Electronic thermostat GC203

APLICATION

GC203 is designed to control of cooling devices working both in low and high ranges of the temperature. It is a replacement for: G-203-P00, G-203-P01, G-203-P02, G-203-P03

In case of the refrigerator application it is possible to connect a door open sensor, which fully controls the compressor, the heater and the light depending on the time of the door opening.

For low, medium and high power equipment the device allows connection of all controlled appliances: the compressor, the heater, the fan and light, straight into the controller without need to connect additional contactors. It is possible thanks to 16A and 30A relays.

Device can be used for appliances where usage of standard thermostat is impossible. Thanks to the separation of the executive part from the control one and usage of the 20 mm thick panel the controller can be directly installed inside the niche or a special masking frame. This solution is especially recommended for small and medium size cold rooms.

PROPERTIES

- ON/OFF switch built in.
- The control panel 20mm thick, and working under safe 5V voltage.
- Possibility to install the panel without necessity for the hole cutting, thanks to the special masking frame.
- 230V network power supply of the executive module (transformer built in).
- Four outputs of relays (16A and 30A) operating under 230V voltage.
- Temperature sensors and door open sensor working under safe 5V voltage.
- Option to select the third sensor (door opening sensor or temperature sensor) based on the parameter
- Programmed control of the compressor, the light and the fan by the door open sensor.
- Automatic defrosting of the evaporator.
- Buttons for direct control of the light and defrosting.
- It signals the stage of work of the compressor and whole process of the defrosting.
- Signaling (sound and optical) of damage in circuits of sensors and emergency work.
- Controller is equipped with sound signal

TECHNICAL DATA

OUTPUT	RELAY	Recommended constant carrying capacity		
P1 – Compressor	30A	8A	1500W	2HP
P2 – Light	16A	4A	750W	-
P3 – Fan	16A	4A	750W	1HP
P4 – Heater/Valve	16A	8A	1500W	-

Operating Voltage	~230V AC +10% / -15%
Envirоinment Temperature	From +5°C to +40°C
Humidity	From 20% to 80% RH
Protection Level	IP65 Front side of the control panel
Sensors type	T1: NTC 2,2kΩ - range: from -40°C to +60°C T2: NTC 2,2kΩ - range: from -40°C to +60°C T3(optional):NTC 2,2kΩ range as above

Door open sensors manufactured by GECO
Optical: CZ-OP-NO-2.5M-TE05
Magnetic: CTC100-2.0M
Any other O/I sensor

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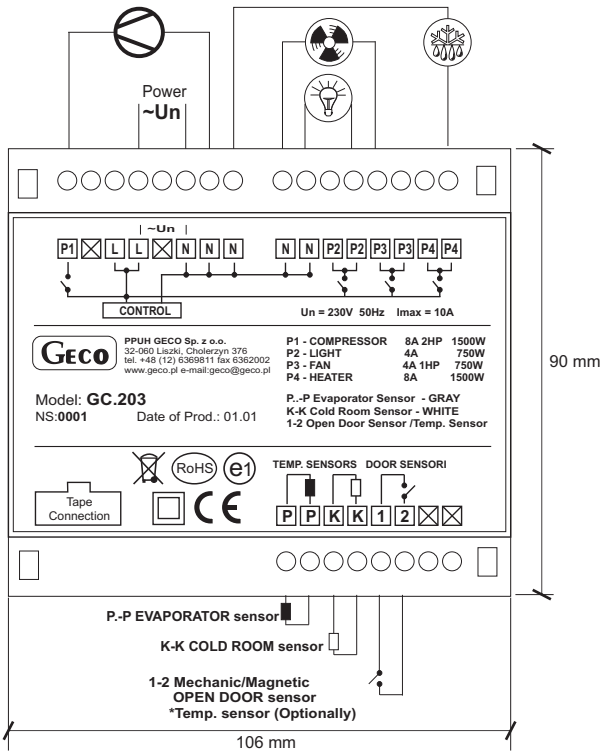
SCHEME OF CONNECTIONS



LABELING METHOD

Model Label: **GC203.0X**

where **0X** stands for the driver version:

01 - 3-relay controller controlling the device: **compressor / fan / heater or valve.** Controller's keypad keyboard without a light button.Possibility to connect the door opening sensor (mechanical or magnetic) or sensor temperature as a thermometer.

02 - 4-relay controller controlling the device: **compressor / light / fan / heater or valve.** Controller's panel keyboard with a light button. Possibility to connect the door opening sensor (mechanical or magnetic) or sensor temperature as a thermometer.

03 - 4-relay controller controlling the device: **compressor / light / fan / heater or valve.** Controller's panel keyboard with a light button. The optical sensor can be connected opening the door or temperature sensor (thermometer).

SET CONTENT

Thermostat:

- Control panel: PGC203.0X
  Executive module: MGC203.0X

Additionally you need to order:

- Two, of ordered length, temperature sensors (typically: 2,5m or 3,0m).
- Tape connecting the control panel with the executive module (typically 1m long).

Additionally it is possible to order:

- Door contact sensors operating without contact:
- Magnetic sensor
- Optical sensor
- Additional temperature sensor

DESCRIPTION

GC203 is a universal controller for cooling devices that operate in different ranges of temperatures.

Controller is equipped with ON / OFF function activated by holding ON/OFF button for 5 second. After turning off the compressor, the heaters and lights are turned off.

If the controller has a light function, it works independently of the off button.

GC203 uses the compressor to stabilize the temperature in the cold room. The compressor control includes protections against too frequent turning on and off.

In defined periods of time device enters automatic defrosting of the evaporator mode. Defrosting has a various run depending on settings of the controller for instance: the drip phase starts after the defrosting phase and the subquenching phase starts after the drip phase.

Gc203 has the button to turn defrosting on. This button can be used during difficult conditions of the device operation. posiada przycisk do załączenia odszraniania.

Manual and automatic defrosting both have the same run.

The user programs the set temperature in the chamber.

If a door sensor is connected to the controller he door opening turns the light on, turns the fan off and after one minute turns the compressor off.

The door opening is signaled with a sound every 30 seconds. Too long door opening is alarmed.

If an additional temperature sensor is connected instead of the door opening sensor, the display shows the sensor messurement. It does not affect the operation of the device, but only serves as an electronic thermometer.

If the additional temperature sensor is not supported, the GC203 displays the temperature measured with the chamber sensor. User can turn on the temporary view of the temperature on the evaporator or compressor sensor (in case of working with an additional temperature exceeding).

In case of the sensor failure the controller displays alarm code and operates using the emergency mode.

The controller has service internal parameters that describe its methods of work. These parameters can be programmed by choosing specific mode.

CASE DIMENSIONS