

X10761

Frost Protection | Heater Tape

# ENVIROSTAT FP6E & FP6i

6kW, 230V

Frost Protection Controllers

**CONTACT US:**

☎ 0044 (0) 1704-516 501

✉ [enquiries@united-automation.com](mailto:enquiries@united-automation.com)🌐 [www.united-automation.com](http://www.united-automation.com)**KEY FEATURES:**

- ✓ **Energy-Efficient Design:** Ensures optimal frost protection while conserving energy.
- ✓ **Simple Setup and Installation:** User-friendly design allows for quick and easy installation.
- ✓ **Soft Start Function:** Gradual switch-on reduces inrush currents, extending the life of the heating elements.
- ✓ **Encapsulated Sensor:** Built-in, 2-meter long sensor for accurate temperature monitoring.
- ✓ **Wide Temperature Range:** Adjustable from -10°C to +10°C (alternative range of 0°C to +20°C available).
- ✓ **IP65 Ingress Protection:** Suitable for outdoor and harsh environments.
- ✓ **High Current Capacity:** Supports up to 25A, with a power switching capacity of 6kW.
- ✓ **Fault Detection and Indicators:** FP6E includes alarm indication; FP6i offers BMS alarm capabilities for comprehensive system monitoring.

**APPLICATIONS:**

Ideal for use in environments where pipes are at risk of freezing, such as:

- Industrial facilities
- Warehouses
- Outdoor plumbing systems
- Commercial buildings

The **ENVIROSTAT FP6E** and **FP6i** are advanced electronic thermostats engineered to deliver energy-efficient frost protection for pipework where insulation alone cannot prevent freezing or ice damage. Designed to control heater tape or Infra-Red (IR) quartz lamps, these units provide reliable temperature management in harsh environments.

- **FP6E** offers robust frost protection with alarm indication and temperature control functions
- **FP6i** adds Building Management System (BMS) alarm features for enhanced monitoring and system integration.

The **ENVIROSTAT FP6E** and **FP6i** thermostats are the ideal solution for maintaining reliable frost protection in demanding environments, with the FP6i model offering advanced monitoring and BMS integration for comprehensive system management.

**TECHNICAL SPECIFICATIONS***(All models unless otherwise stated)*

Supply voltage	230V ac +/- 10%
Supply frequency	50Hz
Power switching capacity	6kW max.
Load current	25A max.
Temperature range	-10°C to +10°C OR 0°C to +20°C
Temperature accuracy	1°C
Current consumption	16mA
Soft start duration	1 second
Output and load fault detection	Only on FP6i model (see ALARMS section for details)
Power and output LED indicators	(see ALARMS section for details)
Supply terminal connections	0.2 to 6mm <sup>2</sup> rising clamp
Gland cable entry	10.5 & 8mm Ø (Note: cable MUST be round to ensure IP rating)
Ambient operating temperature	-20 °C to +40 °C
Ingress protection (IP) rating	IP65
Built in Sensor	Encapsulated 10kΩ NTC thermistor probe, 2m long
Sensor monitoring	FP6E: open or short circuit - unit shuts down FP6i: open or short circuit - unit shuts down and alarms
Sensor terminal connections	0.1 to 1.5mm <sup>2</sup> rising clamp
Sensor mounting	To secure to pipe etc., use appropriately sized nylon cable ties
Building Management System (BMS)	Alarm relay is normally energised when the system is 'healthy' (for FP6i)
<b>Dimensions</b>	
Enclosure dimensions	120(W) x 120(L) x 65(H)
Fixing holes and centres	4 x 4.8mm Ø holes on fixing centres 110(W) x 90(L)mm

**YOU MUST READ THIS BEFORE INSTALLATION**

 ELECTRICAL SAFETY	 INSTALLATION REQUIREMENTS	 USER RESTRICTIONS	 USAGE ENVIRONMENT	 HOT SURFACE WARNING
<b>WARNING: RISK OF ELECTRIC SHOCK</b> Always consult the Installation & Maintenance Instructions before connecting this product to the power supply. <b>WARNING: Disconnect Power Before Servicing</b> Ensure the electrical supply is safely disconnected before connecting to any supply, load, or control terminals.	<b>WARNING: Installation by Qualified Personnel Only</b> This product must only be installed or fitted by a competent, qualified installer familiar with the relevant electrical standards and installation practices.	<b>WARNING: Not for Use by Vulnerable Individuals</b> This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised or instructed by a person responsible for their safety.	<b>WARNING: Industrial Use Only</b> This is an industrial-grade product and is not intended for household use.	<b>WARNING: Hot Surfaces</b> On certain models, surfaces marked with this symbol become hot during use. Avoid direct contact and follow all thermal safety precautions.

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## Product Setup

To set up the unit, connect the mains supply and load to the controller using the appropriate round-section cable. Position the sensor to measure the air temperature as needed, or securely fix it to a pipe using cable ties.

## Operation

Adjust the set point temperature using the main control knob. When the ambient temperature drops below the set point, the load output will soft-start for 1 second before the main output relay is energized, and the output LED will illuminate. Once the ambient temperature reaches or exceeds the set point, the load output will deactivate, and the output LED will turn off.

## **Alarms:**

The unit is equipped with fault detection capabilities. It can identify open-circuit or short-circuit conditions in the temperature sensor. The unit also conducts an automatic output test at power-up and every four hours thereafter, momentarily switching off the output during testing before resuming normal operation. For models with a BMS alarm relay (FP6i), additional alarm features are available (refer to specifications for BMS details).

## **Faults that trigger the alarm LED to flash include:**

1. Open-circuit or short-circuit temperature sensor.
2. Open-circuit load.
3. Short-circuit in the semiconductor device or relay.
4. Open-circuit in the semiconductor device or relay.

The alarm LED flashes at a rate of approximately one-tenth of a second for temperature sensor issues and half a second for output/load issues.

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# ENVIROSTAT FP6E & FP6i

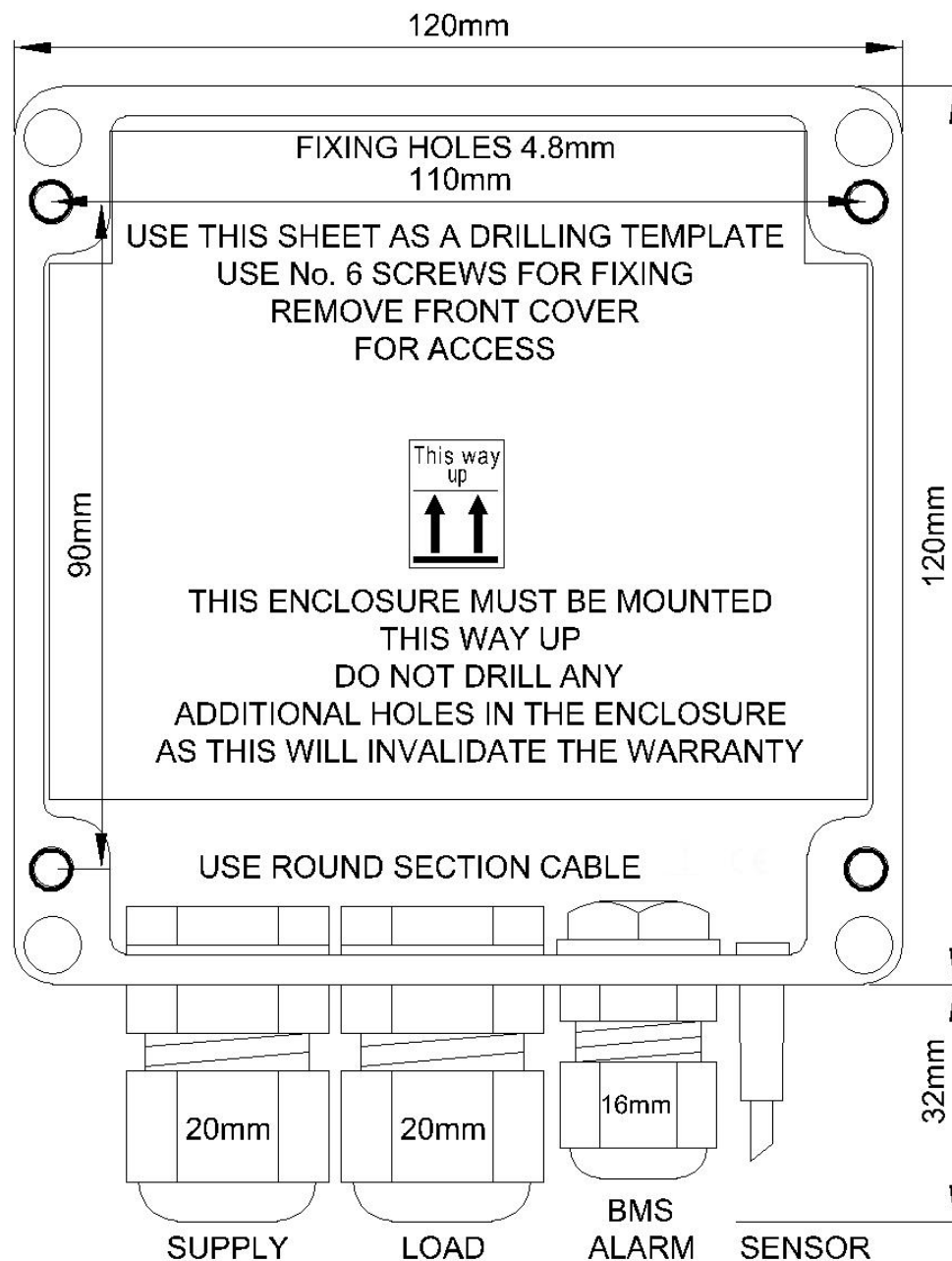
6kW, 230V

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## INSTALLATION

### Mounting:

- Use the provided fixing-hole template to secure the enclosure to the wall.
- **Note:** For vertical installation, ensure the unit is mounted as shown to maintain the IP rating.



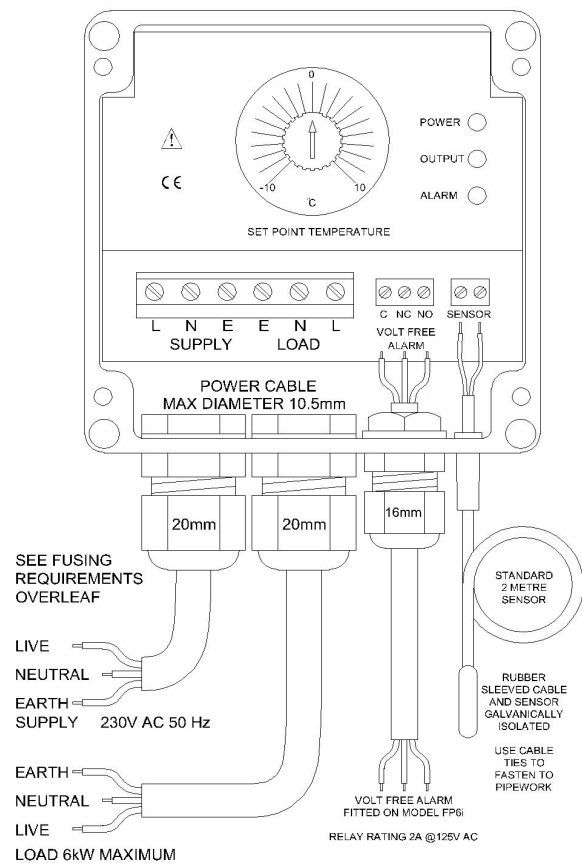
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**Wiring:**  
Refer to the wiring diagram for connection details and cable entry points. Ensure all cable glands are properly tightened to maintain the IP rating. The control dial for setting the temperature is also illustrated in the wiring diagram.



**RECOMMENDATION FUSING**  
It is recommended to use standard F-type quick-blow fuse or circuit breaker (MCB ‘type ‘B’- rated at 20A Max.) for ‘in line’ unit protection. (See the SRA Datasheet for further information).

**DOCUMENTS**  
Other documents, which may be appropriate for your applications, are available on request.

Code	Identity	Description
X10255	SRA	Safety requirements: Addressing the Low Voltage Directive (LVD) including Thermal data/Cooling, Live parts warning, Earthing requirements & Fusing recommendations
P01.1	COS	UAL Conditions of Sale

**NOTE:** It is recommended that installation and maintenance of this equipment should be carried out by suitably qualified personnel, with reference to the current edition of the I.E.T. Wiring Regulations BS7671. The regulations contain important requirements regarding the safety of electrical equipment.

PRODUCT CODE AND RELATED PRODUCT CODE

Product Code	Product Description
A87352	Envirostat FP6E 6kW 230v - Frost Protection Controllers
A87354	Envirostat FP6i 6kW 230v - Frost Protection Controllers

Note: 110V model available on request



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