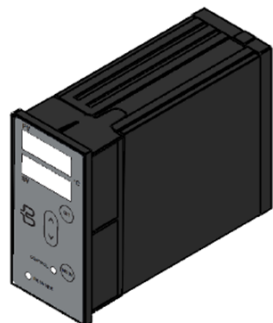# Backer IoT Smart Temperature Controller (HRDc) Installation Manual

BACKER

In the box

HRDc Controller (Variant)
Installation & Instruction Manual
2 x Mounting Brackets
1 x Sealing Gasket

Variants

All Features—All inputs including TC & PT100, including all software extras
PT100 Only—PT100 only, including all software extras
Stand Alone—All inputs including TC & PT100, no software extras
PT100 Stand Alone— PT100 only, no software extras

Device Details

The nameplate contains important details such as the following;

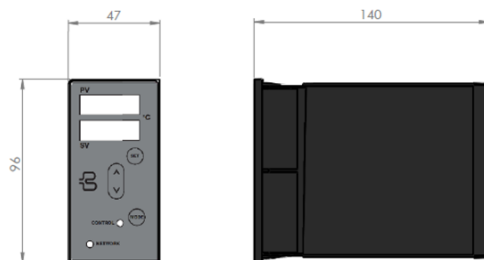| Model	See data label
Serial No.	See data label
Supply	100-300V AC 50/60Hz
Ambient Temperature	0-50°C Max
Ambient Humidity	
Installation Conditions	Indoor use, Altitude up to 2000m

Safety

 WARNING

- An external safety device must be installed with this controller if failure of the instrument could result in damage to the equipment or injury.
- All wiring needs to be completed before equipment is turned on to prevent electric shock, injury or damage to the equipment. Always ensure equipment is disconnected and isolated if changes to the wiring are required.
- This equipment is designed to be installed in an enclosed panel, all high voltage connections, i.e. power supply need to be enclosed to avoid electric shock or injury to personal when operating.
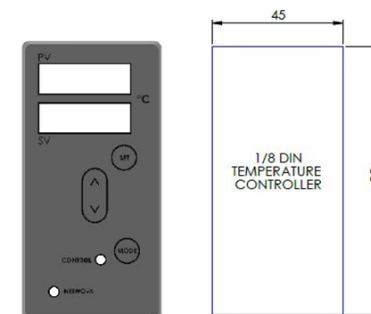
CAUTION

- This product is intended for use with industrial machines, test and measuring equipment. (it is not designed for use with medical equipment and nuclear energy.)
- This is a Class A instrument. In a domestic environment, this instrument may cause radio interference, in which case the user may be required to take additional measures.
- The instrument is insulated from electric shock by reinforced insulation.
- This instrument is designed to be installed in an enclosed panel. All high voltage connection must be enclosed within the panel to avoid electric shock by the operator.
- All wiring must be in accordance with local regulations and codes.
- For cleaning ensure the instrument is powered off, only use a soft dry cloth.
- It is assumed that the installer of this instrument is qualified and competent for this type of installation.
- Heatrod Elements Ltd is in no way responsible for any damage or injury caused as a result of using this instrument, instrument failure or indirect damage.
- Every effort has been made that the this document is accurate at the time of printing. The information in this manual is subject to change without prior notice.

Mounting

The device is designed for installation in a control panel. The device can be mounted in any orientation, whichever is preferable to the end user.

Panel Cut-Out Size

1/8 DIN TEMPERATURE CONTROLLER

Panel Mounting

1. Once the panel cut-out has been completed, insert the instrument in to the panel cut-out. Ensure the gasket is fitted correctly to stop and ingress of water in to the cabinet.
2. Fit the fixing clips to the top and bottom of the instrument, and screw them down to tighten up the fitment in to the door. Ensure these are not over tightened as this can damage the casing and clips.

Wiring

100-240 VAC — N L E
PT100 (3W) — 1 2 3
PT100 (2W) — 3 4 5
THERMOCOUPLE — 6 7 8
0-10 V — 9
4-20mA — 10

NC C NO — 5VDC - 240VAC 5A
NC C NO — 5-48 VAC
SSR1 — 5-240 VAC/DC 120mA
SSR2
SSR3
MODBUS-RT RS-485 A B