

1 Introduction

The ENVIROSTAT FP4E & FP4i are electronic thermostats designed to give energy-efficient frost protection to pipe work where thermal insulation alone cannot protect pipes from freezing or being damaged by ice. The units control heater tape or Infra-Red (IR) quartz lamps.

FP4E - Frost Protection 4kW –simple temperature control functions.

FP4i - Frost Protection 4kW – additional alarm features (see above.).

2 Features

- Simple setup & installation
- Includes 2m long sensor
- Soft start function (gradual switch-on)
- Built in encapsulated sensor
- Temperature range -10 to 10°C
- Solid state reliability
- Maintenance free
- IP65 Ingress protection
- Current capacity 20A Max.

FP4i only

- Output & load fault detection
- Power & output LED indicators

Alternative Options available

- Temperature range 0 to 20°C
- Reverse logic output

RoHS Compliant



Picture shows Model FP4i

3 Product Setup

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.

4 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 (For FP4i 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.

The unit can detect the following faults:

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

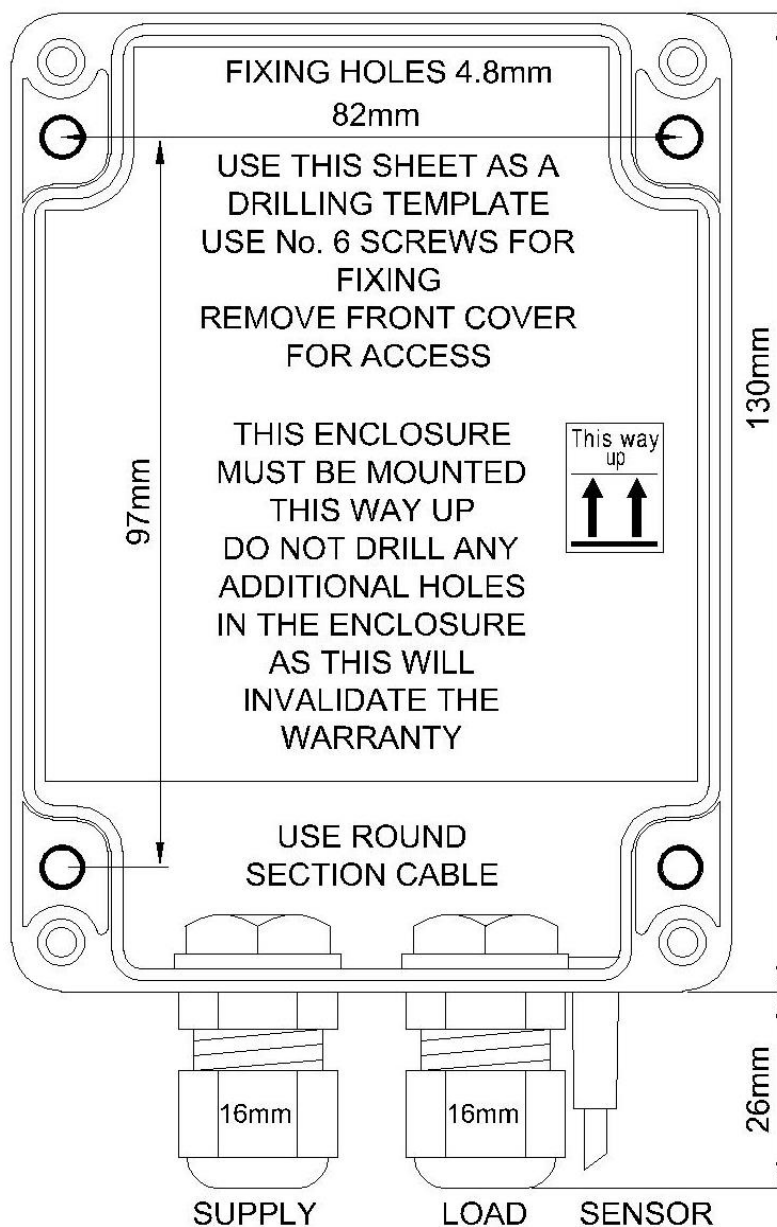
In all above cases, the alarm LED will flash.

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.

5 Installation Mounting

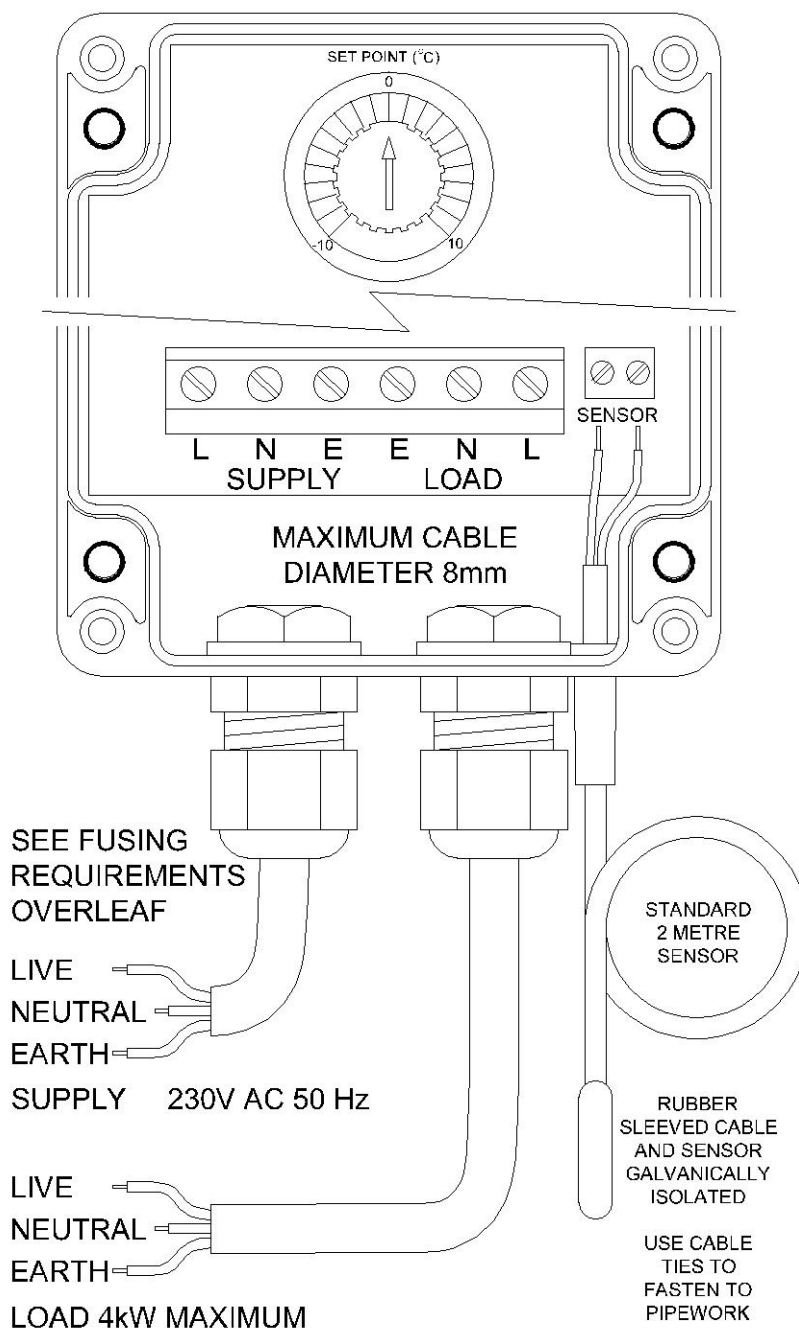
This is a fixing-hole template which may be used for securing the enclosure to the wall.

NOTE: If mounted in the vertical plane they MUST be as shown to ensure IP rating.



6 Installation Wiring

Diagram shows the wiring connections and cable entry – NOTE: the glands MUST be tightened to ensure the IP rating. The 'set point' control dial is also shown.



7 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
Sensor 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

8 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).

9 CE Marking

This product family carries a "CE marking" and are RoHS compliant. For further information see the recommendations section or contact our sales desk. See the Declaration of Conformity).

10 Recommendations

Other documents available on request, which may be appropriate for your application:-

Code	Identity	Description
X10255	SRA	Safety Requirements: Addressing the Low Voltage Directive (LVD) including, Thermal Data/Cooling, Live Parts Warning, Earthing Requirements and Fusing Recommendations
P01.1	COS	UAL Conditions of Sale

NOTE It is recommended that installation and maintenance of this equipment should be done with reference to the current edition of the I.E.T. wiring regulations (BS7671) by suitably qualified/trained personnel. The regulations contain important requirements regarding safety of electrical equipment. For International Standards refer to standards on the D of C.

11 Order Code





Part Number	State part number: Envirostat-FP4E-230V or FP4i-230V
Note: For alternative voltage requirements or alternative options please contact us directly	



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