



CONTROLLER FOR REFRIGERATED CHAMBER

type: FRG rev.00

USER'S GUIDE

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PROGRAMMABLE CONTROLLER FOR REFRIGERATED CHAMBER

TECHNICAL DESCRIPTION



Safety instructions:

- Before installation, check the integrity of the unit and its connecting wires.
- In case of damaged can not be mounted to the removing of the fault.
- The installation and disassembly of the unit must be carried out by qualified personnel who have previously read the product manual.
- Mount in a dry and ventilated place away from heat sources and flammable gases or liquids.
- Make sure that the mains voltage matches the voltage on the rating plate of the unit.
- Use power consumers that match the power output of the appliance.
- In the event of malfunctioning, switch off the appliance immediately and seek authorized service for repair.
- In case of fire, use a fire extinguisher.
- For the purpose of environmental protection, do not throw away electrical appliances and their packaging marked with a symbol

crossed bin



Contents of the package:

- **The controller**
- **Sensors type Pt 1000-2 pcs.**
- **User guide (warranty card)**

1. Application

The temperature controller is designed for cooling products by switching the compressor, defrost heater, and evaporator fan.

2. Operating Principle

The device measures the monitored temperature using a Pt1000 temperature sensor and, depending on the difference between the setpoint temperature and the actual temperature, controls the loads connected to it. Fig. 1 shows the operation of the compressor and fan outputs.

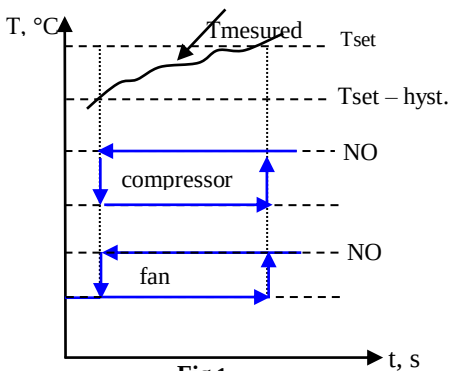


Fig.1

When the measured temperature is above the set temperature plus the hysteresis, the (NO) contact closes, the indicator „ $\ominus$ „ is illuminated, and this state continues until the measured temperature reaches the set temperature.

When the measured temperature is below the set temperature, the (NO) contact opens, the indicator „ $\ominus$ “ is off and remains so until the measured temperature reaches the set temperature plus the hysteresis.

Fan:

For the fan to operate, the parameter “**tFn**” must be $< T_2$. When the compressor is switched off, the fan stops.

The compressor (heater) output starts with a 2-minute delay when power is supplied or when the unit is switched off and on using the button. This ensures sufficient time for the pressure between the inlet and outlet to equalize.

Defrosting:

Upon switching on, the unit always goes through the “Defrosting” procedure. Defrosting starts after the time set by parameter “**tid**”. Defrosting ends when the temperature reaches the condition “**tdE**” $> T_2$ or when the time “**tiE**” elapses, whichever occurs first. The fan switches on for approximately 20 seconds to dry the evaporator.

3. Front panel

“1” and “2” – digital displays; “1” shows the set temperature or the parameters being adjusted in programming mode, while “2” shows the actual temperature.

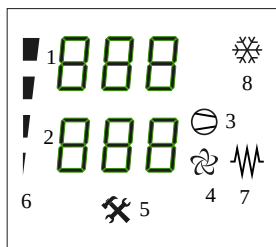


Fig.2

3 – compressor relay ON indicator.

4 – agitator relay ON indicator.

5 – setting mode indicator.

6 – indicator showing the time remaining until the agitator switches on.

7 – defrost heater indicator.

8 – cooling mode indicator.

“ $\blacksquare$ ” – Start/Stop button; entering/exiting programming mode.

“ $\blacktriangle$ ” – button for viewing and changing parameters in programming mode.

“ $\blacktriangledown$ ” – button for viewing and changing parameters in programming mode.

The digital display shows “Err” in the following cases:

- The temperature sensor is missing (not installed);
- An open circuit or short circuit occurs in the temperature sensor connection cable;
- The temperature sensor is faulty;
- A fault occurs in the temperature input.

4. Programming

The set temperature can be changed using the “▲” and “▼” buttons. Press and hold the “■” and “▲” buttons simultaneously for 5 seconds to enter programming mode.

Press the “■” button to make a change, after which the value starts flashing. Use the “▲” or “▼” buttons to make the desired changes. To confirm the changes, press the “■” button again.

description	symbol	limits	notes
set temperature of the Refrigerated Chamber		-20 – 40 °C	5
Refrigerated Chamber hysteresis	H 1	1 – 10 °C	3
fan activation temperature	tFn	-20 – 40 °C	2
fan hysteresis	H 2	1 – 10 °C	10
defrost interval	tid	1 – 24 hour	6
defrost termination temperature	tdE	1 – 40 °C	18
defrost termination time	tiE	1 – 60 min	20
measured temperature correction	Cor (service setting)	-20 до +20 °C	
exit	End		

Service Settings

Disconnect the device from the power supply, press and hold the “■” button, and switch on the power supply. Wait approximately 10 seconds. Press and hold the “■” button again to enter programming mode. Use the “▲” and “▼” buttons to make changes. After selecting the desired value, press the “■” button. To exit the service settings, switch the power supply off and on again.

5. Electrical Connection and Technical Data

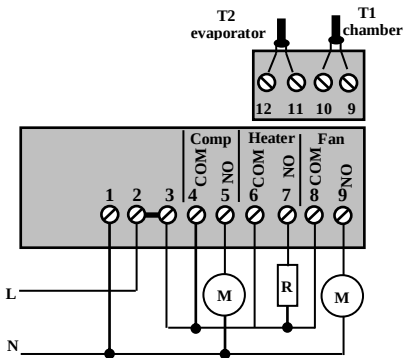


Fig.3

Supply Voltage:	~230V/50Hz
Rated Switching Current:	10A/~250V
Number of Contacts:	3 NO contacts
Hysteresis:	1° – 40°C
Sensors:	Pt1000 (-50° to +250°C)
Sensor Current:	0.833 mA
Measurement Range:	-30° to +200°C
Control Range:	-20° to 40°C
Display: Display:	3-digit digital
Measurement Resolution:	1°C
Humidity:	0 - 80%
Protection:	IP 20

6. Warranty Terms

The warranty period of the product is 24 months from the date of purchase, but no more than 28 months from the date of manufacture, provided that the requirements for installation, operation, storage, and transportation are observed.

Date: 11.9.2026 r.

Stamp:

