	AHi	-4.0	°C/°F
22	**AHi**	ρύθμιση ενεργοποίησης **alarm υψηλής θερμοκρασίας** θαλάμου	ALo	+150	+15.0	°C/°F
23	**Od**	(not in use)	-	-	-	-
24	**tH**	(not in use)	-	-	-	-
25	**AGC**	agitator configuration where: **0 =** agitator parallel to the compressor, **1 =** independent agitator	0	1	0	-
26	**AGt**	length of agitation cycle	0	255	3	min
27	**iAG**	interval between agitation cycles	1	120	15	min
28	**Add**	address of the device at the network operation	0	255	1	-

ALARM TABLE

1	**LF1**	tank sensor malfunction
2	**ALo**	alarm low temperature in tank
3	**AHi**	alarm high temperature in tank

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

Made in Greece.

CE RoHS TÜV AUSTRIA HELLAS ISO 9001:2008 No. 01013192

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.

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