Smart-ECO Datasheet
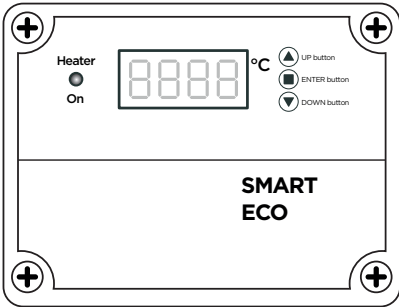
SOLCO. PYROELEC ™
Global trace heating solutions

❶ Product category

Air/surface sensing programmable thermostat with BMS fault alarm relay. For electronic temperature control in commercial heating applications.
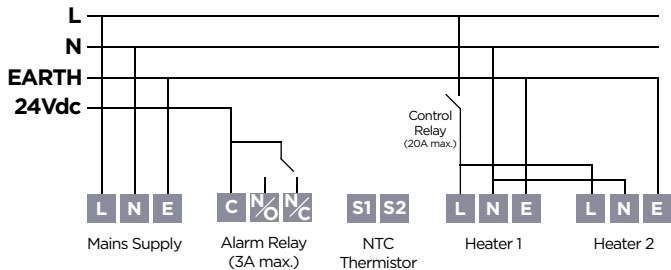
❷ Features

- User friendly - settings can be programmed easily.
- Controls all SOLCO PYROELEC heating cables.
- Thermostat has a 20A control relay and a 3A SPST BMS fault alarm relay.
- Units can be mounted on a pipe using a SOLCO PYROELEC support bracket.
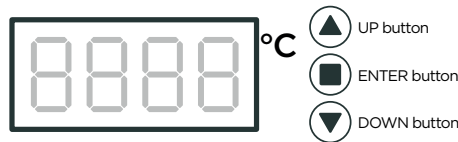- Display alternates between live temperature reading and set temperature once a minute.

Part list			
No.	**Part Name**	**Designation**	**Quantity**
1	Smart-ECO V.03	Electronic PCB Assembly	1
2	SABP131808G	Enclosure, IP66, 125mm x 175mm x 75mm	1
3	50.612 PA7035	M12 cable gland	1
4	LN12LG	M12 locknut	1

❸ Wiring diagram

❹ Connections and controls

Smart-ECO Datasheet

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⑤ Specification

General

Model	Smart-ECO v.03
Application	Air/surface sensing, -20°C to +105°C
Area of use	Non-hazardous, ordinary area
Temperature setting range	-15°C to +100°C
Supply voltage	100Vac (min) – 270Vac (max), 50/60 Hz
Load current (max.)	20A
PCB rail terminal assembly	12 x 2.5mm^2 max. conductor size, WAGO lever type

Enclosure

Enclosure dimensions	125mm x 175mm x 75mm
Environmental ingress protection	IP66/67
Base and lid	Grey ABS base and lid
Lid fixing	4 captive screws
Entries	2 x M20/M25 grooved drill outs for heating cable entry
	2 x M20 grooved drill outs for mains supply/safety relay cable entry
Ambient operating temperature range	-20°C to +60°C

Temperature sensor

Maximum exposure temperature	Sensor exposure temperature (metal part) - 200°C maximum, (PVC cable) 100°C maximum
Area of use	Non-hazardous, ordinary area
Length of sensor wire	3 metre – extendable using 2 core, can be shortened to suit
Temperature sensor type	NTC 10kohm type, material PVC
	Diameter sensor cable 3.5mm, diameter sensor head 5mm, length of head 50mm

The sensor cable can be shortened to 0.1m without any adverse effect. The sensor cable can also be extended to 100m max. using a 2 core conductor wire of similar size. It should not be grounded at the remote end.

Output relays

Control relay	Single pole single throw relay, rating 20A at 250Vac
Alarm relay	Single pole single throw relay, rating 3A, 24Vdc

Programmable parameters | settings

Temperature setting	-15°C to +100°C
Hysteresis	2K approx.
Heater operation if any error	Selectable ON or OFF in the menu

Diagnosed alarm (4 types)

Sensor error	Yes - Sensor short circuit/sensor open circuit, displays FL1
Load relay error	Yes, displays FL2
Voltage error	Yes – when connected only in N/O configuration, displays FL1
High/low temperature error	Yes – high & low temperature values can be set, displays FL1

Approvals

CE RoHS UKCA   Made in United Kingdom, RoHS compliant