



Thermal management for electrical enclosures



FPH

Fan assisted PTC heaters
User's manual

www.alfaelectric.com

This manual contains the information necessary for the product to be installed correctly and also instructions for its maintenance and use; we therefore recommend that the utmost attention is paid to the following instructions.

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1 - DESCRIPTION

GENERAL DESCRIPTION

FPH is a fan assisted PTC heater specially designed to avoid condensation or grant a minimum temperature in closet cabinets.

Model	Heating Capacity* [W]	Power supply [V/Hz]	Control
FPH1200.00	1200	230/50-60	-
FPH1200.01	1200	230/50-60	Mechanical thermostat
FPH1200.02	1200	230/50-60	Electronic thermostat
FPH1500.00	1500	230/50-60	-
FPH1500.01	1500	230/50-60	Mechanical thermostat
FPH1500.02	1500	230/50-60	Electronic thermostat
FPH2000.00	2000	230/50-60	-
FPH2000.02	2000	230/50-60	Electronic thermostat

2 - INSTALLATION

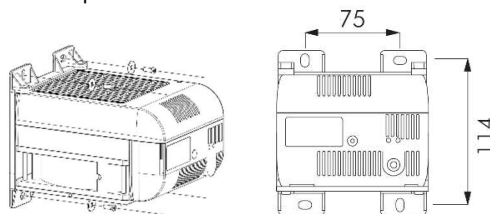
2.1 GENERAL DESCRIPTION

FPH must be installed by screws inside of the electrical enclosure, in bottom part of cabinet in horizontal position.

2.2 INSTALLATION

WARNING: before installation switch off the power supply.

- Make the fixing hole on the enclosure according to FPH holder holes and fix the FPH with adequate screws and washers



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FPH1500.01	1500	230/50-60	Mechanical thermostat
FPH1500.02	1500	230/50-60	Electronic thermostat
FPH2000.00	2000	230/50-60	-
FPH2000.02	2000	230/50-60	Electronic thermostat

2 - INSTALLATION

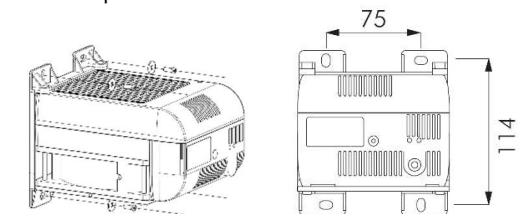
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2.2 INSTALLATION

WARNING: before installation switch off the power supply.

- Make the fixing hole on the enclosure according to FPH holder holes and fix the FPH with adequate screws and washers



WARNING

- Safety of FPH is warranted only by proper use of these instruction which must be kept.
- Installation must be done by qualified personnel only after power supply disconnecting
- Before any operation, switch off the power supply.
- Install FPH only inside of the electrical enclosure, in the bottom part of cabinet.
- FPH series is fitted with dedicated ground terminal, it must be connected with an adequate ground circuit according to the local norms and safety regulations which govern the use of electrical material;
- Upstream of the electrical connection, an efficient disconnection system must be provided
- Protection against access to live parts must be warranty by installer.
- Don't install FPH in ambient with excessive moisture and dirt
- Installation position of FPH must be selected to ensure good ventilation. Take care that any internal components of enclosure don't obstruct air passage.
- Do not mount FPH under easily inflammable materials
- Follow all technical data shown in this manual.

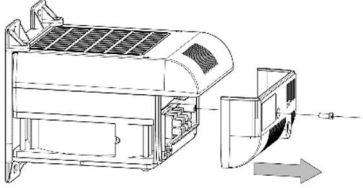
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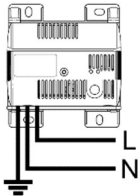
3 – ELECTRICAL CONNECTION

FPH is fitted with a screw terminal which allows to connect cable section up to 2,5mm²

- Remove terminal cover to access at terminals



- Connect a three poles cable (minimum section 3x1mm²) to the terminal how is explained by label pasted near of terminal.



Connect the unit with the power supply according to model needs.

- Replace terminal cover

WARNING: upstream of the electrical connection, an efficient disconnection system must be provided

WARNING: connect ground terminal with an adequate ground circuit according to the local norms and safety regulations which govern the use of electrical material

- Installation must be done by qualified personnel only after power supply disconnecting
- Before any operation, switch off the power supply.
- Install the FPH only inside an electrical enclosure.

4 - OPERATING

4.1 GENERAL DESCRIPTION

The FPH is available with three different configurations:

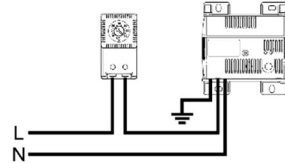
- Without incorporated thermostat (FPH1200.00, FPH1500.00, FPH2000.00)
- With incorporated mechanical thermostat (FPH1200.01, FPH1500.01)
- With incorporated electronic thermostat (FPH1200.02, FPH1500.02, FPH2000.02)

All models are fitted with an auto-reset thermal cut-out in case of fan failures.

4.1.1 FPH1200.00, FPH1500.00, FPH2000.00

FPH without incorporated thermostat, once connected to the power supply, makes heat power regardless of the ambient temperature.

To regulate the function of FPH (without incorporated thermostat) according to temperature inside of cabinet is suggested to install a thermostat (Alfaelectric THR series) like is shown by following picture:



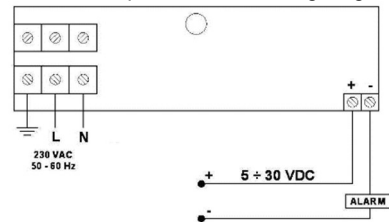
Thermostat controls the FPH working according to temperature set. FPH runs when temperature goes down under set point.

4.1.2 FPH1200.01, FPH1500.01

FPH with incorporated mechanical thermostat, once connected to the power supply, makes heat power according to set point of thermostat. FPH runs when temperature goes down under set point.

4.1.3 FPH1200.02, FPH1500.02, FPH2000.02

FPH with incorporated electronic thermostat, once connected to the power supply, works according to set point of thermostat. When temperature goes down under set point value, heating element turns off but fan still works for 1 minute to avoid overheating. These models are also fitted with an auxiliary contact, it can drive alarm connected to a circuit at 5-30VDC (0,5A). Contact closes when temperature rises over 50°C (overheating due to, for example, to a fan fault) and in the same time heating element turns off to protect FPH against overheating. To connect an alarm please see following diagram:



6 - CLEANING, MAINTENANCE

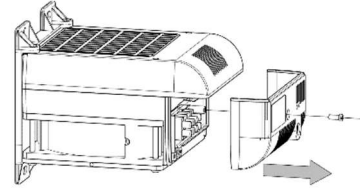
- Before any operation, switch off the power supply.

Cleaning and maintenance must be done only by specialized people after switching off power supply. For cleaning use only a wiper and compressed air.

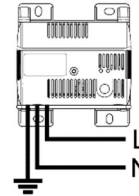
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Connect the unit with the power supply according to model needs.

- Replace terminal cover

WARNING: upstream of the electrical connection, an efficient disconnection system must be provided

WARNING: connect ground terminal with an adequate ground circuit according to the local norms and safety regulations which govern the use of electrical material

- Installation must be done by qualified personnel only after power supply disconnecting
- Before any operation, switch off the power supply.
- Install the FPH only inside an electrical enclosure.

4 - OPERATING

4.1 GENERAL DESCRIPTION

The FPH is available with three different configurations:

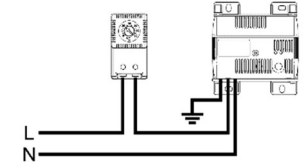
- Without incorporated thermostat (FPH1200.00, FPH1500.00, FPH2000.00)
- With incorporated mechanical thermostat (FPH1200.01, FPH1500.01)
- With incorporated electronic thermostat (FPH1200.02, FPH1500.02, FPH2000.02)

All models are fitted with an auto-reset thermal cut-out in case of fan failures.

4.1.1 FPH1200.00, FPH1500.00, FPH2000.00

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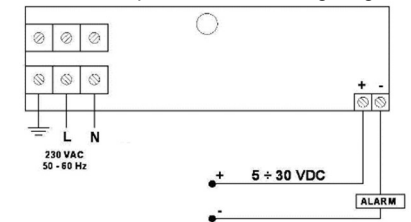
Thermostat controls the FPH working according to temperature set. FPH runs when temperature goes down under set point.

4.1.2 FPH1200.01, FPH1500.01

FPH with incorporated mechanical thermostat, once connected to the power supply, makes heat power according to set point of thermostat. FPH runs when temperature goes down under set point.

4.1.3 FPH1200.02, FPH1500.02, FPH2000.02

FPH with incorporated electronic thermostat, once connected to the power supply, works according to set point of thermostat. When temperature goes down under set point value, heating element turns off but fan still works for 1 minute to avoid overheating. These models are also fitted with an auxiliary contact, it can drive alarm connected to a circuit at 5-30VDC (0,5A). Contact closes when temperature rises over 50°C (overheating due to, for example, to a fan fault) and in the same time heating element turns off to protect FPH against overheating. To connect an alarm please see following diagram:



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- Before any operation, switch off the power supply.

Cleaning and maintenance must be done only by specialized people after switching off power supply. For cleaning use only a wiper and compressed air.