

X10760

Frost Protection | Heater Tape

ENVIROSTAT FP4E & FP4i

4kW, 230v

Frost Protection Controllers



CONTACT US:

☎ 0044 (0) 1704-516 501

✉ enquiries@united-automation.com

🌐 www.united-automation.com

KEY FEATURES:

- ✓ **Simple Setup & Installation:** Easy to install, making it ideal for both new setups and retrofits.
- ✓ **2m Long Sensor Included:** Comes with a built-in encapsulated sensor, ensuring accurate temperature monitoring.
- ✓ **Soft Start Function:** Gradual switch-on to protect your heating elements.
- ✓ **Wide Temperature Range:** Available in -10°C to 10°C or 0°C to 20°C options, making it versatile for different environments.
- ✓ **Solid State Reliability:** Durable and maintenance-free, ensuring long-term, worry-free operation.
- ✓ **IP65 Ingress Protection:** Robust design with high-level protection against dust and water.
- ✓ **High Current Capacity:** Capable of handling up to 20A, suitable for demanding applications.

Introducing the **ENVIROSTAT FP4E & FP4i Electronic Thermostats**—your ultimate solution for energy-efficient frost protection. Designed specifically for pipework where thermal insulation alone falls short, these advanced thermostats ensure your pipes remain protected from freezing and ice damage. Ideal for controlling heater tape or Infra-Red (IR) quartz lamps, the ENVIROSTAT FP4 series offers two robust models to suit your needs:

- **FP4E:** A straightforward, reliable thermostat offering 4kW frost protection with simple temperature control functions.
- **FP4i:** An enhanced version with additional alarm features for comprehensive protection and monitoring.

TECHNICAL SPECIFICATIONS

(All models unless otherwise stated)

Supply voltage	230V ac +/- 10%
Supply frequency	50Hz
Power switching capacity	4kW max.
Load current	20A max.
Temperature range	-10-10°C OR 0-20°C
Temperature accuracy	1°C
Current consumption	15mA
Soft start duration	1 second
Output and load fault detection	Only on FP4i model
Power and status LED indicators	Only on FP4i model
Supply terminal connections	0.2 to 6mm ² rising clamp
Gland cable entry	8mm Ø (Note: cable MUST be round to ensure IP rating)
Ambient operating temperature	-20-40° C
Ingress protection (IP) rating	IP65
Built-in sensor	Encapsulated 10kΩ NTC thermistor probe, 2m long
Sensor monitoring	FP4E: open or short circuit - unit shuts down FP4i: open or short circuit - unit shuts down and alarms
Sensor terminal connections	0.1 to 1.5mm ² Rising clamp
Senor mounting	To secure to pipe etc., use appropriately sized nylon cable ties
Dimensions	
Enclosure dimensions	95(W) x 130(L) x 55(H)
Fixing holes and centres	4 x 4.8mm Ø holes on fixing centres 97(W) x 82(L)mm

APPLICATIONS:

- **Frost Protection for Pipework:** Ideal for protecting pipes in outdoor or unheated environments.
- **Heater Tape Control:** Ensures efficient operation of heater tapes to prevent freezing.
- **Infra-Red Quartz Lamp Control:** Perfect for maintaining optimal temperatures in various settings.



BMF House - Wight Moss Way,
Southport Business Park
Southport PR8 4HQ
ENGLAND

united automation

[@](#) [f](#) [in](#) [d](#) [unitedautomationltd](#) [UA_Limited](#)



ENVIROSTAT FP4E & FP4i

4kW, 230v

Frost Protection Controllers

Product Setup

Connecting the System:

- Use the appropriate round-section cable to connect the mains supply and load to the controller.
- Position the sensor in the desired location to measure air temperature or secure it to a pipe using cable ties for direct temperature monitoring.

Operation

Setting the Temperature:

- Adjust the set point temperature using the main knob.

Automatic Temperature Control:

- When the ambient temperature falls below the set point, the load output initiates a soft start for 1 second before the main output relay activates. During this time, the output LED will light up, indicating that the system is active.
- As the ambient temperature rises to or exceeds the set point, the load output switches off, and the output LED will turn off, signalling that the system is idle.

Alarms (FP4i Model Only):

- **The FP4i model includes advanced fault detection features:**
 - **Sensor Monitoring:** Detects open-circuit or short-circuit temperature sensors.
 - **Periodic Output Testing:** The unit automatically tests the output at power-up and every four hours. The output may momentarily switch off during these tests, resuming normal operation afterwards.

Fault Detection:

- Open-circuit/short-circuit temperature sensor.
- Open-circuit load.
- Short-circuit or open-circuit in the semiconductor device or relay.

Alarm Indications:

- The alarm LED will flash to indicate faults:
 - Sensor Alarm: Fast flash rate (approximately 0.1 seconds).
 - Output/Load Alarm: Slower flash rate (approximately 0.5 seconds).



BMF House - Wight Moss Way,
Southport Business Park
Southport PR8 4HQ
ENGLAND

united
automation

[unitedautomationltd](#) UA_Limited



ENVIROSTAT FP4E & FP4i

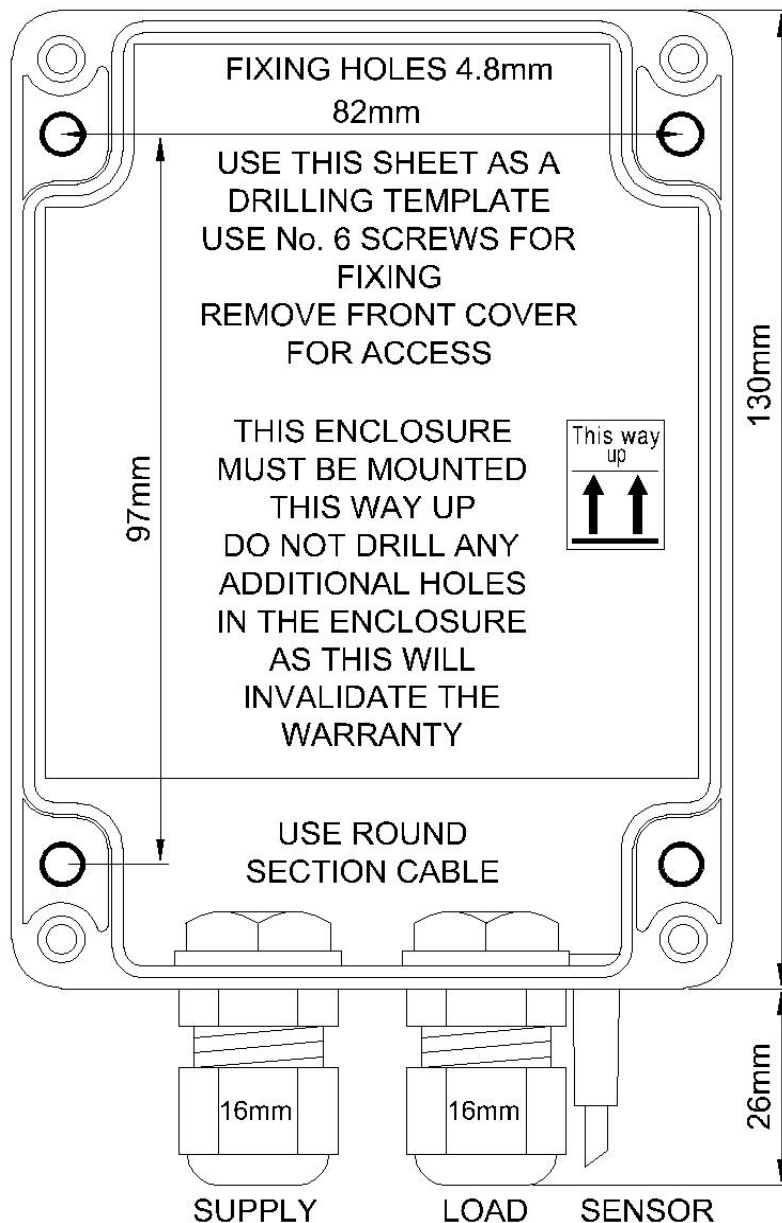
4kW, 230v

Frost Protection Controllers

INSTALLATION

Mounting:

- Use the provided fixing-hole template to securely mount the enclosure to the wall. Ensure the unit is installed in the correct vertical position to maintain its IP rating.



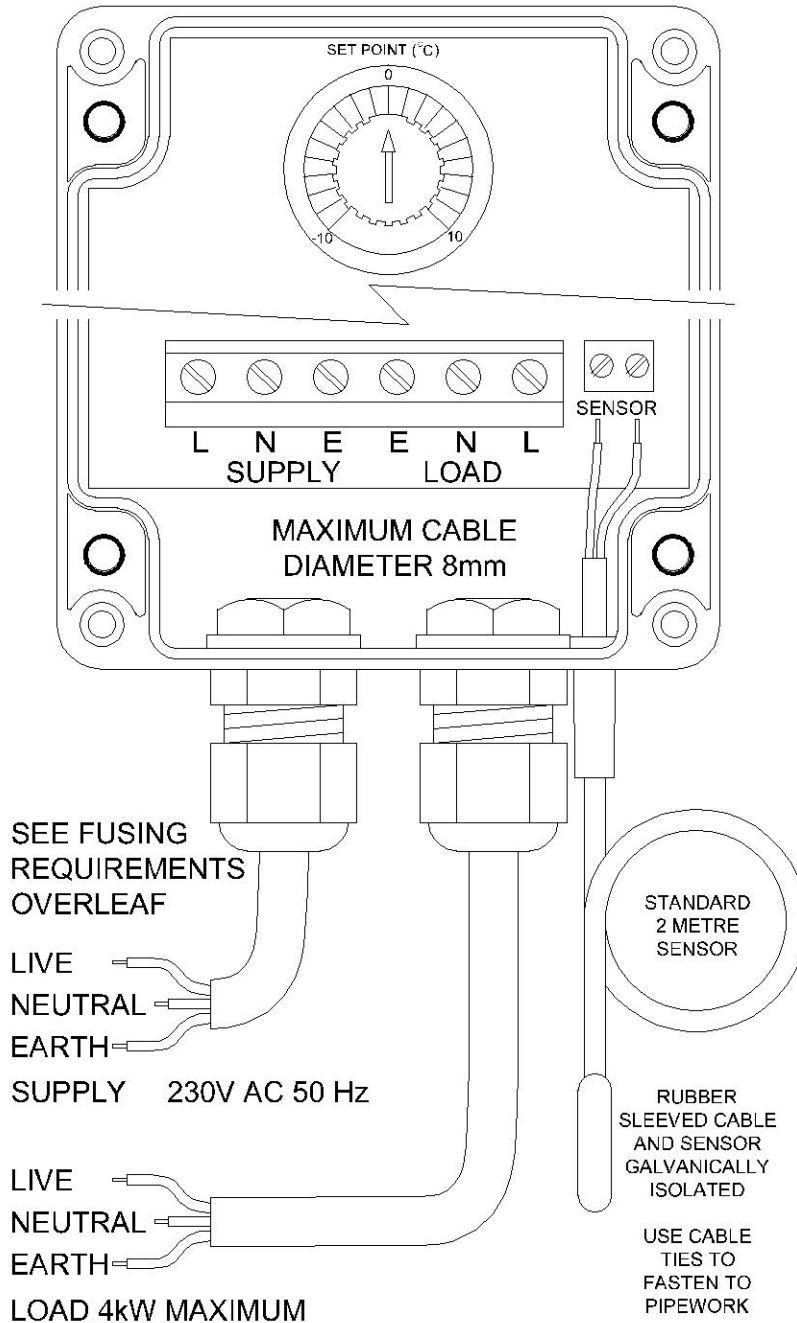
ENVIROSTAT FP4E & FP4i

4kW, 230v

Frost Protection Controllers

Wiring:

- Follow the wiring diagram provided to make the correct connections and ensure cable entry points are secure. Tighten the cable glands to maintain the unit's IP rating. The set point control dial is also illustrated for easy reference.



ENVIROSTAT FP4E & FP4i

4kW, 230v

Frost Protection Controllers

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
A87350	Envirostat FP4E 4kW 230v - Frost Protection Controllers
A87351	Envirostat FP4i 4kW 230v - Frost Protection Controllers

Note: For alternative voltage requirements or alternative options please contact us directly



BMF House - Wight Moss Way,
Southport Business Park
Southport PR8 4HQ
ENGLAND

