
Repair Instructions - Unistat Heating Element Replacement

To replace a heating element on a Unitsat heater circulator



To suit: TU3

Approvals		
Written By:	Reviewed By:	Approved By:
Darren Assey	Duncan Smeaton	Duncan Smeaton

Safety Reminder

Replacing the heating element requires the technician to hold a suitable electrical licence.

These instructions do not purport to address all potential safety issues, if any, associated with the product's use. It is the responsibility of the user of these instructions to establish appropriate safety and health practices and determine the applicability of regulatory limitations before use.

Before attempting any of the following, perform the actions listed below:

- Turn OFF power to the machine.
- Unplug the machine.

Summary

These instructions show how to remove the old element and how to install a new one on a Unistat heater circulator.

Tools Required	
Screw Driver	Philips Head
Wire cutters	
18 mm Spanner	Open ended
Wire Stripper	

Kit Contents		
Item	Description	Quantity
21413	Unistat 1000w heater circulator element	1
	BP Connector	2
	Cable ties	5

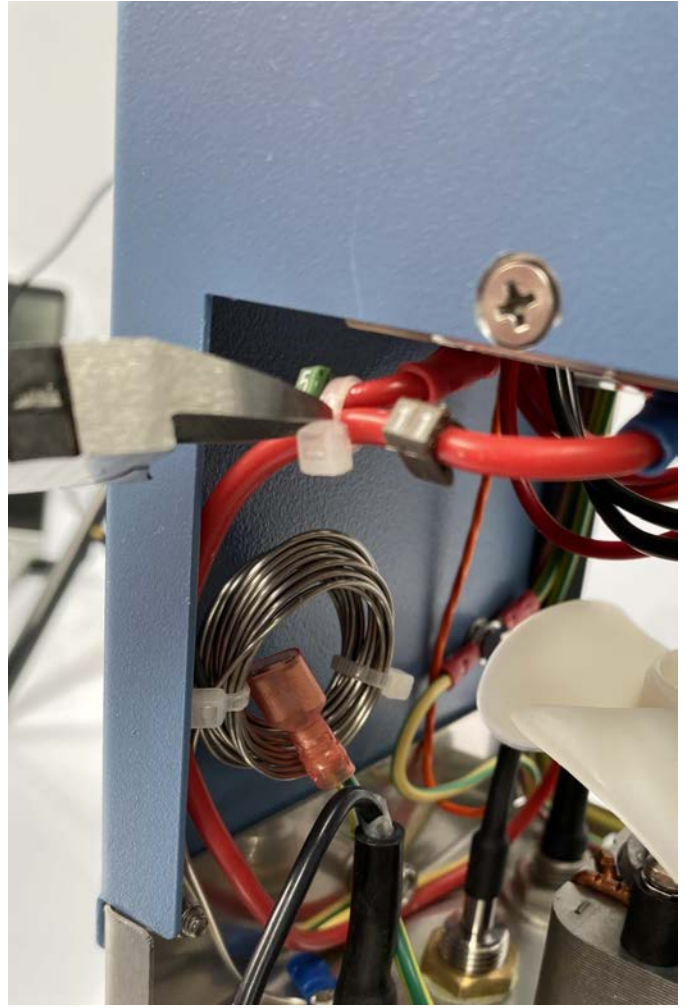
Section 1: Preparation



Unplug the Unistat from power and lay the unit flat. Undo the screws on either side of the Unistat cover. Once the screws are taken out, the cover can be carefully removed. The cover is connected to the body of the Unistat with an earth wire via a spade clip. Pull this earth wire from the spade clip. You can then put the cover to one side.

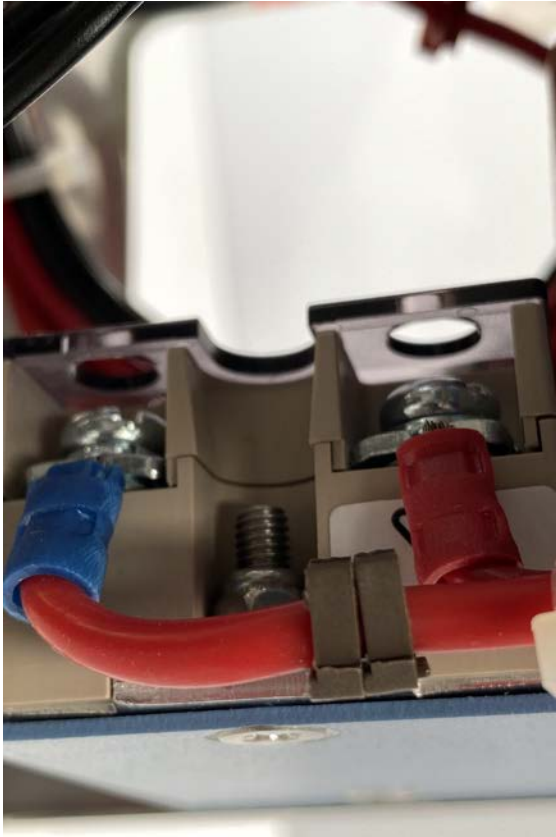


To disconnect the reset thermostat from the element, you need to remove the metal fixing clips.

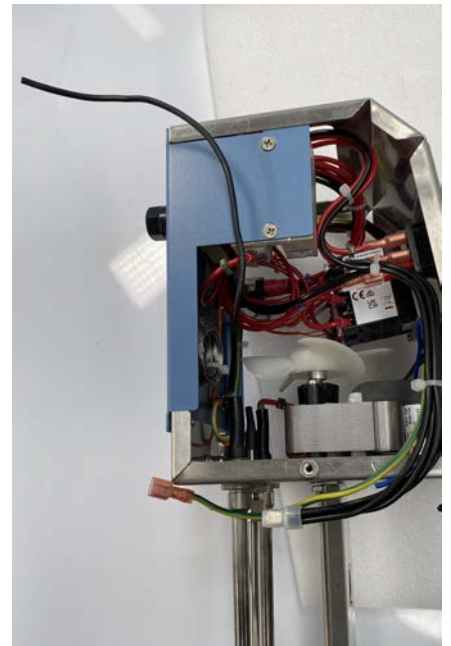
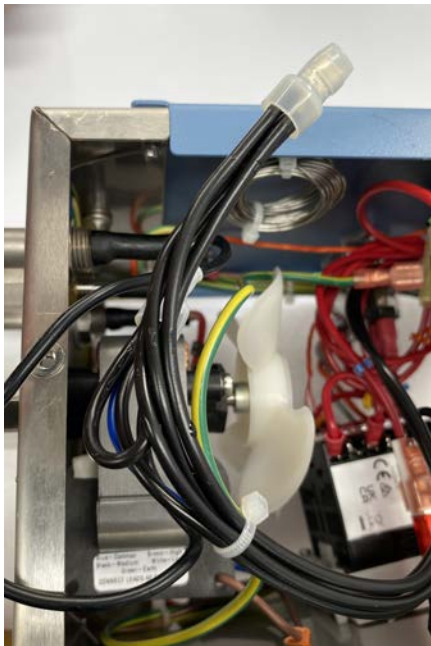


Using a wire cutter or similar cutting tool, remove the cable ties that are holding the wires together from the heating element.

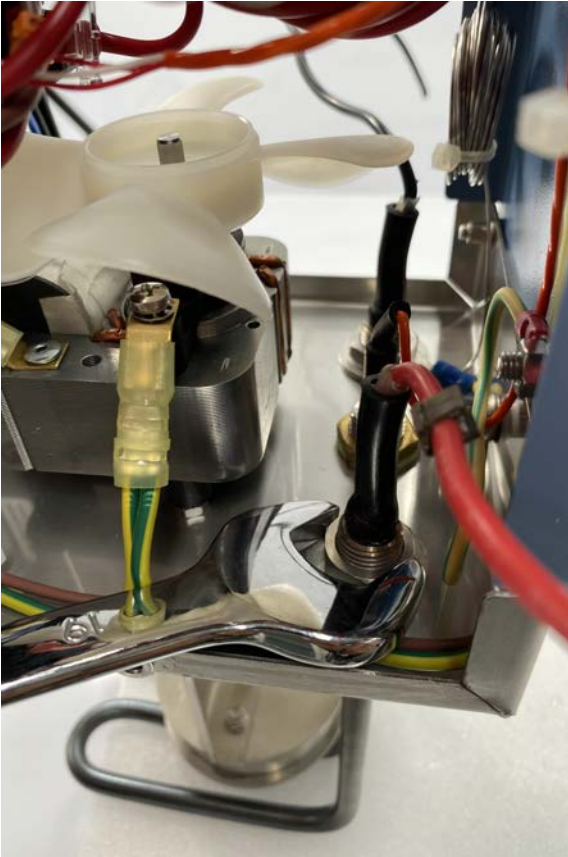
Section 2: Remove old Unistat element



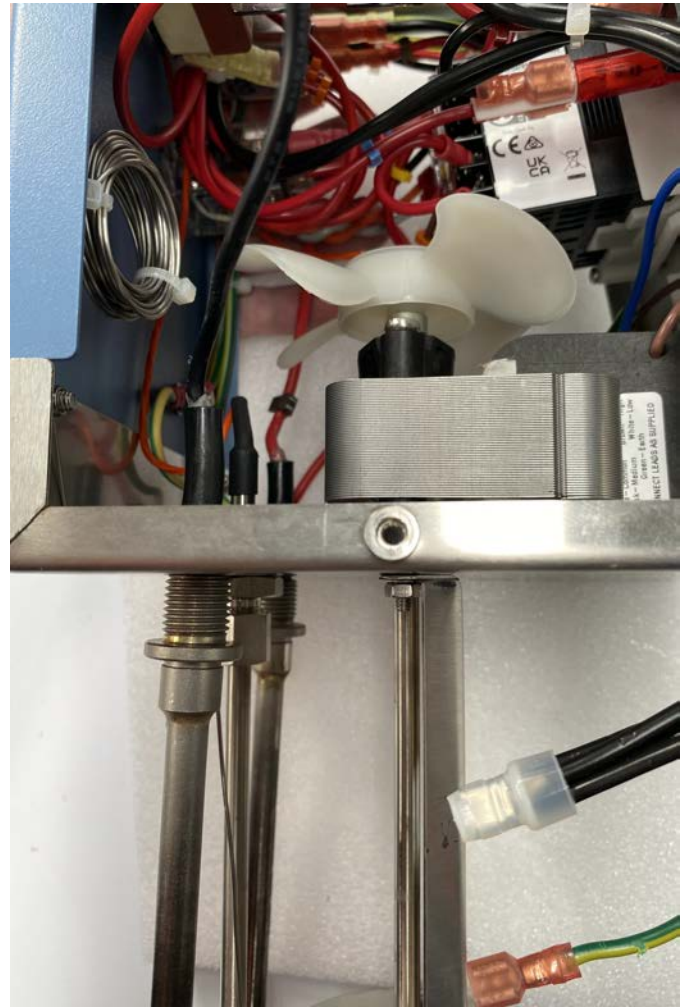
Follow the red wire from the heating element to the relay on the side wall. Unscrew this wire from the relay.



The black wire from the heating element is tied in with other non terminated wires at a BP Connector. Cut this BP connector off and you will then be able to separate and remove the black element wire from this group of wires



To remove the element, first loosen the nuts that are holding it in place.

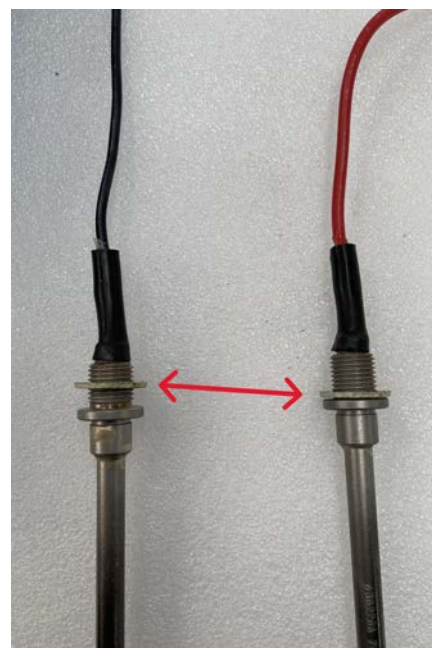


To remove the element from the Unistat housing, first locate the terminal connected to the black wire. Look for an earth wire looped around this terminal with a ring. To remove it, simply pass it over the end of the black wire. After this, you can safely pull the element out.

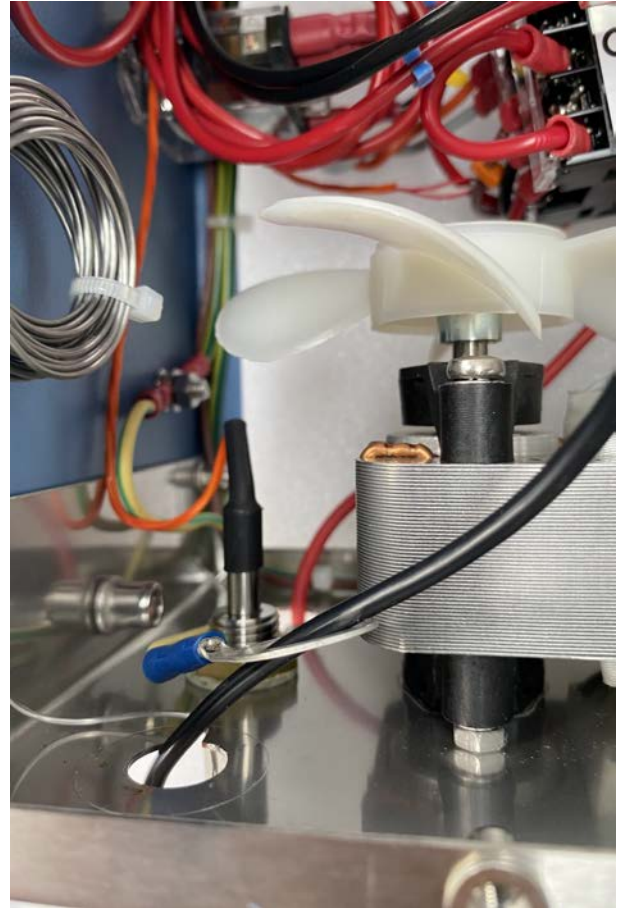
Section 3: Installation



There are numbers on the red wire of the old element to help using the wiring diagram. Remove the numbers from the red wire of the old element and attach it to the corresponding wire of the new element.



Before installing the new element, remove the nuts and foam washers. Discard the foam washers; the original metal washers used with the old element will take their place..



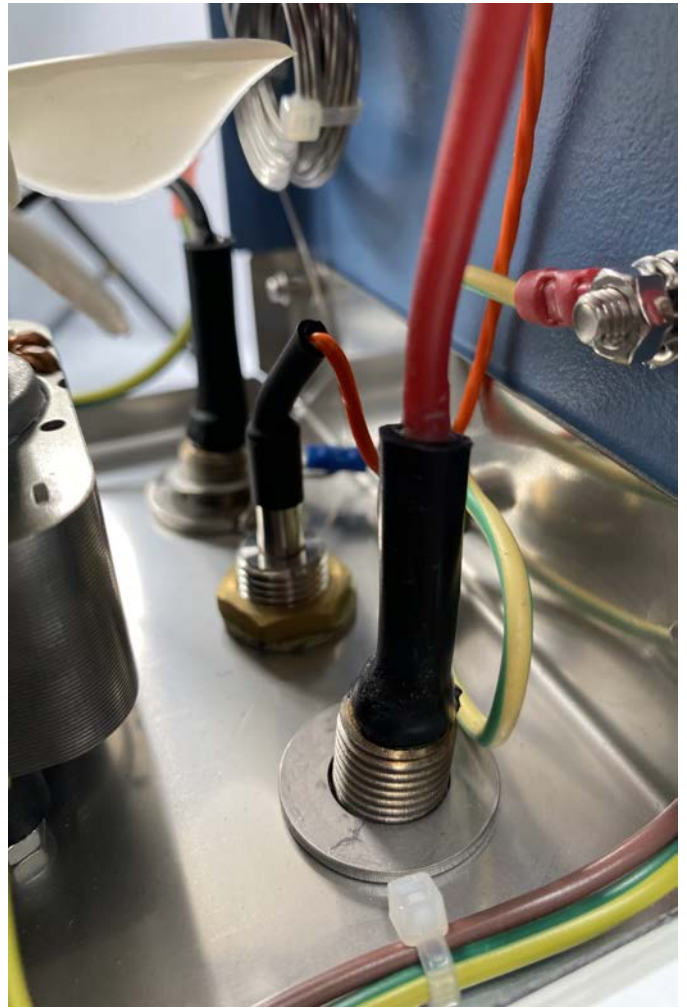
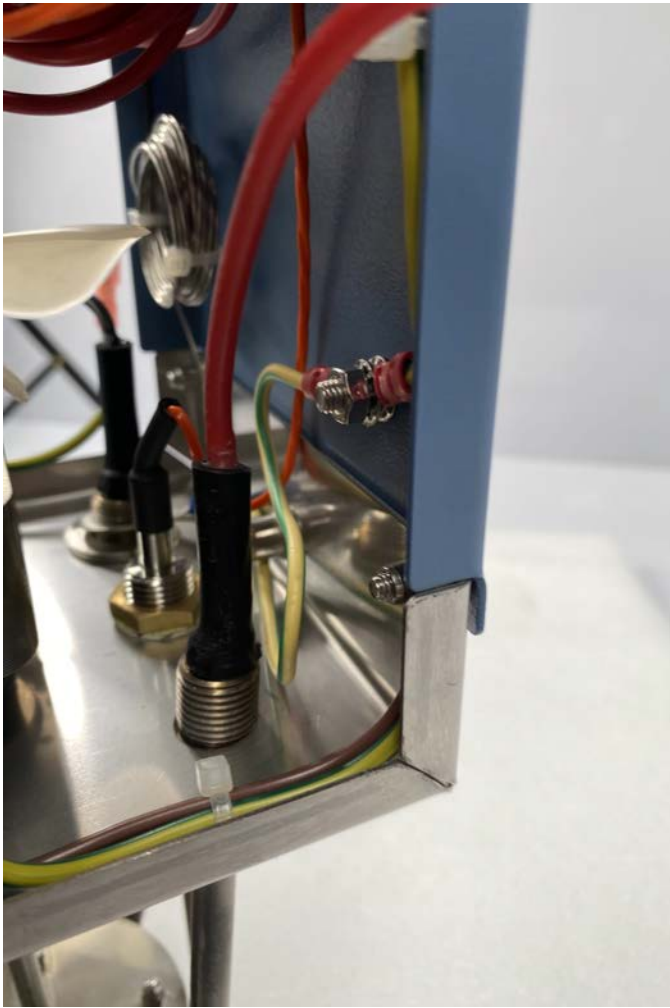
Thread the wires of the new element into the Unistat housing.



Before screwing the element in place, reattach the reset thermostat to the heating element via the metal fixing clips.



Slide the metal washer over the black wire. Please make sure that the wire for reset thermostat fits into the groove of the washer. Once in place thread the earth wire over the element wire.



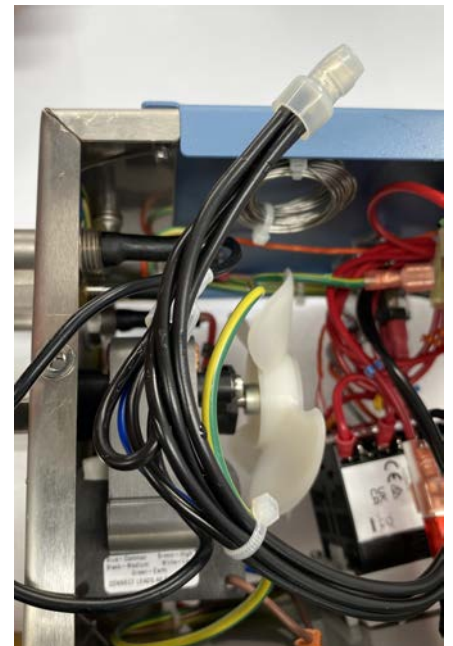
Slide the metal washer over the red wire. The location of the groove in the washer is not important.



Place the nuts over the wires and tighten



Once tightened, look down along the length of the Unistat. You will notice the element is slightly crooked. You can straighten this, by gripping the end of the element and twisting it with your hand to straighten it up.



For the red wire from the element, using a wire stripper remove the red sheath and then screw this back into the reel.

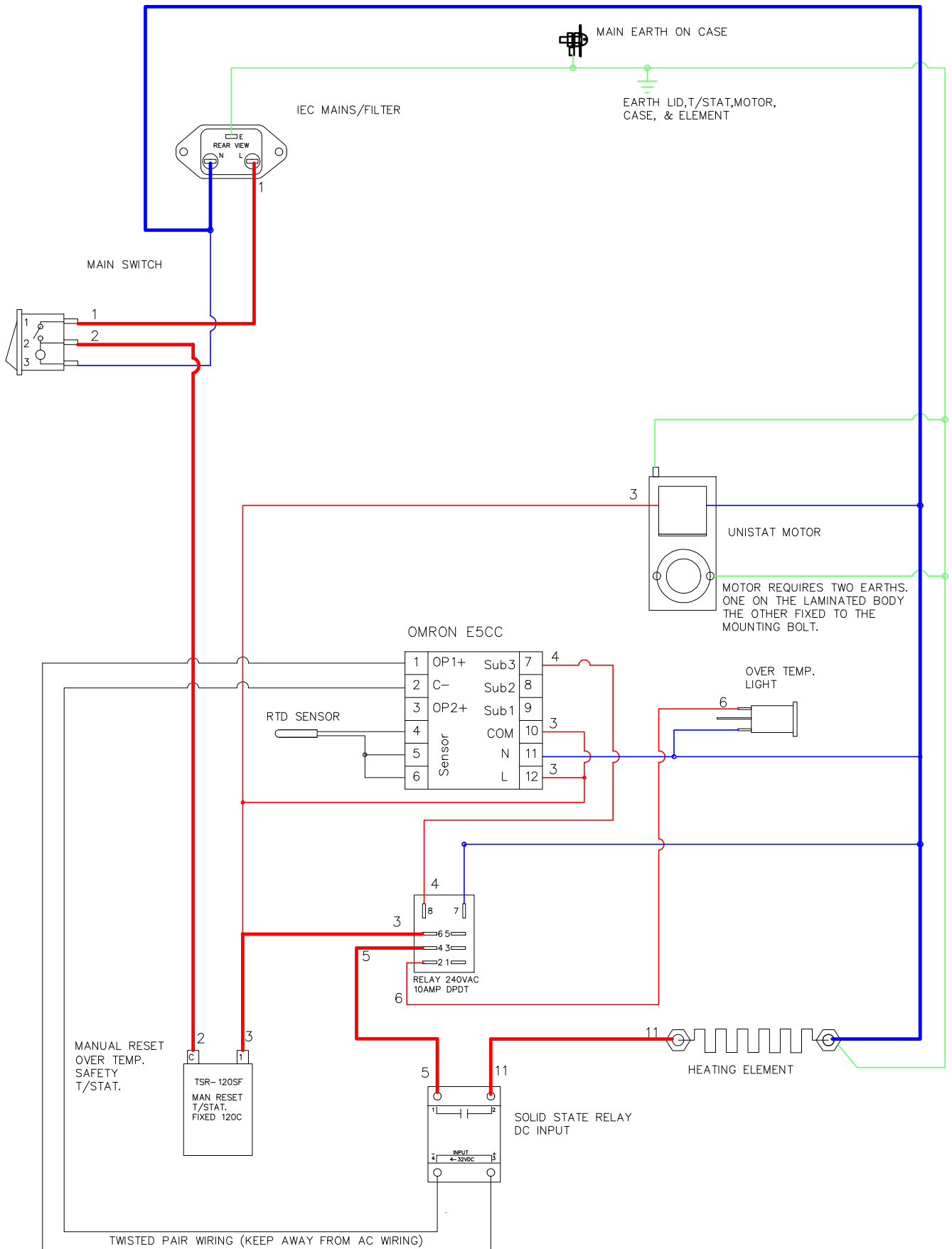
For the black wire, bundle this wire and the other loose and non terminated wires. Crimp them together with a BP Connection.

Section 4: Power ON



Reconnect the earth wire to the cover of the Unistat. Put the cover back in place it on the Unistat and reinsert the screws.

Note: Always ensure the element end of the circulator is placed in water before turning it on, otherwise element safety will trip.



HEATING ELEMENT	1000 WATTS	2000 WATTS
WIRE SIZE	1.0sq.mm V105	1.5sq.mm V105

PRODUCT:	BATHS:HEATER/CIRCULATORS,DIGITAL.	30-08-21: New Style TU3
MODEL No:	TU-3,TU-4	19-12-12: Replaced 3216 with E5CC control.
DRAWING No:	TU3 & 4 ELEC.	27-3-12: 10 AMP SWITCH
DESCRIPTION:	WIRING DIAGRAM FOR DIGITAL UNISTAT	13-4-11: CHANGED FROM WIRE COLOURS TO NUMBERS
ISSUE DATE:	19-12-12	21/9/09: CHANGED T/STAT TO MRST

Section 5: Support and Contact

Repair and Support is available over the telephone Monday through Thursday from 8:30am to 4pm and Friday 8:30am to 2pm. Please contact service@thermoline.com.au for email technical support. You can also visit our website at www.thermoline.com.au for access to additional useful troubleshooting guides, operating manuals, and technical information.

Thermoline Scientific Equipment
10-12 Ross Place
Wetherill Park NSW 2164
Ph: 02 9604 3911
Email: hello@thermoline.com.au
Web: www.thermoline.com.au

