WEEE Registered Code: WEE/ED0093VW

ISO 9001
Registered Firm

Manufactured in the
UK

Smith's
A Swan Group Company

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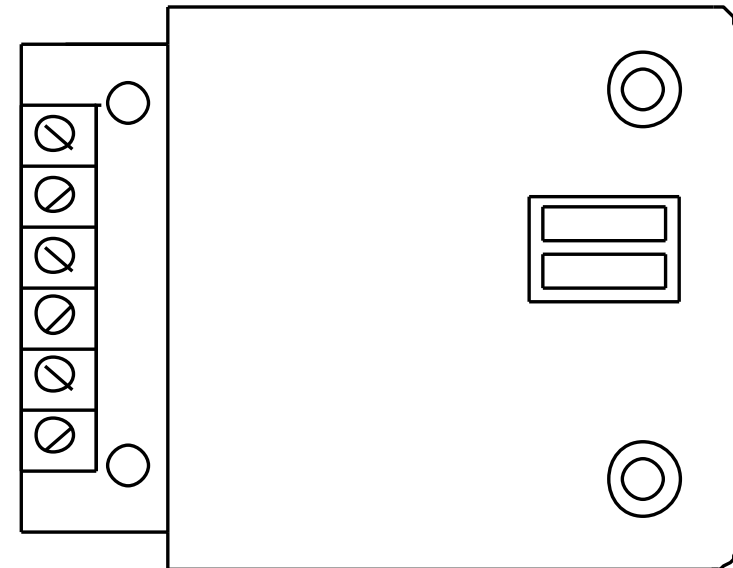
In light of our policy of continuous development Smith's Environmental Products Ltd reserve the right to alter specifications without prior notice.

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A Swan Group Company

Proportional Heat Output Controller Universal
(11°C – 21°C)/ (15°C – 25°C)

Installation and User Guide
Compatible with both Universal (UV, See pages 2-3) and
Universal Concealed (UVC, See pages 4-5)

User Information.
This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance. Cleaning and user maintenance shall not be made by children without supervision. (Refer EN 60335-1 clause 7.12).

Introduction

The proportional heat output controller is for use with the Caspian Universal range of products. This controller replaces the manual controller and automatically reduces fan speed with air temperature rise in the area being heated.

Parameters of speed control by temperature are between 11°C(15°C) and 21°C(25°C). This means at 11°C(15°C) or lower the fan speed will be 100% and at and 21°C (25°C) or higher the fan will run at an extra low speed to maintain room temperature.

This accessory can also be used in addition with Smith's Adjustable low temperature cut-out.

Warning:
Isolate the power supply to the Caspian unit. ***Do not*** reconnect the power supply until the installation has been completed.

ALL ELECTRICAL INSTALLATIONS CONNECTIONS MUST COMPLY WITH THE LATEST EDITION OF THE IEE WIRING REGULATIONS (BS7671), AND ANY RELEVANT LOCAL AUTHORITY BYE-LAWS. CHECK THE VOLTAGE ON THE HEATER IS CORRECT FOR YOUR SUPPLY. IF IN DOUBT, CONSULT A QUALIFIED ELECTRICIAN.

Please note the guarantee may be invalidated if this product is not installed and used in accordance with these instructions.
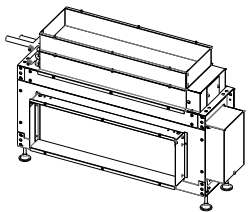
Before commencing with the installation please check contents of box.

X 1   Proportional controller (With sensor and Caspian UV mounting bracket).
X 2   Self tapping screws (To fix the controller to the electrical panel)
X 2   M5 machine screws (To attach bracket to heater)
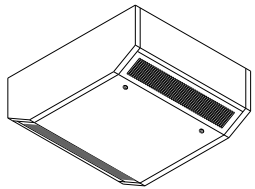
For Installation Instructions - Specific to

Caspian Universal (UV) 60 / 90 / 120 products

See pages 3-4

For Installation Instructions - Specific to the

**Caspian Universal Concealed (UVC) 90 / 120 products**

See pages 6-7

Wall Sensor Connection
See Page 5

Please note the guarantee may be invalidated if this product is not installed and used in accordance with this guide.

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6. Attach the proportional heat output controller to the mounting holes show in fig 2.

7. Re-connect the four wires from the speed controller to the appropriate connectors on the proportional controller. (See fig 3)

Air Sensor (Not polarity sensitive)

Fig 3
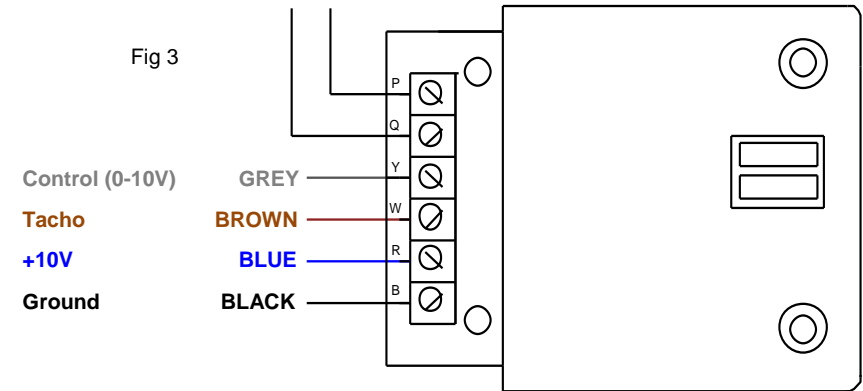
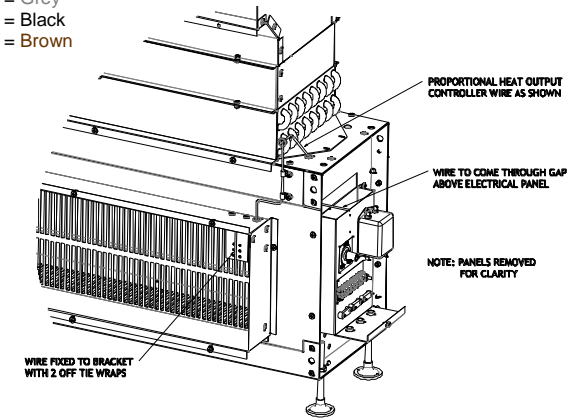| Control (0-10V) | GREY | Y |
Tacho	BROWN	W
+10V	BLUE	R
Ground	BLACK	B

Note:
If your heater was built before October 2014 or the colours shown in this diagram do not match those on your unit please refer to the below Key:

+10V   (Red)   = Blue
Control 0-10V (Yellow) = Grey
Ground   (Blue)   = Black
Tacho   (White)   = Brown

PROPORTIONAL HEAT OUTPUT CONTROLLER WIRE AS SHOWN

WIRE TO COME THROUGH GAP ABOVE ELECTRICAL PANEL

NOTE: PANELS REMOVED FOR CLARITY

Fig 4

WIRE FIXED TO BRACKET WITH 2 OFF TIE WRAPS

8. Cable tie the sensor wire to the bracket in the inlet grille, ensure that the tail of the sensor is mounted freely in the airflow behind the return air grill. (The UV bracket supplied in with the kit can be discarded)

9. Route the sensor wire to the proportional controller as shown in figure 4. Connect the sensor wire to the proportion heat output controller (Figure 3)

10. Turn on the electrical supply and any other external controls (room stat / timer etc.)

11. Turn on the boiler and check that the heater is working correctly.

12. The fan speed will reduce as the returning air temperature rises.

Caspian Universal Concealed (UVC) Installation:

ENSURE THAT THE ELECTRICAL SUPPLY TO THE PRODUCT HAS BEEN ISOLATED

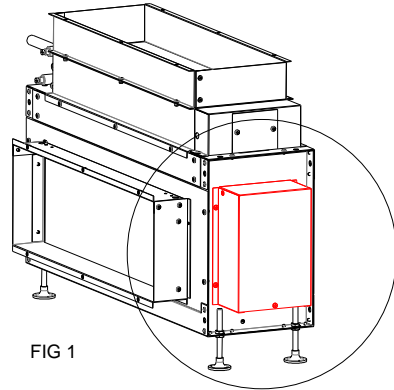1. Identify and remove the 4 screws that attach the electrical panel cover (Shown in red, Fig 1).

FIG 1

2. Remove the screws attaching the electrical panel to the chassis so that it becomes free (See fig 1). **Do not disconnect any wires at this point.**

3. Turn the electrical panel over to reveal the circuit board of the speed controller.

4. Disconnect the four wires attached to the circuit board on the rear of the controller. Put the two wire thermistor/ sensor wire to one side for later use.

5. Refit the electrical panel, ensuring that the 4 wires removed are still accessible.
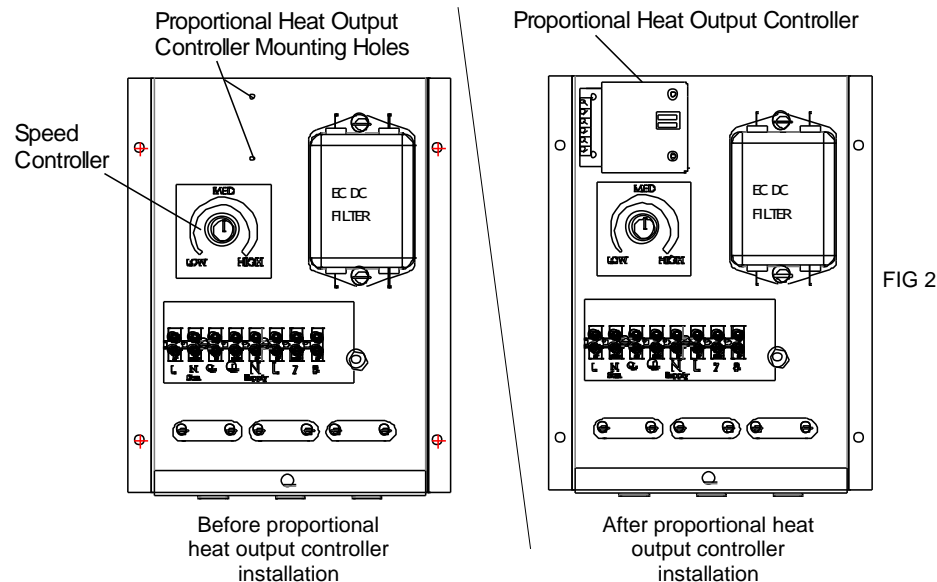
Proportional Heat Output Controller Mounting Holes

Proportional Heat Output Controller

Speed Controller

FIG 2

Before proportional heat output controller installation

After proportional heat output controller installation

Note: Standard speed controller becomes redundant once the proportional heat output controller is fitted

Caspian Universal (UV) Installation:

ENSURE THAT THE ELECTRICAL SUPPLY TO THE PRODUCT HAS BEEN ISOLATED

1. Unlock and remove front access panel of the Caspian UV unit. Keys are provided with the heater.
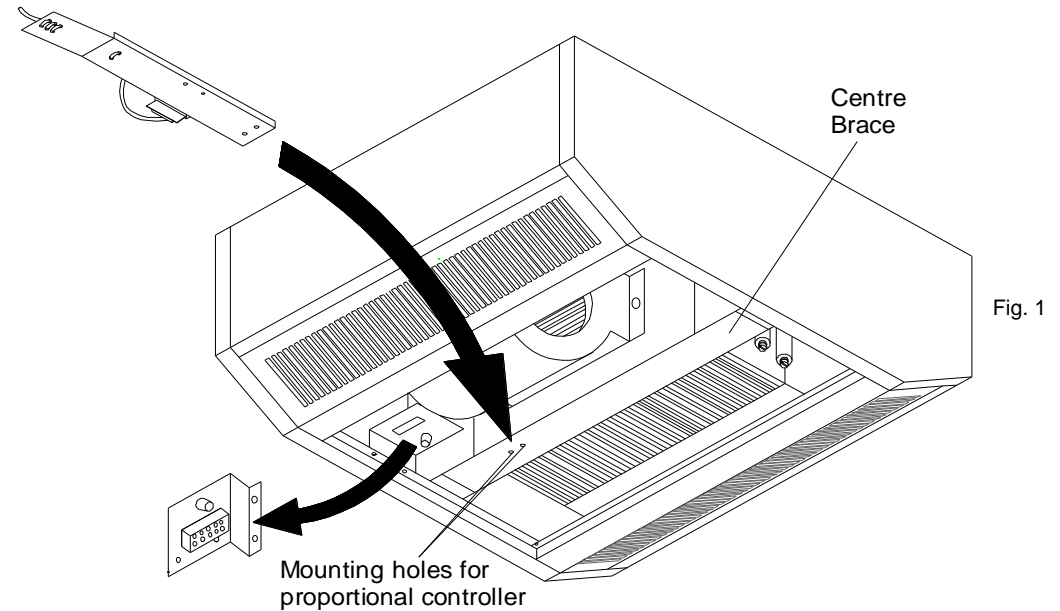
Centre Brace

Fig. 1

Mounting holes for proportional controller

2. Remove the two screws attaching the electrical panel so that it becomes lose (See fig 1). **Do not disconnect any wires at this point.**

3. Turn the electrical panel over to reveal the circuit board of the speed controller.

4. Disconnect the four wires attached to the circuit board on the rear of the controller.

5. Refit the electrical panel, ensuring that the 4 wires removed are still accessible.

6. Re-connect the four wires from the speed controller to the appropriate connectors on the proportional controller. (See fig 2)
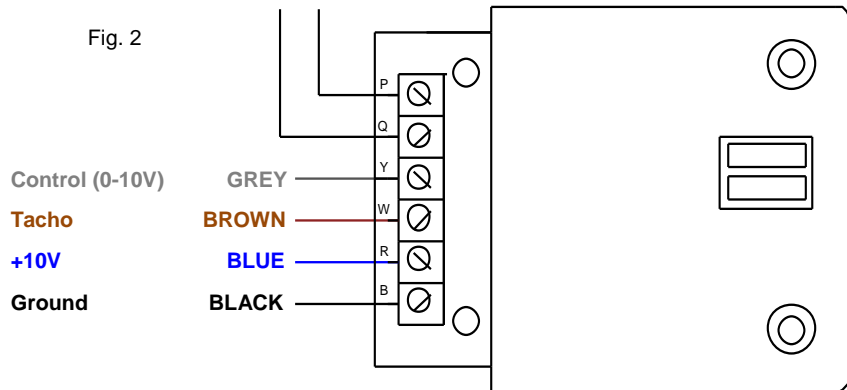
Fig. 2

Control (0-10V)   GREY

Tacho   **BROWN**

+10V   **BLUE**

Ground   BLACK

Note:
If your heater was built before October 2014 or the colours shown in this diagram do not match those on your unit please refer to the below Key:

+10V   (Red)   = Blue
Control 0-10V (Yellow)   = Grey
Ground   (Blue)   = Black
Tacho   (White)   = Brown

7. Identify the two threaded inserts in the centre brace of the unit; these will be slightly offset to the right (See fig 1)

8. With the two screws provided fix the proportional controller bracket supplied in the kit to the threaded inserts. The controller should be on the fan side of the bracket.

9. Ensure that the tail of the sensor is mounted freely in the airflow behind the return air grill

10. Refit the front access panel and lock with keys provided.

11. Turn on the electrical supply and any other external controls (room stat / timer etc.

12. Turn on the boiler and check that the heater is working correctly.

13. The fan speed will reduce as the returning air temperature rises.

Wall Sensor Connection (Optional extra):

Description:
A wall sensor allows the room temperature to be measure rather than the entering air temperature. Connection to the PHOC (Proportional Heat Output Controller) mirrors that of the internal controller however a length of 2 core cable will be supplied to allow remote mounting from the product.

Wall Sensor – Casing removed

Mounting location:
The wall sensor should be installed in an open space away from obstruction, heat sources or drafts. Mount approximately 1.2m above the floor

Wiring Connection:
Connection to the sensor from the controller (Terminals "P" & "Q") should be made with the supplied length of 2 core cable. The cable should be held under a cable clamp for strain relief and then exit the heater through the supplied grommet.

Route the cable to the desired location on the wall and connect to the terminal block inside of the sensor casing (The sensor is not polarity sensitive)

2 Core cable (Connection to external wall sensor)

Control (0-10V)   GREY

Tacho   **BROWN**

+10V   **BLUE**

Ground   BLACK