

## Smartfit "Y" Pack Installation Guide with 24Hr or 7 Day Room Unit

83593

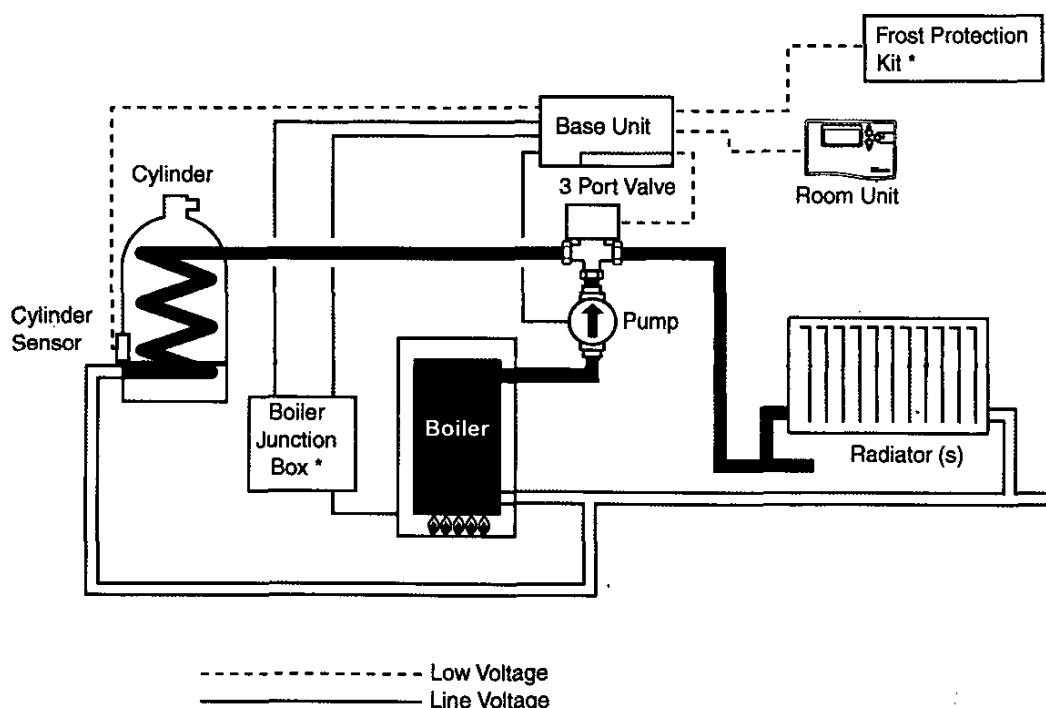
### Pack Contents

|               |                  |                                      |
|---------------|------------------|--------------------------------------|
| One-off       | VU13A            | 3 Port Valve body                    |
| One-off       | ML7300A          | Actuator with 1 metre cable          |
| One-off       | T8674A           | Cylinder Sensor                      |
| One-off       | W4672A           | Base Unit                            |
| One-off<br>or | T8617B<br>T8677B | 24 Hour Room Unit<br>7 Day Room Unit |

### System Operation

The room air temperature of the whole house is controlled from a sensor in the Room Unit which should be located in a living room or hall. Stored hot water is maintained at the desired temperature by a Cylinder Sensor. The flow of hot water from the boiler is directed to the heating or domestic hot water circuits, or *both at the same time*, by means of a Motorised Valve. The Base Unit controls the boiler and pump in response to signals from the Cylinder Sensor and Room Unit.

### Schematic System Layout



\* Available Separately

### System Wiring Notes

Please refer to the wiring diagram on page 4 for details of the system terminal connections.

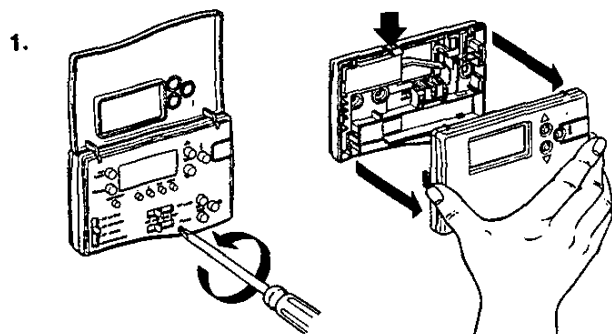
#### Isolate mains before installation.

All wiring must be in accordance with IEE regulations. The Cylinder Sensor and Valve Actuators are connected to the Base Unit using the low voltage leads and plugs supplied. The Room Unit is connected to the Base Unit using any suitable extra low voltage twin – e.g. bell wire. Alternatively, line voltage cable between 0.5mm<sup>2</sup> and 2.5mm<sup>2</sup> can be used.

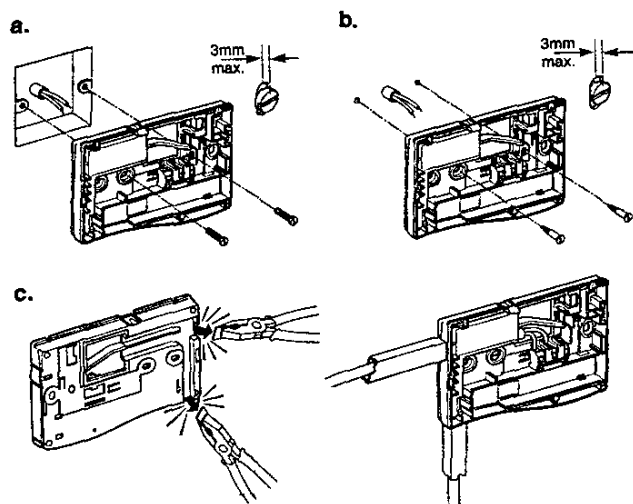
A Class 'A' switch (having a contact separation of at least 3mm in all poles) must be incorporated in the fixed wiring as a means of disconnecting the mains supply.

The heating system must be appropriately fused. A fuse rated at no more than 3 Amps should be installed.

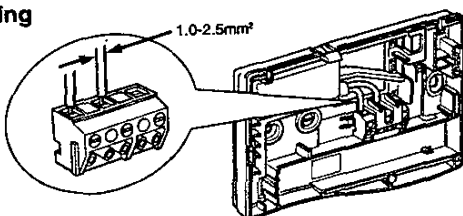
## Room Unit



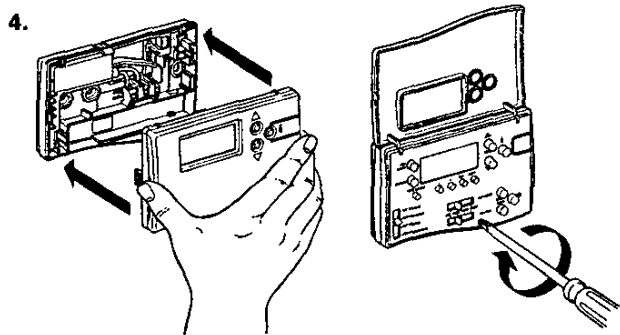
### 2. Mounting Options



### 3. Wiring



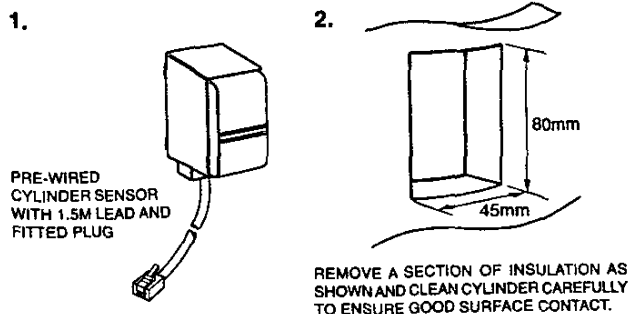
With the Room Unit removed from the backplate, make the two above connections to the backplate. It does not matter which wire goes to which terminal.



### 5. Positioning

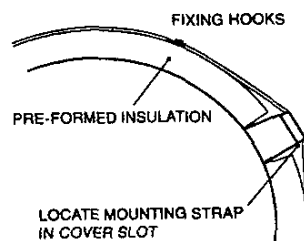
The Room Unit incorporates the room thermostat function and must be located in a main living area. Install the Room Unit about 1.5m above the floor out of draughts, direct sunlight and away from other heat sources. Do not position directly above or adjacent to a radiator.

## Cylinder Sensor

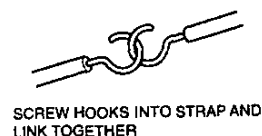


REMOVE A SECTION OF INSULATION AS SHOWN AND CLEAN CYLINDER CAREFULLY TO ENSURE GOOD SURFACE CONTACT.

### 3. Mounting

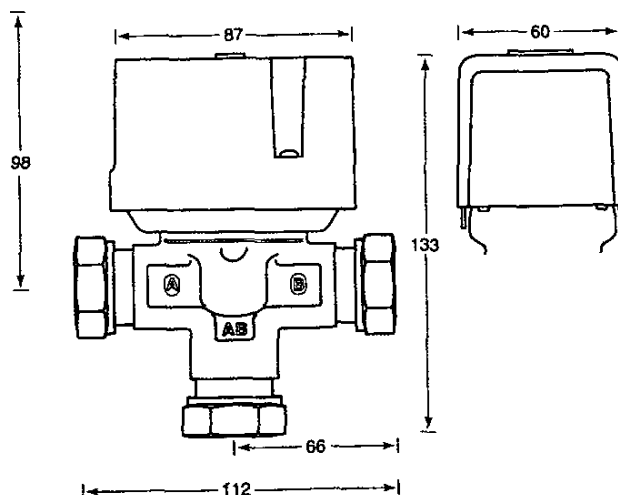


### 4. Fixing strap and hooks



## 3-Port Valve

The 3-Port Valve is supplied as a separate Valve Body and Actuator. It is recommended that the Valve Body is installed before fitting the Actuator. *The Valve must not be fitted on the return pipework under any circumstances.* Flow from the boiler must be connected to port AB, the radiator circuit to port A and the hot water cylinder to port B. Ensure adequate space is left for Actuator removal. The Valve may be mounted at any angle but must not be mounted such that the Actuator is below the level of the pipework. In the unlikely event of a leak, damage could be caused to the Actuator.



When making the valve pipe connections, **either** hold the brass valve body in your hand **or** use a suitable spanner across the flat faces on the valve body.

Tighten the compression nuts sufficiently to make a watertight seal. *Take care not to over-tighten*

## Additional Features of Smartfit - Continued

| Optional Accessories                | Description   | How to make the change   |
|-------------------------------------|---|--|
| Remote Sensor (wired)               | A Remote Temperature Sensor can be fitted to Smartfit to allow the room temperature to be measured in a different place from where the Room Unit is located                               | 1. Fit the wired remote sensor (instructions included in the sensor package)<br>2. Set parameter 05 in the <i>installer setup mode</i> to the value 01                   |
| Remote Setpoint/Sensor (wired)      | A Remote Setpoint/Sensor Unit can be fitted to Smartfit to allow the setpoint to be adjusted and room temperature to be measured in a different place from where the Room Unit is located | 1. Fit the wired remote setpoint/sensor (instructions included in the setpoint/sensor package)<br>2. Set parameter 05 in the <i>installer setup mode</i> to the value 02 |
| Automatic time Setting (ATS) Module | The ATS module picks up a time signal daily from a transmitter, so you never need to set or adjust the time   | 1. Fit the ATS module (instructions included in the ATS package)<br>2. Set parameter 09 in the <i>installer setup mode</i> to the value 01                               |

| Special Features                       | Description  | How to make the change   |
|--|--|--|
| AM-PM / 24hr Display                   | The user has a choice of clock display format  | Set parameter 01 in the <i>installer setup mode</i> to 01 for a 24hr clock. Leave it set to 00 for the AM/PM clock                           |
| 7 day or 5/2 day operation             | Only available on 7 day room units. The unit can be set to have the same time/temperature programmes for each day Monday to Friday, with a different programme for Saturday/Sunday   | Set parameter 03 in the <i>installer setup mode</i> to 01 for 5/2 day operation. Leave it set to 00 for 7 day operation                      |
| Change number of heating setpoints/day | It is possible to set 3 on/off time periods per day. This feature allows the possibility of setting each time period to control at the same heating setpoint temperature, or to control at 3 separate setpoints.                             | Set parameter 07 in the <i>installer setup mode</i> to 03 for 3 setpoints per day. Leave it set to 01 for 1 setpoint per day operation       |
| Optimum Start                          | Smartfit can learn when to switch on to reach the next heating setpoint temperature at the programmed time. Simply set the times at which you require to be warm and Smartfit will switch on when required, up to a maximum of 3 hours early | Set parameter 10 in the <i>installer setup mode</i> to 01 if Optimum Start is required. Leave it set to 00 if Optimum Start is not required. |
| Display Backlighting                   | The display has backlighting to provide illumination in conditions where there are low levels of ambient lighting. This can be switched on or off if required.   | Set parameter 11 in the <i>installer setup mode</i> to 01 to switch on backlighting. Leave it set to 00 if backlighting is not required.     |
| Minimum Room Setpoint                  | This feature provides a means of limiting the minimum room temperature setpoint that can be set by the user. Useful to prevent unauthorised adjustment beyond this point.  | Set parameter 12 in the <i>installer setup mode</i> to the minimum temperature required. Leave it set at 10°C if this is suitable            |
| Maximum Room Setpoint                  | This feature provides a means of limiting the maximum room temperature setpoint that can be set by the user  | Set parameter 13 in the <i>installer setup mode</i> to the maximum temperature required. Leave it set at 30°C if this is suitable            |
| Proportional Band Width                | Can be adjusted up to 3°C (default is 1.5°C) to provide better temperature control (less overshoot) on fast response systems such as well-insulated homes with over-sized heating systems.   | Set parameter 15 in the <i>installer setup mode</i> to the value required.   |
| Minimum Hot Water Setpoint             | This feature provides a means of limiting the minimum hot water temperature setpoint that can be set by the user   | Set parameter 16 in the <i>installer setup mode</i> to the minimum temperature required. Leave it set at 40°C if this is suitable            |
| Maximum Hot Water Setpoint             | This feature provides a means of limiting the maximum hot water temperature setpoint that can be set by the user   | Set parameter 17 in the <i>installer setup mode</i> to the maximum temperature required. Leave it set at 85°C if this is suitable            |
| Hot Water Differential                 | Can be adjusted between 4°C and 10°C   | Set parameter 18 in the <i>installer setup mode</i> to the required differential. Leave it set at 10°C if this is suitable                   |
| Temperature Offset                     | If the Room Unit is located in a particularly hot/cold location and cannot be moved, then the measured/displayed temperature can be adjusted by $\pm 3^{\circ}\text{C}$  | Set parameter 20 in the <i>installer setup mode</i> to the desired offset value.   |
| Reset Time/Temperature Programme       | Resets the time/temperature programme back to the default values   | Set parameter 02 in the <i>installer setup mode</i> to 01 to reset the programme   |
| Reset All Parameters                   | Resets all parameters back to the default settings   | Set parameter 29 in the <i>installer setup mode</i> to 01 to reset the parameters  |

## Installer Setup Mode

Smartfit operating parameters can be adjusted via an *Installer Setup Mode*. Each parameter has a *default* value which is the value used when the system is first powered on, and a range of values over which it can be adjusted.

1. To enter Installer Mode, set the programming slider to **RUN PROGRAMME**, then press **NEXT ON/OFF** and **⏏** buttons together.
2. Each parameter can be changed using the **TEMP ▲** and **TEMP ▼** buttons. When the value is changed it will start to flash, and the **⏏** button must be pressed to confirm the change before moving on to the other parameters. These can be accessed using the **+** and **-** buttons.
3. The parameters are organised into 2 different levels, to make programming easier. Level 2 can be accessed by pressing and holding the **HOT WATER** and **HEATING** override buttons for 5 seconds.
4. The list of parameters and their values are shown on the next page. To aid programming, each parameter has a unique number and code which is displayed when that parameter is accessed.
5. To exit *Installer Mode*, move the programming slider away from **RUN PROGRAMME** and then back again.

If the boiler you have installed has different connections to those shown on page 4, please refer to the table below.

|   | BOILER                              |               |               |   |    |
|---|-------------------------------------|---------------|---------------|---|----|
|   | L                                   | $\frac{1}{2}$ | N             |   |    |
| Basic Boilers                                   |                                     |               |               |   |    |
| Baxi Solo 2 30PF to 80PF and 30RS to 60RS       | PL                                  | SL            | $\frac{1}{2}$ | N | L  |
| Chaffoteaux Challenger                          | PL                                  | 6             | $\frac{1}{2}$ | N | L  |
| Ferrol Roma                                     | 4                                   | 2             | $\frac{1}{2}$ | N | L  |
| Glowworm Economy Plus (remove link SL-9)        | 7                                   | SL            | $\frac{1}{2}$ | N | L  |
| Glowworm Ultimate FF (remove link SL-4)         | 7                                   | SL            | $\frac{1}{2}$ | N | L  |
| Glowworm Energy Saver (remove link SL-9)        | PL                                  | SL            | $\frac{1}{2}$ | N | L  |
| Glowworm Spacesaver KFB50 (remove link 7-12)    | 9                                   | 12            | $\frac{1}{2}$ | N | L  |
| Glowworm Fuelsaver 100FF (remove link 7-12)     | P                                   | SL            | $\frac{1}{2}$ | N | L  |
| Glowworm 30BF/FF to 60BF/FF (remove link SL-4)  | P                                   | SL            | $\frac{1}{2}$ | N | L  |
| Glowworm Spacesaver 75 (remove link 7-8)        | 5                                   | 8             | $\frac{1}{2}$ | N | L  |
| Halstead Best Range                             | 2                                   | 1             | $\frac{1}{2}$ | N | L  |
| Halstead Balmoral 45F to 65F                    | 9                                   | 6             | $\frac{1}{2}$ | N | 12 |
| Halstead Blenheim 30BF to 75BF                  | LP                                  | 2             | $\frac{1}{2}$ | N | L  |
| Ideal Excel                                     |                                     |               |               |   |    |
| Ideal Turbo                                     | LP                                  | LB            | $\frac{1}{2}$ | N | L  |
| Ideal Mexico Super 2                            |                                     |               |               |   |    |
| Malvern   | 1                                   | 3             | $\frac{1}{2}$ | N | L  |
| Myson Apollo (remove all links)                 | PL                                  | ON            | $\frac{1}{2}$ | N | L  |
| Myson Orion (remove all links)                  | PL                                  | 4             | $\frac{1}{2}$ | N | L  |
| Myson Economist                                 | Ro                                  | Ri            | $\frac{1}{2}$ | N | L  |
| Pofferton Netheat Profile/Prima                 | PL                                  | SL            | $\frac{1}{2}$ | N | L  |
| Burco Maxol, Potterton Ultra, Vaillant & Vokera | Refer to manufacturers instructions |               |               |   |    |
| BASE UNIT OR BOILER JUNCTION BOX CONNECTIONS    | PL                                  | SL            | $\frac{1}{2}$ | N | L  |

Note: On some appliances  $\frac{1}{2}$  may be shown as E (earth)

## Enquiry Mode

The Smartfit Room Unit has a special **information enquiry** button labelled **I**.

The standard Display shows the actual room temperature by default, but continued presses of the **I** button will allow various temperatures and setpoints to be displayed in sequence, as shown in the following table. The enquiry mode has 2 levels, one for the homeowner (level 1) and an additional one for the installer (level 2), where extra information is available.

| Display  | Description   |
|----------|---|
| 20.0°    | Setpoint room temperature (only available during Heating ON periods)                            |
| 60.0°    | Hot water setpoint temperature (only available during Hot Water ON periods)                     |
| 1 days   | Auto Time Set: Number of days since last valid time signal (If configured and module connected) |
| Out 3.0° | Outside temperature (If configured and sensor connected)  |

A final press of **I** will return the display to normal. If no buttons are pressed the unit will time-out after 5 seconds and return to normal display operation.

Enquiry level 2 is accessed by pressing and holding the **I** button for 5 seconds.

| Display  | Description  |
|----------|--|
| t1 21.0° | Measured room temperature                                |
| t2 --.°  | Not used in this system                                  |
| t3 3.0°  | Outside temperature (If configured and sensor connected) |
| t4 59.0° | Measured hot water temperature                           |
| t5 --.°  | Not used in this system                                  |
| t6 --.°  | Not used in this system                                  |

## System Check

Ensure that all plugs are securely connected into the Base Unit and check that the system selection switch on the Base Unit is in the Y-Plan position before switching on at the fused spur.

Switch on the system. The actuator will run for a short period (less than a minute). Then hold down the **HOT WATER** and **HEATING** programme override buttons for 5 seconds. The Room Unit will display a number in the range 0-3 and by reference to the table below will indicate the system installed. Verify that a Y-Plan system has been detected.

If number 1 is not displayed, re-check connections.

|   |                |
|---|----------------|
| 0 | Invalid system |
| 1 | Y-Plan         |
| 2 | S-Plan         |
| 3 | W-Plan         |

The display will revert to normal operation after 5 seconds.

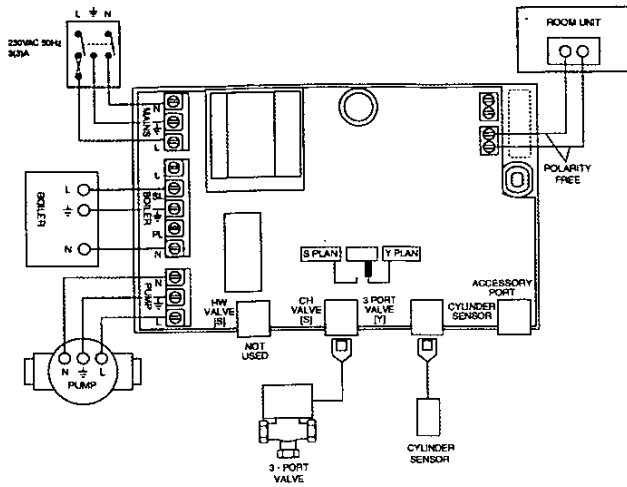
## Additional Features of Smartfit

Smartfit is a sophisticated, but easy-to-use controller that covers a range of applications, supports optional accessories, and allows many of its operating parameters to be adjusted to suit the application or the needs of the homeowner.

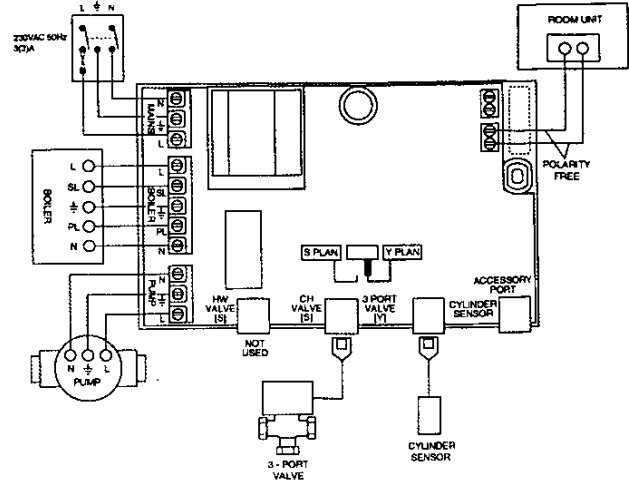
| Specific Applications                         | Setting/Description  | How to make the change   |
|---|--|--|
| Gas boilers (<30kW)                           | Boiler cycle rate = 6 cycles/hour  | No action required   |
| Oil boilers                                   | Boiler cycle rate = 3 cycles/hour  | Set parameter 14 in the <i>installer setup mode</i> to 03 (9 cycles/hour is also possible by setting this parameter to 09) |
| Maintain a minimum room temperature of 16°C   | The minimum temperature will not be allowed to fall below 16°C, even during programmed off periods.                      | Set parameter 08 in the <i>installer setup mode</i> to 01  |
| Priority Hot Water (as Sundial W plan)        | Gives priority to Hot Water demand, before controlling the room temperature (only available on systems with 3-way valve) | Set parameter 19 in the <i>installer setup mode</i> to 00  |
| Outside Temperature Compensated (OTC) control | This is only available with special Smartfit OTC systems.  | Set parameter 21 in the <i>installer setup mode</i> to 01  |

## Controls Wiring

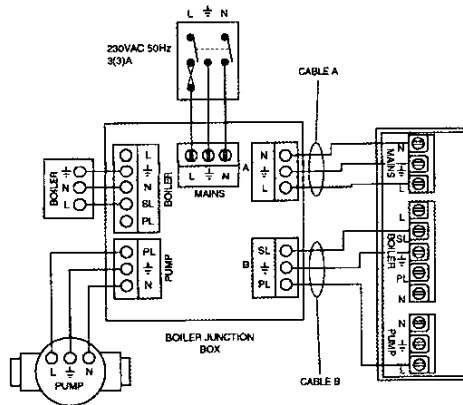
### 1. BASIC BOILER - ALL WIRING TO BASE UNIT



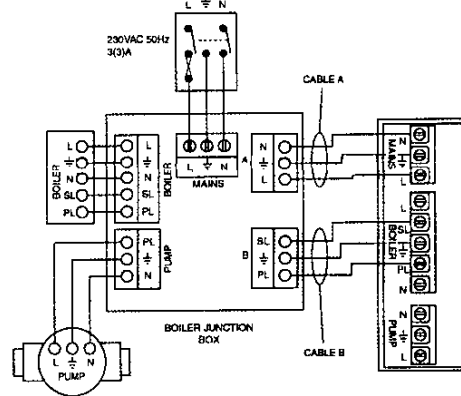
### 4. PUMP OVER-RUN BOILER - ALL WIRING TO BASE UNIT



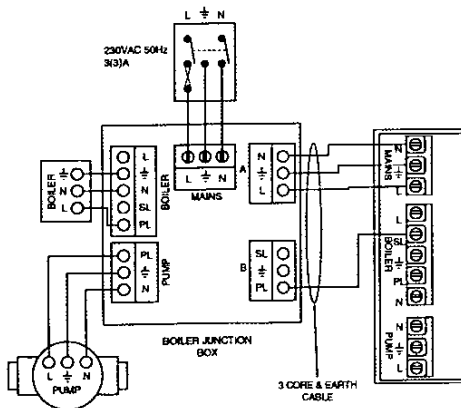
### 2. BASIC BOILER - WIRING USING BOILER JUNCTION BOX



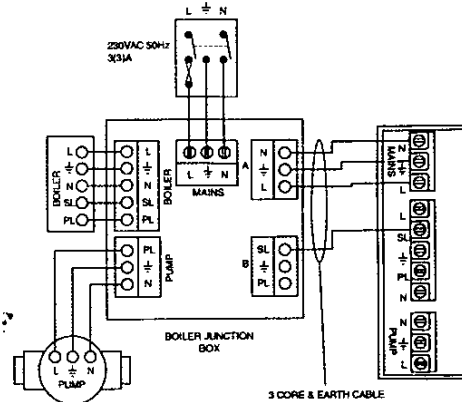
### 5. PUMP OVER-RUN BOILER - WIRING USING BOILER JUNCTION BOX



### 3. BASIC BOILER - WIRING USING BOILER JUNCTION BOX AND 3 CORE & EARTH CABLE

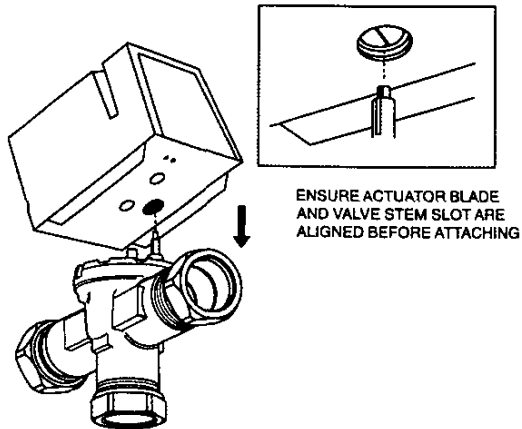


### 6. PUMP OVER-RUN BOILER - WIRING USING BOILER JUNCTION BOX AND 3 CORE & EARTH CABLE



Note: On Diagram 5 the pump may alternatively be connected directly to the Base Unit.  
Room Unit: It does not matter which wire goes into which terminal.

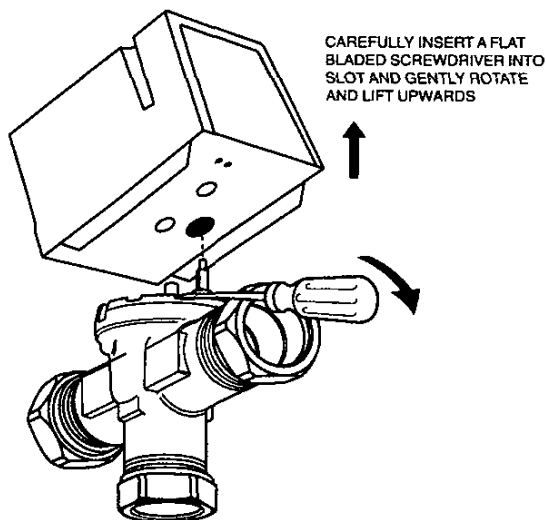
Locate the Actuator on the Valve Body as shown below (ensure that it "clicks" firmly into position).



The Valve Actuator incorporates a combined position indicator and manual lever. The lever indicates the ball position. The lever should be placed in the **FILL/VENT** position for system filling and venting by depressing and rotating the manual lever.

### Actuator Removal

The Actuator is removed from the Valve Body as shown below. **Do not remove the screws located on the cover of the Actuator.**



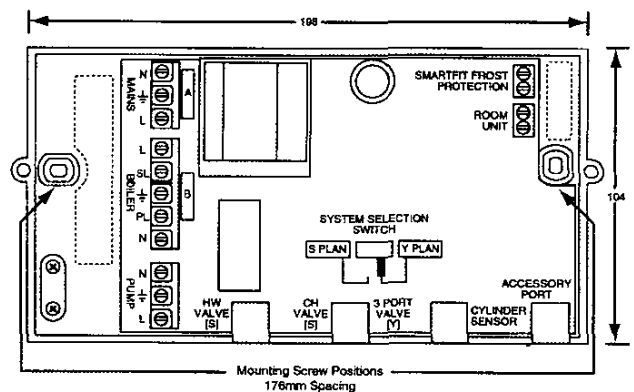
### Fitting the Base Unit

The Base Unit should be installed in a convenient location where the majority of the system wiring is to be terminated, such as the cylinder cupboard or close to the boiler. It has knockouts to facilitate cable entry located on the left hand side and rear for line voltage wiring and on the right hand side and rear for **smartfit** low voltage wiring. Do not run low voltage wiring across the printed wiring board or next to line voltage wiring.

Remove the cover and mount using the 2 mounting screw positions shown below.

- Wire the Base Unit line voltage connections as shown in the appropriate wiring diagram on page 4.
- Make the two Room Unit connections. It does not matter which wire goes to which terminal.
- Insert 3-Port Valve plug into its socket on the Base Unit, ensuring that it "clicks" into position.
- Insert Cylinder Sensor plug into its socket on the Base Unit, ensuring that it "clicks" into position.

Ensure that the cable clamp supplied is used to secure the pump cable if wired to the Base Unit. Ensure that the system selection switch is in the Y-Plan position. Refit cover.



The mains and boiler terminals are for fixed wiring. However, where this is not practicable, a cable clamp (part number 42000684-088) can also be supplied for securing flexible wiring from the boiler and fused spur to the Base Unit.

If the Base Unit is located some distance from the fused spur, boiler and pump, it is recommended that the optional Boiler Junction Box be used (part number 42009699-001).

To enable the Base Unit to be easily mounted onto a flush mounted wall box, an Adaptor Plate is available (part number 42009575-001).

| Display  | Installer Parameter                                | Default                 | Range                                      | Level |
|--|--|-------------------------|--|-------|
| 01 : CL  | Display AM-PM clock or 24hr clock                  | 00 = AM/PM              | 01 = 24 hour                               | 1     |
| 02 : rP  | Reset time/temperature programme to default values | 01 = yes <sup>(1)</sup> | 00 = no                                    | 1     |
| Now press and hold the <b>HOT WATER</b> and <b>HEATING</b> override buttons for 5 seconds. |  |                         |  |       |
| 03 : S2  | 7 day or 5/2 day operation <sup>(2)</sup>          | 00 = 7 day              | 01 = 5/2 day                               | 2     |
| 04 : SE  | Room Sensor  | 01 = sensor enabled     | 00 = sensor disabled                       | 2     |
| 05 : rS  | Remote Sensor/Setpoint Unit Configured             | 00 = disabled           | 01 = Remote Sensor<br>02 = Sensor/Setpoint | 2     |
| 06 : OS  | Outside Sensor Configured                          | 00 = room sensor        | 01 = outside sensor                        | 2     |
| 07 : SP  | Number of heating setpoints                        | 01 = 1 per day          | 03 = 3 per day                             | 2     |
| 08 : Ah  | Maintain Minimum Room Temperature at 16°C          | 00 = no                 | 01 = yes                                   | 2     |
| 09 : At  | Automatic Time Setting (ATS) Module                | 00 = none               | 01 = ATS module                            | 2     |
| 10 : OP  | Optimum Start <sup>(3)</sup>                       | 00 = disabled           | 01 = enabled                               | 2     |
| 11 : bA  | LCD Backlighting                                   | 00 = disabled           | 01 = enabled                               | 2     |
| 12 : rL  | Minimum Room Setpoint <sup>(4)</sup>               | 10.0°C                  | 5.0 to 20.0°C                              | 2     |
| 13 : rU  | Maximum Room Setpoint                              | 30.0°C                  | 21.0 to 35.0°C                             | 2     |
| 14 : Cr  | Boiler Cycle Rate                                  | 06 = 6 cycles/hour      | 03 = 3 cycles/hour<br>09 = 9 cycles/hour   | 2     |
| 15 : Pb  | Proportional Band Width (room control)             | 1.5°C                   | 1.5-3.0°C                                  | 2     |
| 16 : hL  | Minimum Hot Water Setpoint                         | 40.0°C                  | 30.0 to 50.0°C                             | 2     |
| 17 : hU  | Maximum Hot Water Setpoint                         | 85.0°C                  | 55.0 to 85.0°C                             | 2     |
| 18 : dF  | HW differential                                    | 10.0°C                  | 4.0 to 15.0°C                              | 2     |
| 19 : Ph  | Priority Hot Water (W system)                      | 00 = disabled           | 01 = enabled                               | 2     |
| 20 : tO  | Temperature offset                                 | 00.0°C                  | -3.0 to +3.0°C                             | 2     |
| 21 : Ot  | OTC Unit Configured                                | 00 = disabled           | 01 = enabled                               | 2     |
| 22 : bh  | Boiler High Limit <sup>(5)</sup>                   | 90°C                    | 20 to 90°C                                 | 2     |
| 23 : bL  | Boiler Low Limit <sup>(5)</sup>                    | 20°C                    | 10 to 60°C                                 | 2     |
| 24 : rE  | Return Water Limit <sup>(5)</sup>                  | 40°C                    | 20 to 60°C                                 | 2     |
| 25 : rC  | Room Compensation <sup>(5)</sup>                   | 01 = enabled            | 00 = disabled                              | 2     |
| 26 : hC  | Heat Curve Ratio Setting <sup>(5)</sup>            | 25                      | 4 to 40                                    | 2     |
| 27 : SS  | Summer Switch Off Temperature <sup>(5)</sup>       | 20°C                    | 10 to 30°C                                 | 2     |
| 28 : FP  | Outside Frost Protection Level <sup>(5)</sup>      | 02.0°C                  | -10 to +10°C                               | 2     |
| 29 : FS  | Reset all parameters to default settings           | 01 = yes <sup>(1)</sup> | 00 = no                                    | 2     |
| 30 : bd  | Bind RF Remote Units <sup>(6)</sup>                | 00 = no                 | 01 = yes                                   | 2     |

Notes:

- <sup>(1)</sup> Value at first power-up.  
<sup>(2)</sup> Only available on seven day units.  
<sup>(3)</sup> Only available on optimised units.  
<sup>(4)</sup> Will be set to 16°C if parameter 08 (Maintain Minimum Room Temperature 16°C) is set to 01.  
<sup>(5)</sup> Only available with Smartfit OTC system.  
<sup>(6)</sup> Only available when remote unit is configured.

**Fault Codes** In the event of a problem, a fault code will be displayed on the Room Unit display. Before removing Base Unit cover, isolate mains.

| Fault Code    | Description   | Action  |
|---------------|---|---|
| Blank Display | No display  | a) Switch system off then on again<br>b) Check that power is supplied to the Base Unit<br>c) Check Room Unit connections at Base Unit and Room Unit<br>d) Check wiring to Room Unit for short or open circuit   |
| F1            | Room Sensor Fault                                   | a) Replace Room Unit (with same part number)  |
| F2            | 3 Port Valve open circuit                           | a) Check Valve connections at Base Unit and Valve<br>b) Check Valve cable for open circuit<br>c) Change Actuator  |
| F3            | 3 Port Valve short circuit                          | a) Ensure Valve is plugged into correct socket<br>b) Check Valve connections at Base Unit and Valve<br>c) Check Valve cable for short circuit<br>d) Change Actuator   |
| F4            | 3 Port Valve jammed                                 | a) Check Actuator is fitted to valve<br>b) Check Actuator drives Valve full travel. If not, remove Actuator and check Actuator will drive for at least 10 seconds<br>c) Use manual lever on Actuator to free Valve<br>d) Check Valve for blockage and clear |
| F5            | Incorrect system selection switch position          | a) Ensure system selection switch in Base Unit is set to Y-Plan position  |
| F6            | Incorrect system selection switch position          | a) Ensure system selection switch in Base Unit is set to Y-Plan position  |
| F7            | Incorrect system selection switch position          | a) Ensure system selection switch in Base Unit is set to Y-Plan position  |
| F8            | Cylinder Sensor short circuit                       | a) Ensure Cylinder Sensor is plugged into correct socket<br>b) Change Cylinder Sensor   |
| F9            | Cylinder Sensor open circuit                        | a) Ensure Cylinder Sensor is plugged into correct socket<br>b) Change Cylinder Sensor   |
| F10           | Valve in Cylinder Sensor socket                     | a) Reconnect Valve to correct socket  |
| F11           | Valve or Cylinder Sensor in accessory port          | a) Reconnect Valve or Cylinder Sensor to correct socket   |
| F12           | Communication fault between Room Unit and Base Unit | a) Check Room Unit wiring<br>b) Switch system off then on again<br>c) Replace Room Unit (with same part number)<br>d) Replace Base Unit   |
| F13           | Configuration Fault                                 | a) Replace Room Unit (with same part number)  |
| F14           | System selection switch fault                       | a) Check system selection switch in Base Unit is set to Y-Plan position<br>b) Move switch to S-Plan then back to Y-Plan<br>c) Replace Base Unit   |
| F15           | Plug in HW socket                                   | a) Remove plug in HW socket and connect to correct socket   |
| F16           | Remote Room Unit Fault                              | a) Check Remote Room Unit wiring<br>b) Replace Remote Room Unit   |
| F17           | Outside Sensor short circuit                        | a) Check Outside Sensor wiring  |
| F18           | Outside Sensor open circuit                         | a) Check Outside Sensor wiring  |
| F19 - F22     | Not used in this system                             |   |
| F23           | No ATS signal for 5 days                            | a) Check ATS module is attached correctly<br>b) De-select and then re-select ATS in Installer Mode<br>c) Refer to ATS installation literature for detailed fault-finding  |
| F24           | Internal Fault                                      | a) Replace Room Unit (with same part number)  |

## Commissioning the System

Please read these notes in conjunction with the User Guide. The system should be commissioned before any of the operating parameters are adjusted from the *Installer Setup Mode*.

- 1 Start with the mains electricity OFF. Pump and boiler should be OFF. If either or both are ON, *check for a wiring error*.
- 2 Switch on the system and allow 1 minute for test sequence. If a fault code is displayed at the Room Unit, refer to page 7.
- 3 Set the domestic Hot Water to maximum temperature. This is carried out at the Room Unit by moving the Setting Slider to the **SET HOT WATER** position and adjusting the temperature to the maximum using the **TEMP** buttons. With the Setting Slider in the **RUN PROGRAMME** position, set the Hot Water Slider to **CONTINUOUS** and set the Heating Slider to **OFF**. The tap symbol should now be displayed and the boiler ON indicator should come on. Check that the 3-Port Valve is closed to Heating and open to domestic Hot Water. The pump will run, the boiler will fire and the flow to the cylinder will become hot. If not, *check for a wiring or piping error*.
- 4 Set the Heating to maximum temperature. With the Setting Slider in the **RUN PROGRAMME** position, set the Heating Slider to **CONTINUOUS**, the Hot Water Slider to **OFF**, and adjust the room temperature setpoint to the maximum using the **TEMP** buttons. The radiator symbol should now be displayed and the boiler ON indicator should come on. Check that the 3-Port Valve is closed to Hot Water and open to Heating. The pump will run and the boiler will fire and the flow to the Heating will become hot. If not, *check for a wiring or piping error*.
- 5 With the Hot Water and room temperature still set to maximum, set both Hot Water and Heating Sliders on the Room Unit to the **CONTINUOUS** position, and ensure that both radiator and tap symbols are displayed. The pump should run and the boiler fire. The 3-Port Valve will open to service both domestic Hot Water and Heating and the valve position indicator should be in the **FILL/VENT** position (mid-position). If not, *check Room Unit for a fault code*.
- 6 Set the Room Unit to OFF by moving both Heating and Hot Water Sliders to the **OFF** position. Check that radiator, tap, and boiler ON symbols are not displayed. The pump and boiler should turn OFF and the 3-Port Valve should not operate. If not, *check for a wiring error*. (Note: If installing a boiler fitted with a pump over-run facility, the pump may continue to run for some time after the boiler has turned OFF.)
- 7 Set the required temperature for both Heating and Hot Water at the Room Unit (20°C is recommended for heating and 60°C for hot water). Refer to the *Installer Setup Mode* for instructions on how to reset all values back to the factory defaults. Set the boiler thermostat to maximum.
- 8 Set any optional parameters, e.g. Optimum Start, to meet the needs of the installation, as described in the *Installer Setup Mode*.
- 9 Set the ON and OFF times to meet the requirements of the householder and demonstrate to the householder the correct use of the Room Unit.

### Important

1. Ensure that the HOT WATER temperature is set to meet the user's requirements - typically 60°C.
2. Ensure that the HEATING temperature is set to the level required by the user - typically 20°C.
3. Ensure that the User Guide for the controls is left with the householder.

## System Component Specifications

### W4672A Base Unit

|                       |   |
|-----------------------|---|
| Contact type          | SPDT  |
| Contact Rating        | 3(3) 230V AC  |
| Power Supply          | 230V AC 50Hz only   |
| Double Insulated      | Class II  |
| Operating Temp. Range | 0 - 50°C  |
| Enclosure protection  | IP41 when mounted horizontal on vertical wall (sockets on bottom) IP40 other orientations |

### T8617B or

### T8677B Room Unit

|                                       |  |
|---------------------------------------|--|
| Programming time resolution           | 10 mins  |
| Temperature setting steps             | 0.5°C  |
| Domestic Hot Water Temp. range        | 40-85°C - This range can be adjusted.<br>10K differential as standard (can be set between 4 and 15K) |
| Heating temperature setting range     | 10-30°C - This range can be adjusted.  |
| Hypothermia mode                      | If configured, the Room Unit will control at 16°C instead of turning the system OFF                  |
| Number of heating Setpoints           | 1 per day or 3 per day (if configured)   |
| Power failure reserve                 | 12 Hours for real time clock (programme & installer parameters will be retained indefinitely)        |
| Room temperature measurement accuracy | +/- 0.5°C  |

### VU13A 3-Port Valve and ML7300A Actuator

|                             |            |
|-----------------------------|------------|
| Power Consumption           | 1W         |
| Operating Fluid Temp. Range | 5°C - 88°C |
| Maximum Ambient Temperature | 50°C       |

### T8674A Cylinder Sensor

|                             |         |
|-----------------------------|---------|
| Maximum ambient temperature | 55°C    |
| Temperature sensing range   | 0-100°C |

The following optional extras are available if required:

|                                     | Part Number   |
|-------------------------------------|---------------|
| Boiler Junction Box                 | 42009699-001  |
| Smartfit Frost Protection Kit       | K42009706-001 |
| Adaptor Plate                       | 42009575-001  |
| Special Cable Clamp Assembly        | 42000684-088  |
| Automatic Time Setting (ATS) Module | Q6667B1015    |
| Remote Temperature Sensor           | Q981A1000     |
| Remote Setpoint and Sensor          | Q981A1018     |

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