



SET 1E

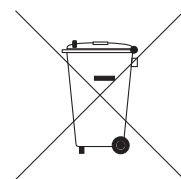
*Electronic Timeswitch
for Heating and Hot Water*

**For a large print version of these instructions
please call Marketing on 0845 121 7400.**



Certification Mark

This product complies with the following EC Directives:
Electro-Magnetic Compatibility Directive.
(EMC) (2004/108/EC)
Low Voltage Directive.
(LVD) (2006/95/EC)



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Installation Instructions

SET1E

Electronic Timeswitch for Heating and Hot Water

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Index

| | |
|--|----|
| 1.0 Installation Guide | 4 |
| 2.0 System Overview | 4 |
| 3.0 Installation | 4 |
| 3.1 Wiring | 6 |
| 3.2 Typical gravity DHW with pumped central heating | 7 |
| 3.3 Typical control of pump for central heating in a solid fuel system | 8 |
| 3.4 Typical control heating function only with boiler and pump | 9 |
| 3.5 Typical control of a motorised zone valve requiring an open and close signal | 10 |
| 3.6 Typical control of heating when used with combination type boilers | 11 |
| 4.0 Replacement | 11 |

1.0 Installation Guide

Please Note:

This product should only be installed by a qualified electrician or competent heating installer and should be in accordance with the current edition of the IEEE wiring regulations.

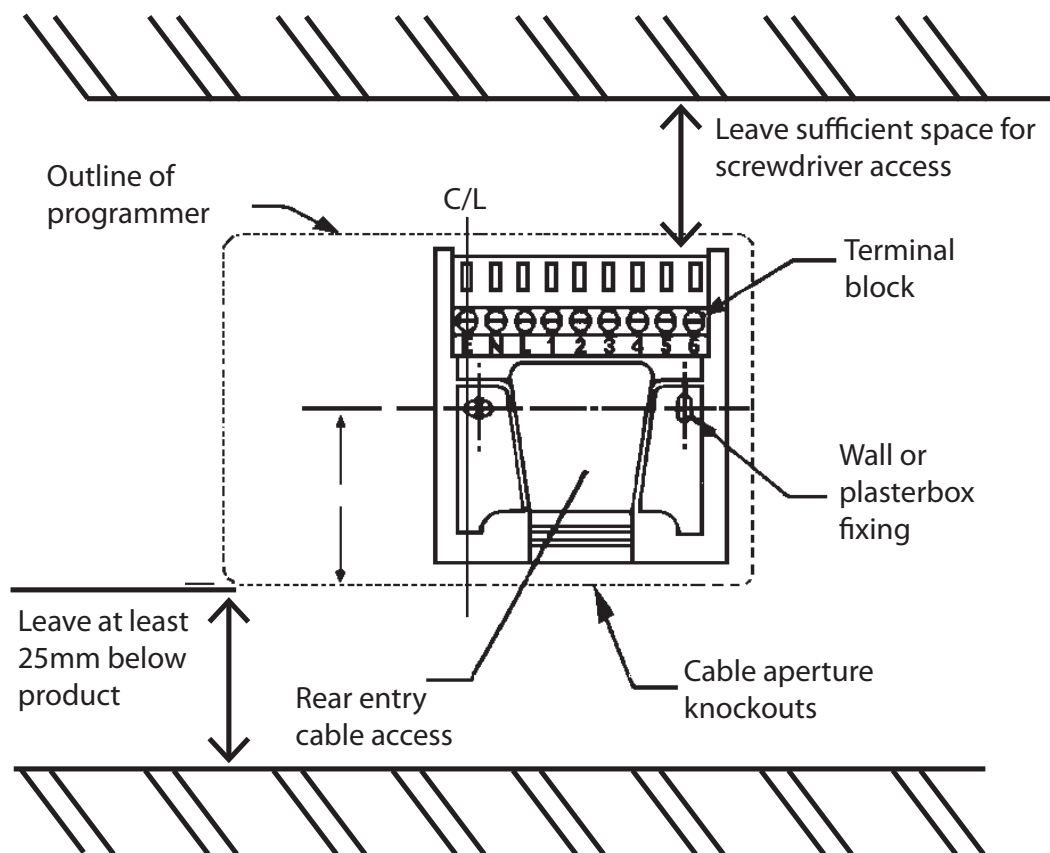
2.0 System Overview

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| Specification | |
|-----------------------------|-------------------------------|
| Power supply | 230 ± 15% Vac, 50/60Hz |
| Switch action | 1 x SPDT voltage free Type 1B |
| Switch rating | Max. 264Vac, 50/60Hz, 3(1) A |
| Timing accuracy | ± 1 min/month |
| Power reserve | Minimum 10 hours |
| Enclosure rating | IP30 |
| Max. ambient temperature | 45°C |
| Dimensions, mm (W, H, D) | 158 x 98 x 38 |
| Design standard | EN 60730-2-7 |
| Control Pollution Situation | Degree 2 |
| Rated Impulse Voltage | 2.5kV |
| Ball Pressure Test | 75°C |

3.0 Installation

1. Fix the wallplate to the wall or flush mounted box as required. The connections are at the top and the vertical centre line of the unit, at the position shown on the diagram below C/L (in line with terminal \perp).
2. Surface cables can only enter from below the unit. If mounted on a flush mounted box, cables can enter from the rear through the aperture in the wallplate.
3. For mains voltage applications a link must be fitted between terminals L and 5.
4. Whilst the unit does not require an Earth connection, a terminal is provided on the wallplate for Earth continuity purposes.



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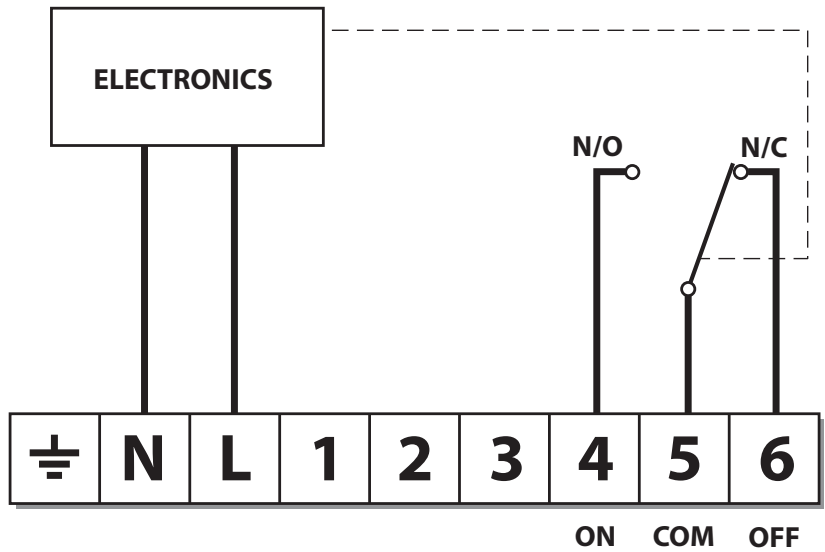
5. Referring to the wiring diagrams on page 6-10, connect the unit as shown.
6. Ensure all dust and debris are cleared from the area.
7. Locate the module on the latches at the bottom of the wallplate and hinge upwards to fully engage the unit connectors into the wallplate. Tighten the two fixing screws to secure the unit to the wallplate.
8. Before setting the programme, check the unit and circuit. Switch on the mains supply and press the rocker switch to the **CONSTANT** position - the red LED should now be illuminated. Adjust any remote thermostat to check the services operate correctly.
9. Press the rocker switch to the **OFF** position and check that the system does not operate.
10. Finally, press the rocker switch to **TIMED** position prior to programming the unit.

3.1 Wiring

On the following pages are typical wiring diagrams for various types of systems.

Note: Whilst every attempt has been made to ensure the accuracy of this information it is recommended that the specific information relating to the ancillary controls is obtained from the manufacturers concerned.

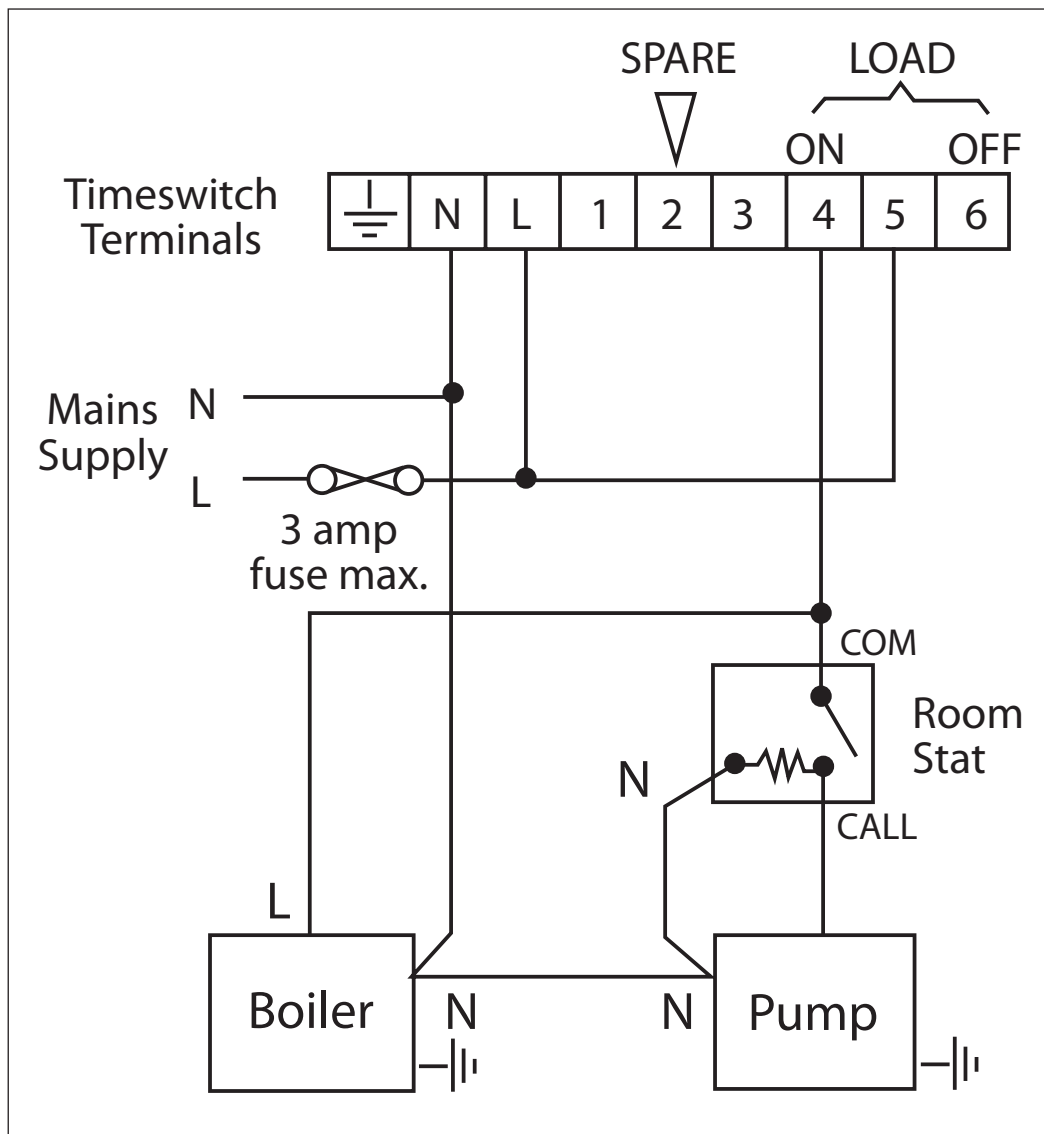
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NOTE:

For mains voltage applications a link must be fitted between terminals L and 5.

3.2 Typical Gravity DHW With Pumped Central Heating

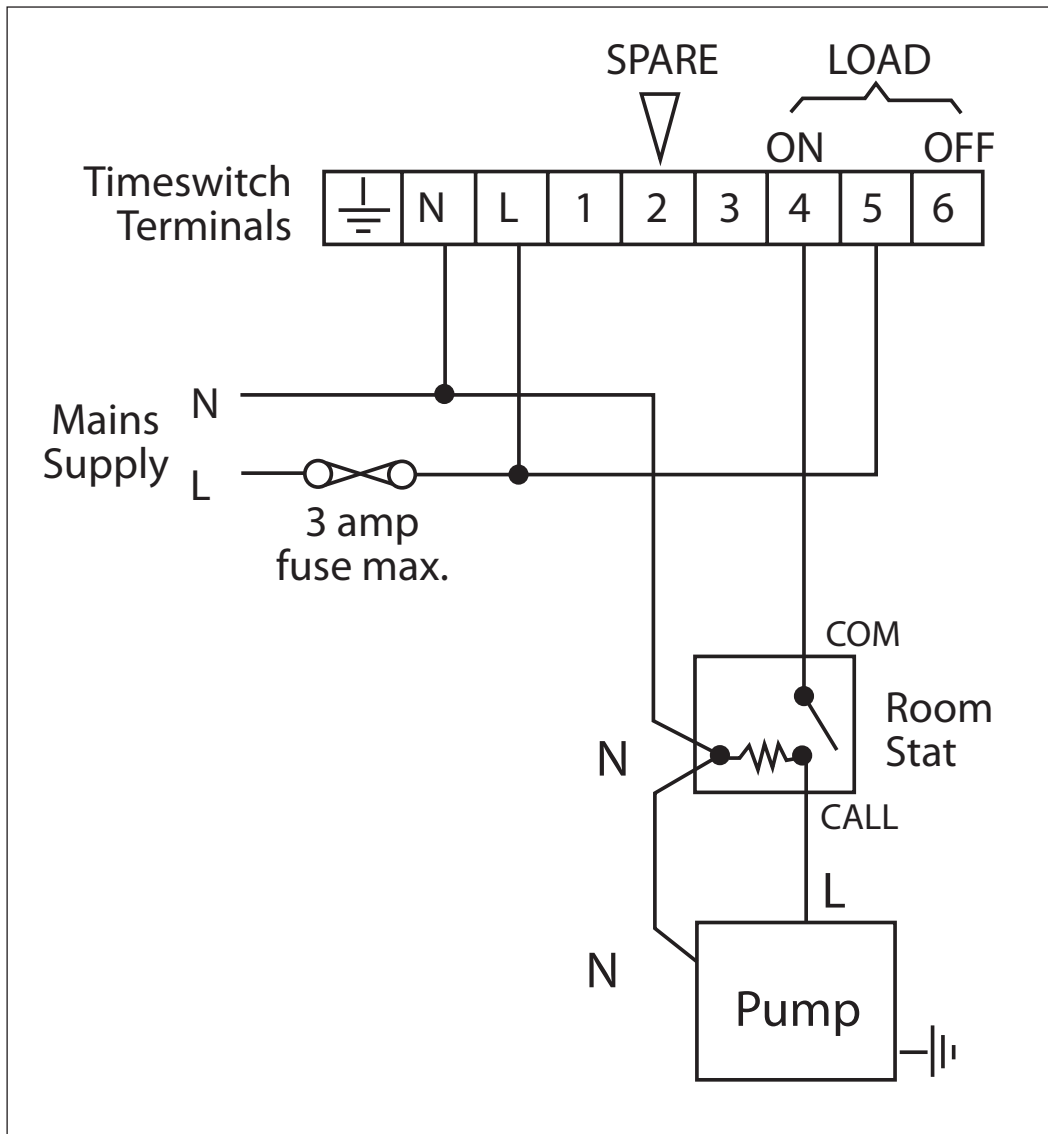


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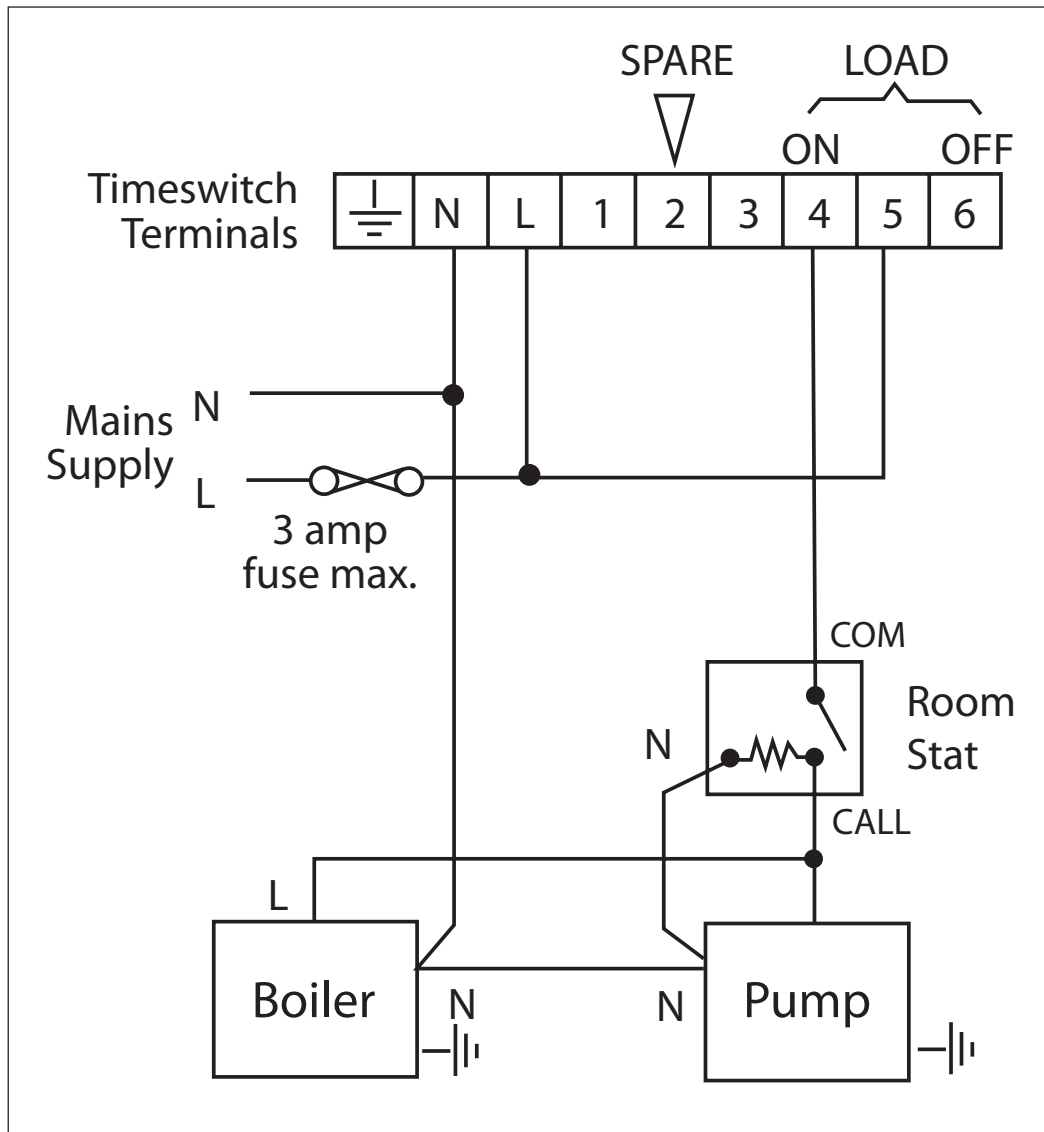
DHW = Domestic Hot Water

3.3 Typical Control of Pump For Central Heating on a Solid Fuel System

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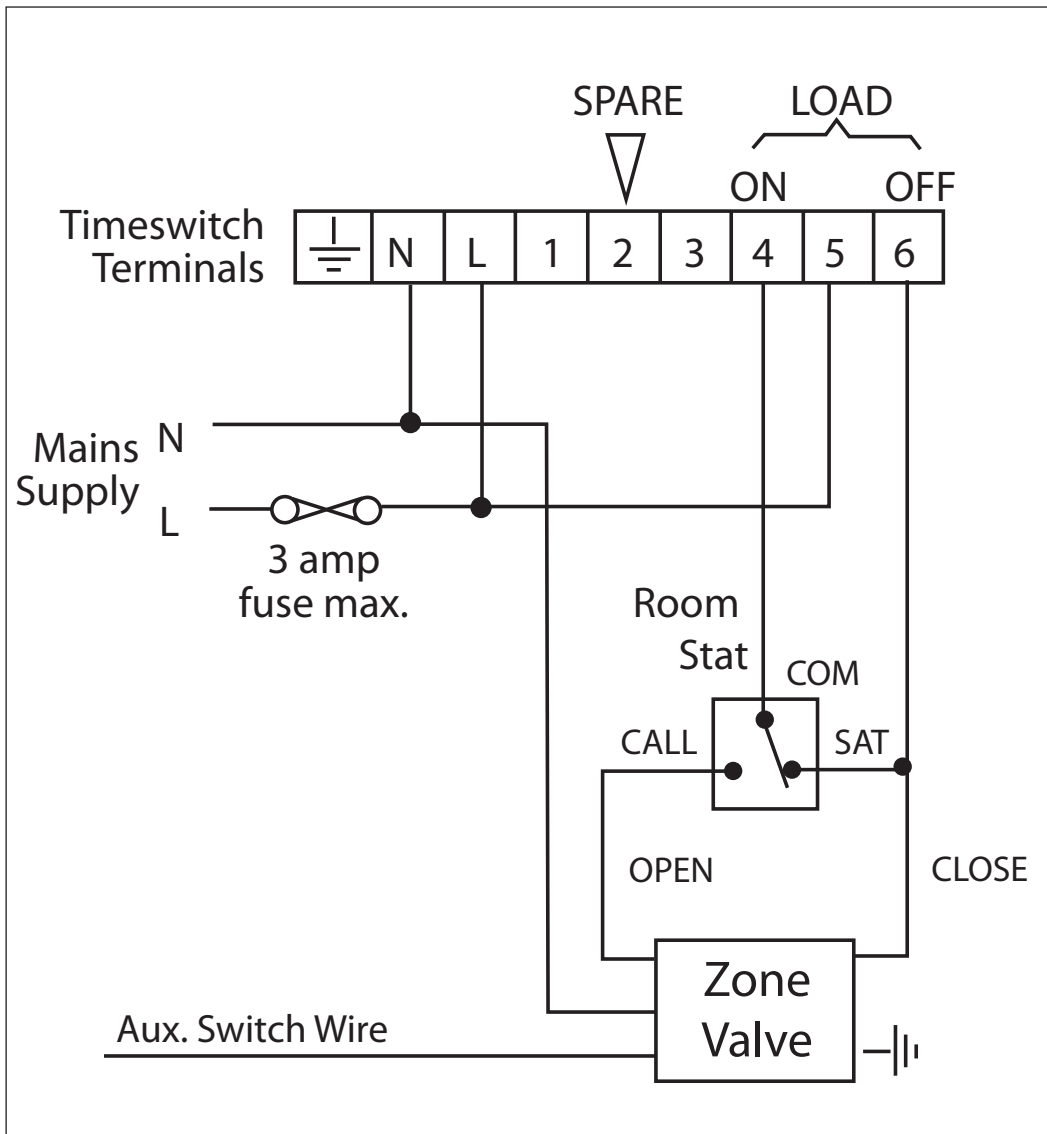
3.4 Typical Control Heating Function Only With Boiler and Pump



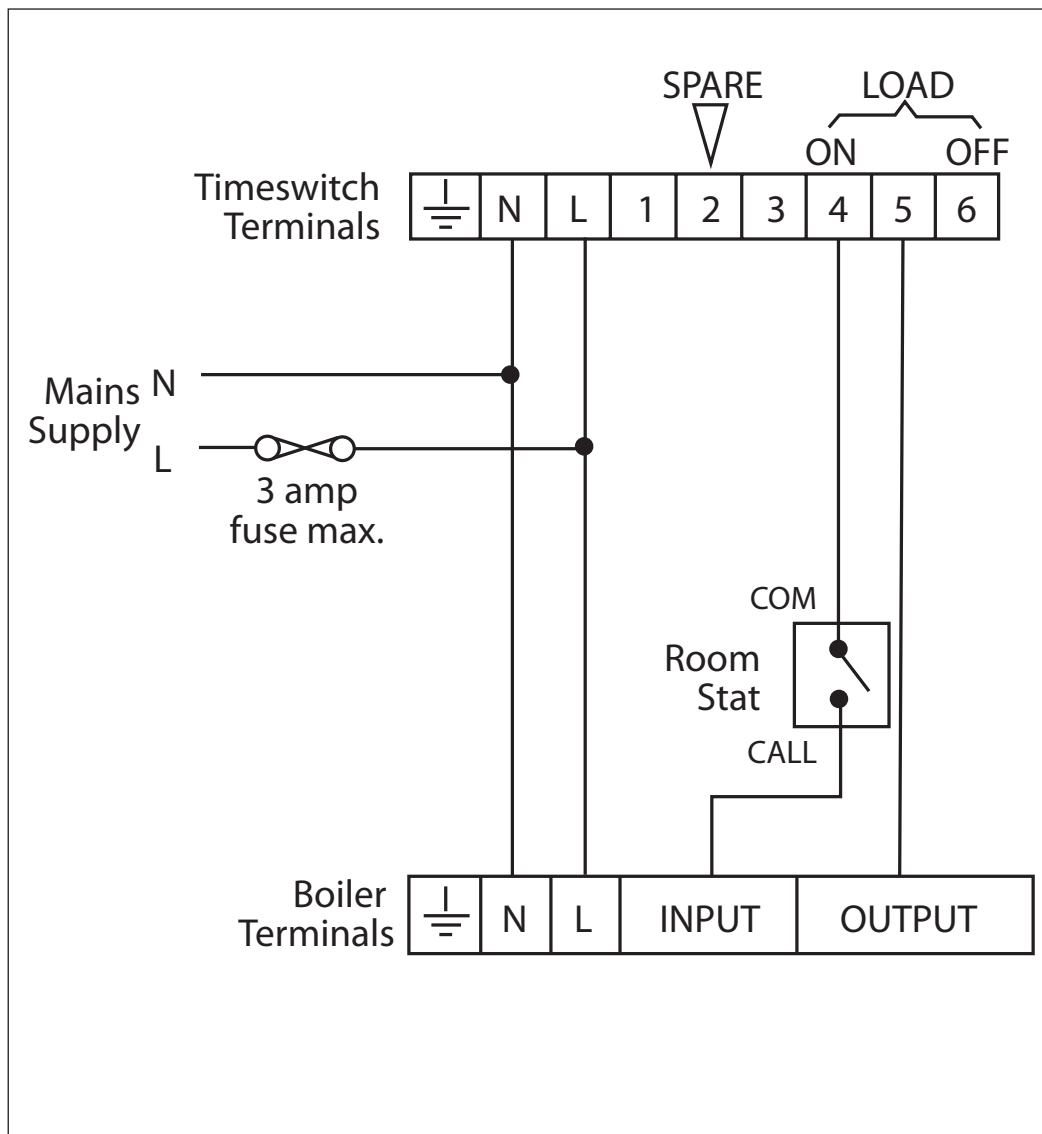
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3.5 Typical Control of a Motorised Zone Valve Requiring an Open and Close Signal

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3.6 Typical Control of Heating When Used with Combination Type Boilers



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4.0 Replacement

Please see overleaf for a table containing replacement wiring information.

Some timeswitches are connected in different ways depending upon the type of system and/or the controls which are fitted. If there is any doubt about the way in which the existing timeswitch is connected, please contact our Technical Services Department before proceeding with replacement.

Note: The SET1E is a direct replacement for a Danfoss Randall SET1.

| DANFOSS RANDALL SET1E | MAINS | | | SPARE TERMINAL Where disconnected leads should be terminated | | LOAD | | | Additional terminal block is required where these disconnected leads (or pairs) should be terminated | | | |
|---|-------|-----|----|---|---|------|------|-----|---|---|---|---|
| | ⏏ | N | L | 2 | 4 | ON | LOAD | | A | B | C | D |
| | | 1,7 | 6 | | | | COM | OFF | | | | |
| ACLS111 | ⏏ | N | L | 2 | 4 | 4 | 5 | 6 | | | | |
| DANFOSS RANDALL SET 1 | ⏏ | N | L | 2 | 2 | 4 | 5 | 6 | | | | |
| DANFOSS RANDALL 911 | | N | L | 2 | 2 | 6 | 5 | 4 | | | | |
| DANFOSS RANDALL 103/103E | | 5 | 6 | 2 | 2 | 1 | 3 | - | | | | |
| DANFOSS RANDALL 3020 | | 1,7 | 6 | 2 | 2 | 4 | - | - | 3 | 5 | | |
| DANFOSS RANDALL TSR2 | | 3 | 2 | 4 | 4 | 5 | 1 | - | 6 | 7 | | |
| GRASSLIN 45, 45A, 45E | ⏏ | 2 | 1 | | | 4 | 3 | - | | | | |
| HORSTMANN 424 EMERALD & PEARL AUTO RANGE | ⏏ | N | L1 | 2 | | 4 | 3 | - | 5 | | | |
| HORSTMANN 423 PEARL EMERALD & TOPAZ | ⏏ | N | L | 1 | | 4 | 3 | - | 2 | 5 | 6 | |
| HORSTMANN KMK2A YMK2 | ⏏ | 3 | 4 | | | 2 | 1 | - | | | | |
| HONEYWELL ST6100A | ⏏ | N | L | 3 | | 4 | 1 | 2 | | | | |
| HONEYWELL ST6100C | ⏏ | N | L | 3 | | 4 | 1 | 2 | | | | |
| HORSTMANN 425 CORONET | ⏏ | N | L | 1 | | 4 | 5 | 6 | 2 | 3 | | |
| LANDIS & GYR RWB3 | ⏏ | N | L | 1 | | 4 | - | 3 | 2 | | | |

| | | | | | | | | | | | |
|---|--|-----|------------|--|----|------|-------------|-----|---|----|----|
| LANDIS & GYR RWB30 | | N | L | | 1 | 4 | 2 | 3 | | | |
| SANGAMO M6 | | 4,5 | 6 | | 7 | 1 | 3 | 2 | 8 | | |
| SANGAMO 410 F8 | | 4,5 | 3 | | 6 | 1 | - | 2 | 7 | 8 | |
| SANGAMO S254 F2, S408 F5, S251 F2 | | N | L | | | LOAD | - | - | | | |
| SANGAMO S610 F2, S611 F2, S162 F2, S408 F4, S408 F6, S253 F2, S255 F2 | | N | MOTOR LIVE | | | LOAD | SWITCH LIVE | - | | | |
| SANGAMO S409 F8 | | 3,N | 5,L | | 1 | 2 | 6 | - | | | |
| SANGAMO S263 F2, S264 F2 | | N | L | | | ON | - | OFF | | | |
| SMITH IND. MKI, MKII | | N | L | | P1 | P3 | P2 | - | | | |
| SMITH IND. CENTROLLER 30 | | 1 | 2 | | 3 | 4,5 | - | - | 6 | | |
| SMITH IND. CENTROLLER 40 | | 1 | 2 | | 3 | 4,5 | - | - | | | |
| SWITCHMASTER 300 | | N | L | | 2 | 1 | 4 | - | 3 | | |
| TOWERCHRON TC | | 2 | 1 | | 3 | 7 | 4 | - | 8 | 10 | 11 |
| VENNER VENNERETTE MK.IIA | | N | L | | | LOAD | LINE | - | | | |
| VENNER VENNERETTE MK.IVA | | 2 | 3 | | | 1 | 4 | - | | | |
| VENNER VENOTIME (WITH NEON INDICATING CIRCUIT ON) | | N | L | | 2 | 3 | - | 1 | | | |
| VENNER VENOTIME (WITH NEON INDICATING POWER ON) | | N | L | | | 3 | 2 | 1 | | | |
| VENNER VENNERON, VENNERON P | | 3 | 2 | | | 4 | 1 | | | | |



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