

X10824

Frost Protection | Heater Tape

ENVIROSTAT FP6i

6kW, 230V

Frost Protection Controllers

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KEY FEATURES:

- ✓ Automatic frost protection for heater tape and infrared heating systems
- ✓ Controls load up to 6kW (25A)
- ✓ Adjustable temperature ranges from 0°C to +20°C
- ✓ Integrated 2m encapsulated temperature sensor
- ✓ Soft-start function for gradual load energisation
- ✓ IP65 weather-resistant enclosure
- ✓ Output and load fault detection
- ✓ Sensor open-circuit and short-circuit monitoring
- ✓ Power, output, and alarm LED indicators
- ✓ Building Management System (BMS) alarm relay
- ✓ Solid-state electronics for maintenance-free reliability
- ✓ Simple installation and setup

APPLICATIONS:

Ideal for automatic frost protection of:

- Pipework
- Water supply systems
- Process pipework
- Trace heating systems
- Heater tape installations
- Infrared quartz heating systems
- Valves and manifolds
- Storage tanks
- Commercial buildings
- Industrial facilities
- HVAC frost protection systems

The **ENVIROSTAT FP6i-230V** is a **6kW electronic frost protection controller** designed to provide reliable, energy-efficient freeze protection for pipework, valves, tanks, and other critical equipment. By automatically controlling heater tapes or infrared (IR) quartz heaters, it helps prevent frost damage while reducing unnecessary energy consumption.

Featuring an **integrated 2m temperature sensor, soft-start switching, output and load fault detection, and a Building Management System (BMS) alarm relay**, the FP6i offers enhanced system monitoring and dependable operation in demanding commercial and industrial environments.

Housed in a robust IP65 enclosure, the **ENVIROSTAT FP6i** is easy to install, virtually maintenance-free, and built with solid-state reliability for long-term performance in indoor and outdoor frost protection applications.

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	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 ² 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	FP6i: open or short circuit - unit shuts down and alarms
Sensor terminal connections	0.1 to 1.5mm ² 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)
Dimensions	
Enclosure dimensions (mm)	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

<p>⚠ ELECTRICAL SAFETY</p> <p>WARNING: RISK OF ELECTRIC SHOCK Always consult the Installation & Maintenance Instructions before connecting this product to the power supply.</p> <p>WARNING: Disconnect Power Before Servicing Ensure the electrical supply is safely disconnected before connecting to any supply, load, or control terminals.</p>	<p>🔧 INSTALLATION REQUIREMENTS</p> <p>WARNING: Installation by Qualified Personnel Only This product must only be installed or fitted by a competent, qualified installer familiar with the relevant electrical standards and installation practices.</p>	<p>🚫 USER RESTRICTIONS</p> <p>WARNING: Not for Use by Vulnerable Individuals 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.</p>	<p>🏭 USAGE ENVIRONMENT</p> <p>WARNING: Industrial Use Only This is an industrial-grade product and is not intended for household use.</p>	<p>⚠ HOT SURFACE WARNING</p> <p>WARNING: Hot Surfaces On certain models, surfaces marked with this symbol become hot during use. Avoid direct contact and follow all thermal safety precautions.</p>
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Product Set-up

Connect the mains supply and load to the controller using the appropriate round-section cable. Position the sensor to measure the air temperature where required, or use cable ties to fix the sensor to a pipe etc.

Operation

Set the Set Point Temperature using the main knob. When the ambient temperature drops below the set point temperature, the load output soft-starts for 1 second before the main output relay energises, the output LED will be lit. When the ambient temperature is equal to or greater than the set point temperature, the load output switches off, and the output LED will be off.

Alarms (HC4i model only)

The unit can detect an open-circuit or short-circuit temperature sensor. In addition to this, the unit tests the output immediately at power up and every four hours thereafter. The output will switch off momentarily during a test. Normal operation will resume once the test is complete. Alarm relay fitted to FP6i model (see specifications, BMS) .

The unit can detect the following faults:

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

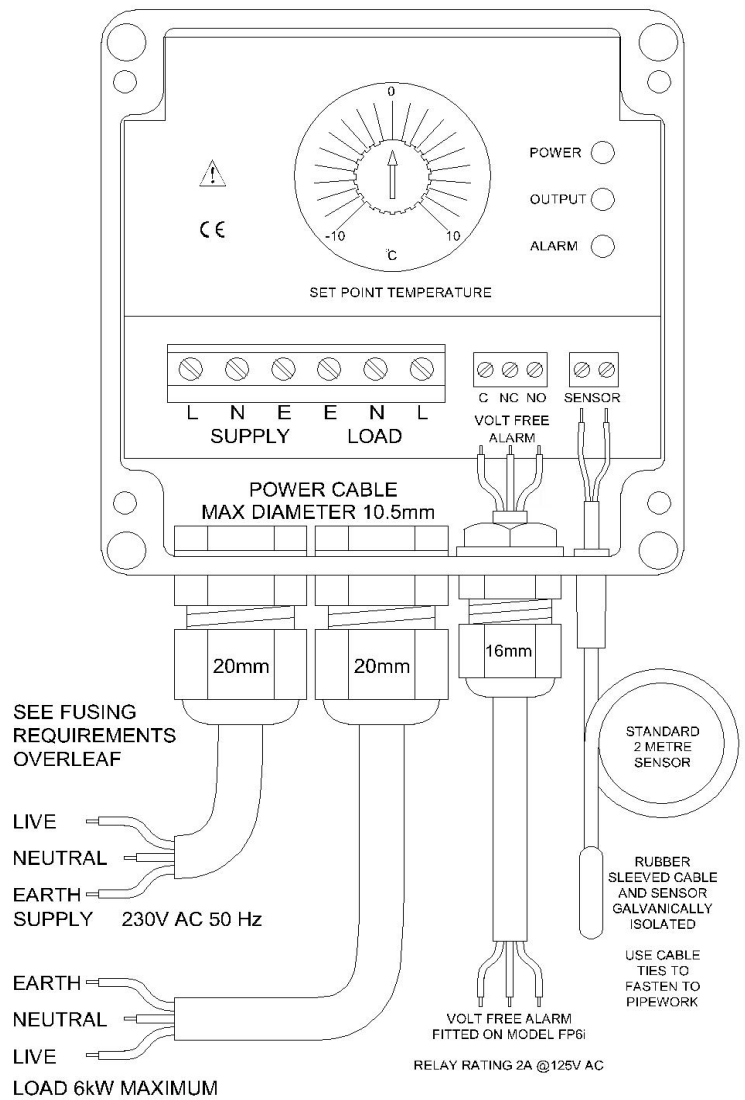
In all the above cases, the alarm LED will flash.

For the temperature sensor alarm, the rate is approximately one-tenth of a second, and for the output/load alarm, the rate is approximately half a second.

Installation Wiring

The diagram shows the wiring connections and cable entry – FP6i shown.

NOTE: the glands MUST be tightened to ensure the IP rating. The 'set point' control dial is also shown.



ENVIROSTAT FP6i

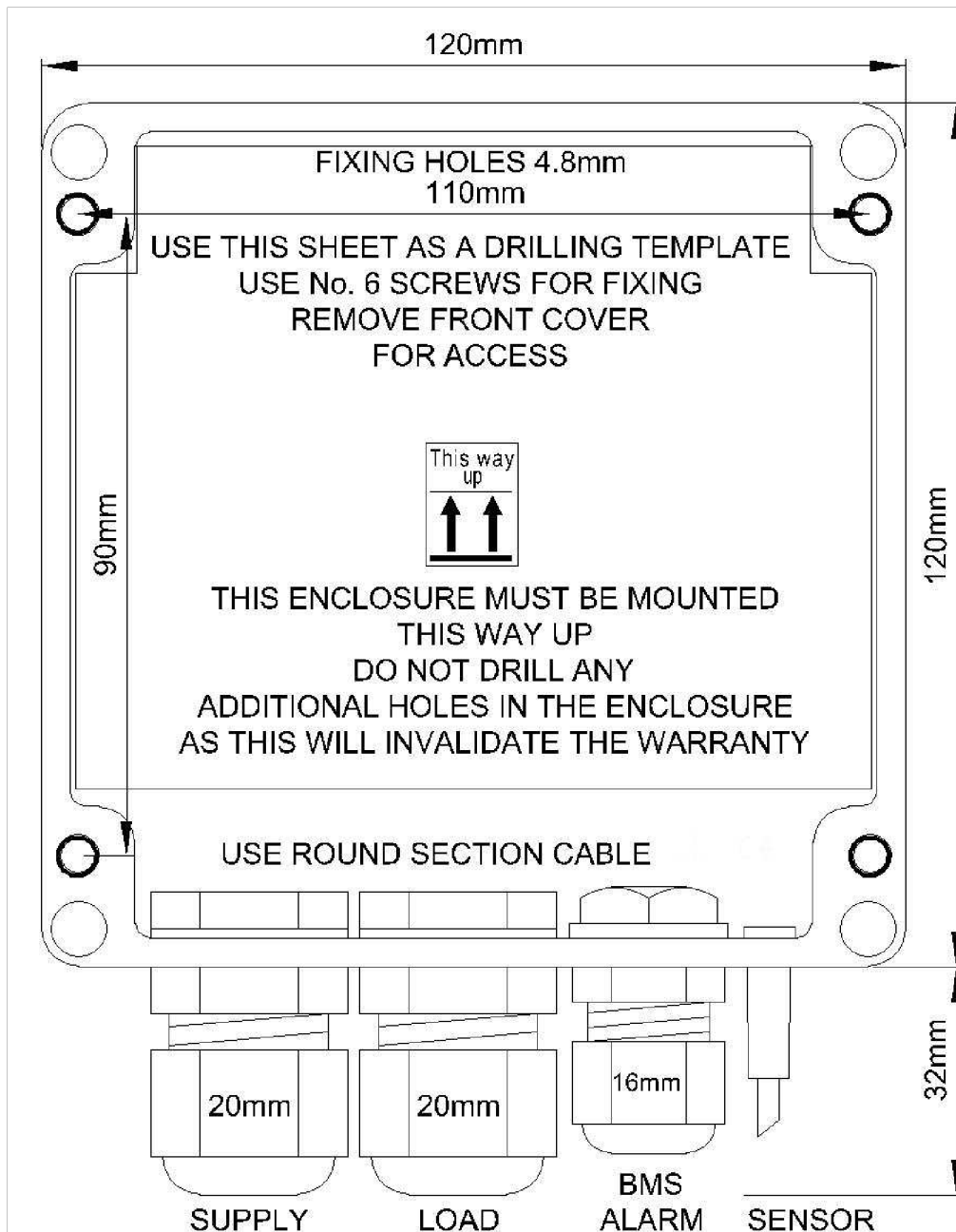
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Installation Mounting

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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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).

CE Marking

This product family carries a "CE marking" and are RoHS compliant.

For further information, contact our sales desk. (See the Declaration of Conformity).

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
A87373	Envirostat FP6i 6kW 230V - Frost Protection Controllers



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