

GTH

Temperature based transformer fan speed controller



The GTH series of transformer fan speed controllers regulate the rotational speed of single-phase voltage controllable motors in steps by varying the output voltage according to the measured temperature. They are equipped with auto-transformer(s) and control the speed of fans in automatic or manual mode (in five steps) according to the input provided by the connected temperature sensor. The unregulated output is also controlled in function of the measured temperature and can be used to control a valve (e.g. hot water supply).

Key features

- Fan speed controller for heating or cooling applications
- 7-step rotary switch: Off position + manual 5-step control + Auto mode
- Unregulated output to control an external valve for hot water supply
- Manual or automatic mode, selectable by switch
- Potentiometer for temperature setpoint (range 5–35 °C) in 1 °C scale
- Input for external PT500 temperature probe
- Integrated external plate for easy wall fixing

Technical specifications

Supply voltage	230 VAC / 50–60 Hz	
Max. consumption (no load)	65 W	
Temperature setpoint	5–35 °C	
Proportional range	2 °C	
Enclosure	plastic (R-ABS, UL94-V0, grey RAL 7035)	
Protection standard	IP54 (according to EN 60529)	
Ambient operating conditions	Temperature	-10–35 °C
	Rel. humidity	< 95 % rH (non-condensing)

Article codes

Articles	Rated max. current [A]	Fuse [A]	Enclosure
GTH-1-25L22	2,5 A	T 4 A-H (5*20 mm)	plastic (R-ABS, UL94-V0, grey RAL 7035)
GTH-1-50L22	5,0 A	T 8 A-H (5*20 mm)	plastic (R-ABS, UL94-V0, grey RAL 7035)

Voltage series

Knob position	0	1	2	3	4	-	5	Auto mode
Regulated output [VAC]**	0	80	110	140	170	190*	230	according to temperature setpoint
Unregulated output [VAC]	0	Heating mode:				0 VAC if Temperature > Temperature setpoint 230 VAC if Temperature < Temperature setpoint		
		Cooling mode:				0 VAC if Temperature < Temperature setpoint 230 VAC if Temperature > Temperature setpoint		

* Available but not connected.

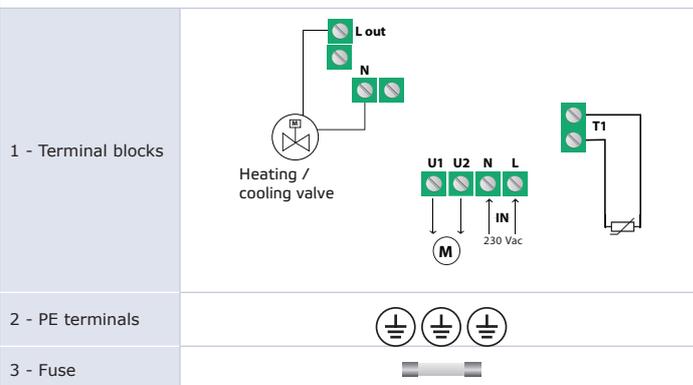
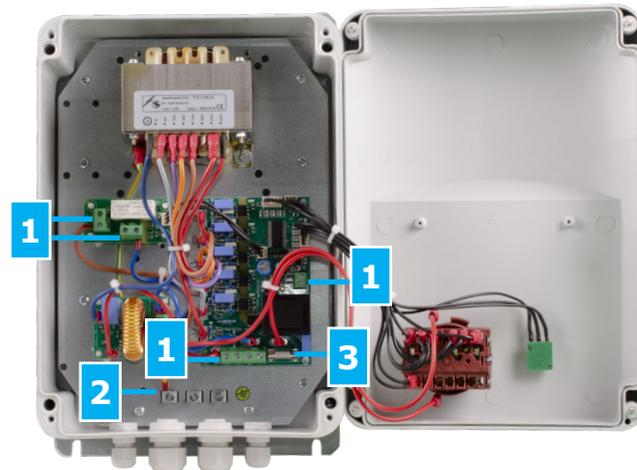
** In **heating mode**, the motor will be disabled when $T > TS$. In **cooling mode**, the motor will be disabled when $T < TS$.

Area of use

- Applications where a single phase voltage controllable motor and a valve must be controlled in function of temperature (heating or cooling)
- For indoor use, surface mounted
- Clean air with non-aggressive, non-combustible gases
- The ideal controller for hot water air heaters in warehouses, workshops, greenhouses, stables, sheds, etc.



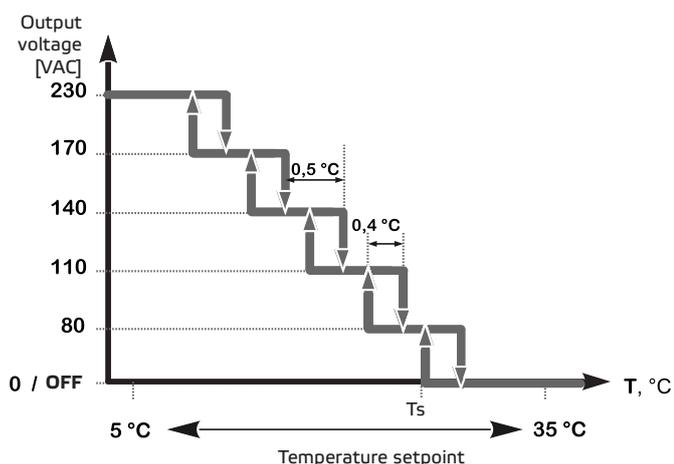
Legend



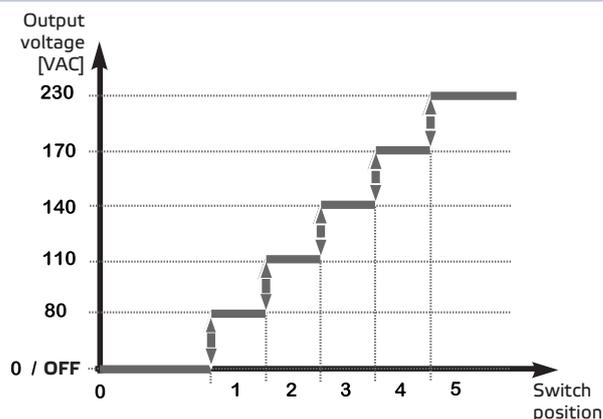


Operational diagrams

Heating - automatic mode

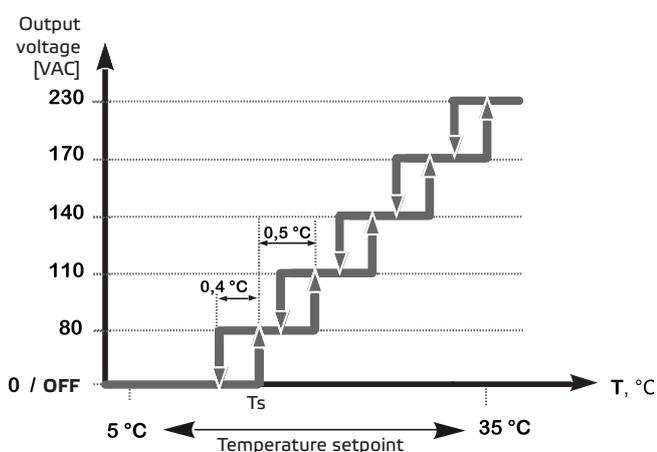


Heating - manual mode



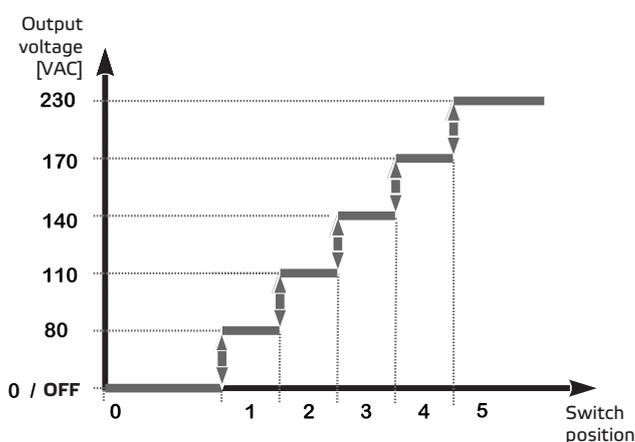
When $T > T_s$: the motor is disabled
 When $T < T_s$: the motor speed is according to this diagram

Cooling - automatic mode



Cooling mode can be selected by removing the jumper on the programming header P7 on the PCB between pins 1–2.

Cooling - manual mode



When $T < T_s$: the motor is disabled
 When $T > T_s$: the motor speed is according to this diagram

Wiring and connections

L	Power supply, line (230 VAC / 50–60 Hz)
N	Power supply, neutral
PE	Protective earth
U2	Regulated output to motor - line
U1	Regulated output to motor - neutral
PE	Protective earth
Lout	Unregulated temperature based output, line
N	Unregulated temperature based output, neutral
PE	Protective earth
T1	External temperature probe PT500

Standards

- Low Voltage Directive 2014/35/EC
-EN 60335-1:2012
- EMC directive 2014/30/EU:
-EN 61000-6-3:2007/A1:2011/AC:2012
-EN 61000-6-2:2005/AC:2005
- WEEE 2012/19/EC
- RoHS Directive 2017/2102/EU

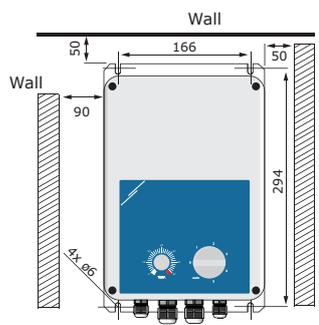


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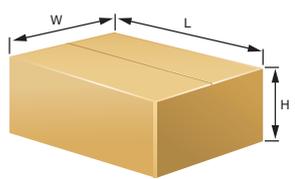
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Fixing and dimensions



Packaging



Articles	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight [kg]	Gross weight [kg]
GTH-1-25L22	Unit (1 pc.)	341	256	156	5,2 kg	6,8 kg
GTH-1-50L22	Unit (1 pc.)	341	256	156	5,5 kg	7,1 kg

Application example

