

# GTT-1 | TEMPERATURE BASED FAN SPEED CONTROLLER POWER: 12 A

## Mounting and operating instructions



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## SAFETY AND PRECAUTIONS

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Read all the information, the datasheet, mounting and operating instructions and study the wiring and connection diagram before working with the product. For personal and equipment safety, and for optimum product performance, make sure you entirely understand the contents before installing, using, or maintaining this product.



For safety and licensing (CE) reasons, unauthorised conversion and /or modifications of the product are inadmissible.



The product should not be exposed to abnormal conditions, such as: extreme temperatures, direct sunlight or vibrations. Long-term exposure to chemical vapours in high concentration can affect the product performance. Make sure the work environment is as dry as possible; avoid condensation.



All installations shall comply with local health and safety regulations and local electrical standards and approved codes. This product can only be installed by an engineer or a technician who has expert knowledge of the product and safety precautions.



Avoid contacts with energised electrical parts. Always disconnect the power supply before connecting, servicing or repairing the product.



Always verify that you apply appropriate power supply to the product and use appropriate wire size and characteristics. Make sure that all the screws and nuts are well tightened and fuses (if any) are fitted well.



Recycling of equipment and packaging should be taken into consideration and these should be disposed of in accordance with local and national legislation / regulations.



In case there are any questions that are not answered, please contact our technical support or consult a professional.

## PRODUCT DESCRIPTION

The GTT series of transformer fan speed controllers regulate the rotational speed of single-phase voltage controllable motors by varying the output voltage. They are equipped with auto-transformer(s) and control the speed of fans in automatic or manual mode (in five steps) according to the temperature input of the integrated flying lead sensor or according to the manual selection.

## ARTICLE CODES

| Article code | Rated max. current [A] | Fuse [A]           |
|--------------|------------------------|--------------------|
| GTT-1120L22  | 12 A                   | T 16 A-H (6*32 mm) |

## INTENDED AREA OF USE

- Speed control, according to a measured temperature, of single phase 230 VAC motors (pumps and fans). Application field: greenhouses, stables, sheds
- For indoor use, surface mounted
- Clean air with non-aggressive, non-combustible gases

## TECHNICAL DATA

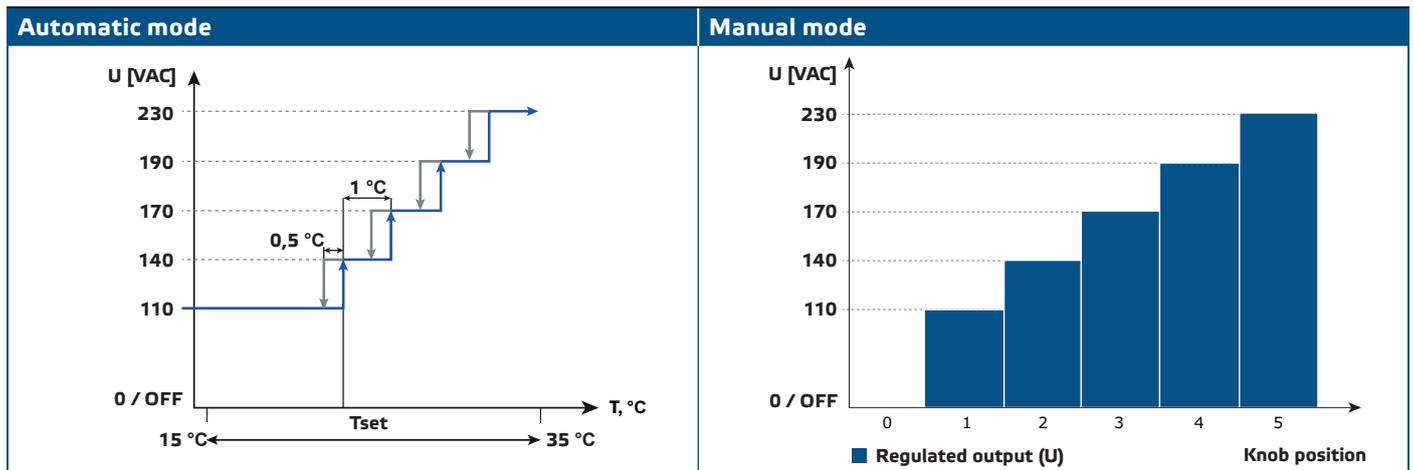
- Supply voltage: 230 VAC / 50–60 Hz
- Temperature control: 15–35 °C
- Hysteresis: 0,5 °C
- Proportional range: 5 °C
- 7-step rotary switch: Off position + manual 5-step control + Auto mode
- Plug and play, no wiring needed
- Manual or automatic mode, selectable by switch
- Potentiometer for temperature setpoint selection (range 15–35 °C) in 1°C scale
- Two Schuko IP54 sockets for Euro plugs
- Integrated 1,5 m supply cable with Euro plug
- Integrated flying lead PT500 temperature probe
- Integrated external plate for easy wall fixing
- Enclosure: sheet steel (RAL 7035, polyester powder coating)
- Protection standard: IP54 (according to EN 60529)
- Operating ambient conditions:
  - ▶ Temperature: 0–35 °C
  - ▶ Rel. humidity: 5–95 % rH (non-condensing)

## STANDARDS

- Low Voltage Directive 2014/35/EC
- EMC Directive 2014/30/EC: EN 61326
- WEEE Directive 2012/19/EC
- RoHs Directive 2011/65/EC



## OPERATIONAL DIAGRAM



## WIRING AND CONNECTIONS

| Wiring and connections |   |                             |  |
|------------------------|---|-----------------------------|--|
|                        | 1 - Standard power supply cable with Euro plug (length 1,5 m) | Power supply                | 230 VAC / 50–60 Hz   |
|                        | 2 - 2 sockets in parallel for load connection                 | Output voltage              | OFF + 5 steps<br>110 / 140 / 170 / 190 / 230 VAC<br>(80 VAC, optional) |
|                        | 3 - Temperature sensor probe                                  | Min. load current           | 180 mA   |
|                        | 4 - Temperature setpoint potentiometer                        | Cable length                | 4 m  |
|                        | 5 - 7-position switch   | Sensor type                 | PT500 (500 Ω at 0 °C)  |
|                        | 6 - Connections   | Sensor measuring range      | -30–70 °C  |
|                        |   | Operating range             | 15–35 °C   |
|                        |   | 0                           | Off position   |
|                        |   | 1–5                         | Manual fan speed selection   |
|                        |   | A                           | Automatic mode   |
|                        |   | Cable gland clamping ranges | 3–6 mm / 8–13 mm   |

**Caution:** When choosing a controller it is important to know the maximum current on the taps. Make sure you have chosen the right controller. You can take the indicated rated maximum current from each transformer tap.



*Make sure you use cables with an appropriate diameter to connect the fans to the GTT-1 controller.*

## MOUNTING INSTRUCTIONS IN STEPS

Before you start mounting the GTT-1, read carefully “**Safety and Precautions**” and follow these steps. Choose a smooth solid surface for installation (a wall, panel, etc.).

### Follow these steps:

1. Drill holes into the surface and secure the fastenings (hooks, wall plugs, etc.) into them. Mind the correct mounting position and unit mounting dimensions. (See **Fig. 1 Mounting dimensions** and **Fig. 2 Mounting position**).
2. Pay attention to the following instructions in order to minimize the operating temperature:
  - 2.1 Respect the distances both between the wall / ceiling and the device and between two devices as shown in **Fig. 2**. In order to ensure sufficient ventilation of the controller, clearance on every side has to be maintained.
  - 2.2 When installing the device, please keep in mind that the higher you install it, the warmer the device will get. For example, in a technical room the correct installation height can be of great importance.
  - 2.3 If maximum ambient temperature cannot be adhered to, please provide extra forced ventilation / cooling.
  - 2.4 Leave sufficient space around the unit (for load connecting to the sockets). Allow at least 90–100 mm for connection maintenance (to insert plug/plugs into the sockets).

**Not respecting the abovelisted rules can reduce service life and relieves the manufacturer of any responsibilities.**

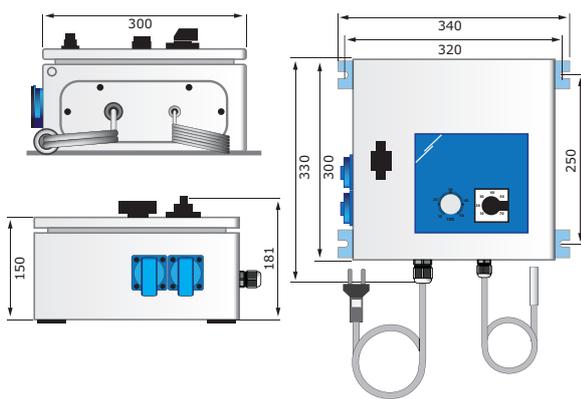
### ATTENTION

*It is recommended to install appropriate protective circuit on the input as this transformer controller is not internally short-circuit proof. Recommended automatic circuit breaker with “C” characteristics should be selected according to the transformer rated maximum current.*

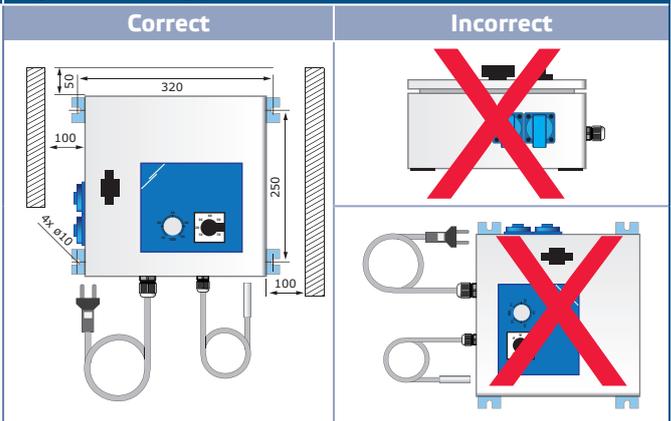
### ATTENTION

*Do not install the controller above heating equipment.*

**Fig. 1 Mounting dimensions**



**Fig. 2 Mounting position**



3. Fix the unit onto the wall / panel.

### ATTENTION

*A safety isolator / disconnect switch should be installed on the mains electricity side of all motor drives.*

### NOTE

*The two Schuko sockets are intended only for connecting motors / fans. The total load connected to both sockets must not exceed the rated maximum current of the GTT-1 controller. Do not plug other types of electric appliances into them!*

## OPERATING INSTRUCTIONS

### ATTENTION

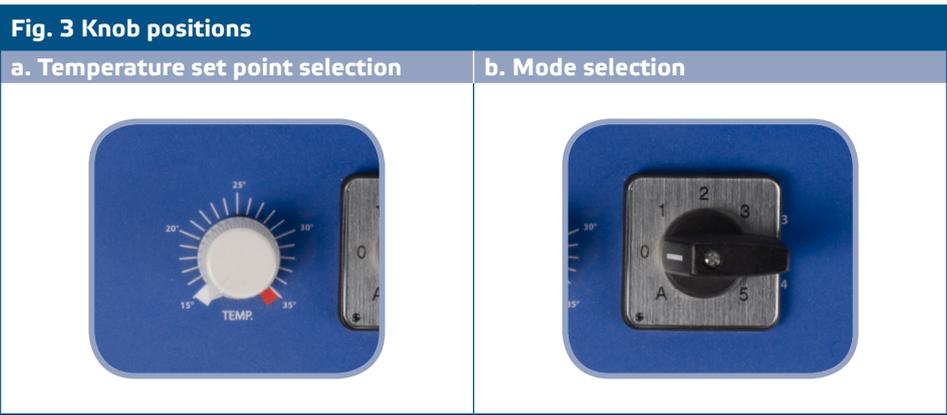
- Make sure the connections are correct before you power the unit.
- Make sure the mains supply voltage is within the admissible rated maximum current of the product.

1. Switch off the mains power supply before connecting any power cables.
2. Plug load (fan) cables into the socket according to the connecting diagram.

### ATTENTION

Several fans can be connected in parallel to the controller as the maximum total current of all must not exceed the current rating of the controller. Maximum 2 separate cable plugs can be connected to the sockets on the controller as the parallel connections are made internally.

3. Install the PT500 temperature probe in an appropriate zone in order to measure the relevant ambient temperature.
4. Plug the GTT-1 into the mains electricity network.
5. Select the operating mode by turning the control switch / knob on the right to the relevant position (**Fig. 3**).



**5.1 Manual mode**  
The standard configuration of the output voltages is as indicated in **Table 1** below.

| Output voltage         |     |      |     |        |        |        |      |                                   |
|------------------------|-----|------|-----|--------|--------|--------|------|-----------------------------------|
| Knob position          | 0   | -    | 1   | 2      | 3      | 4      | 5    | Auto mode                         |
| Regulated output [VAC] | 0   | 80*  | 110 | 140    | 170    | 190    | 230  | According to temperature setpoint |
| Speed                  | Off | Low* | Low | Medium | Medium | Medium | High | According to measured temperature |

\* Available but not connected.

**5.2 Automatic mode**  
When Auto mode has been selected, the controller changes the five speeds automatically according to the setpoint temperature selected via the temperature potentiometer (**Fig. 3a**). The speed changes by increasing / decreasing the temperature by 1 °C and 0,5 °C fixed hysteresis (see the operational diagram above).

## VERIFICATION OF INSTALLATION

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### **ATTENTION**

*Use only tools and equipment with non-conducting handles when working on electrical devices.*

**Safe operation depends on proper installation. Before start up, ensure the following:**

- The mains supply is connected correctly.
- Protection is provided against electrical shock.
- The cables are the appropriate size and fuse-protected.
- There is sufficient air flow around the unit.

### **ATTENTION**

*The unit is supplied with electrical energy at voltages high enough to inflict personal injury or threat to health. Take the relevant safety measures.*

### **ATTENTION**

*Disconnect and confirm that there is no live current flowing to the unit before servicing.*

### **ATTENTION**

*Avoid exposing the controller to direct sunlight!*

## TRANSPORT AND STORAGE

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Avoid shocks and extreme conditions; stock in original packing.

## WARRANTY AND RESTRICTIONS

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Two years from the delivery date against defects in manufacturing. Any modifications or alterations to the product after the date of publication relieve the manufacturer of any responsibilities. The manufacturer bears no responsibility for any misprints or mistakes in this data.

## MAINTENANCE

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In normal conditions this product is maintenance-free. If soiled, clean with a dry or damp cloth. In case of heavy pollution, clean with a non-aggressive product. In these circumstances the unit should be disconnected from the supply. Pay attention that no fluids enter the unit. Only reconnect it to the supply when it is completely dry.