

Drayton

Digistat+ & Digistat+RF

Room Thermostat

Models:

30002 / RF601



Invensys Controls Europe
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Installation / User Guide 06490056001 (09/05)



Installation Guide

Technical Data

DIGISTAT+, DIGISTAT+RF

ROOM UNIT

Power Supply: 2 x AA Size, 1.5V alkaline batteries

Switch Type & Rating:

Relay version: SPDT 2(1)A 12-240V AC(DC) Volt free

Radio frequency:

RF version: 433 MHz

Radio Signal Range: 30m typically. The range may be affected by
(RF Version) the composition / density and number of walls between the Digistat RF and SCR.

Temperature Range: 5 to 30°C

Control Accuracy: + 0.5K @ 20°C

Ambient Temperature: Operating 0°C to 50°C /
Storage -20°C to 55°C

Applicable Standards: EN60730-1:2001; EN60730-2-7:1992
2006/95/EC Low Voltage Directive
89/336/EEC EMC Directive
EN300220-1

Mounting: Suitable for surface or conduit box mounting

Wiring:

Relay: Designed for fixed wiring only, to comply with current IEE regulations.

RF: No wiring required

SINGLE CHANNEL RECEIVER (SCR)

Power Supply: 230V AC 50Hz

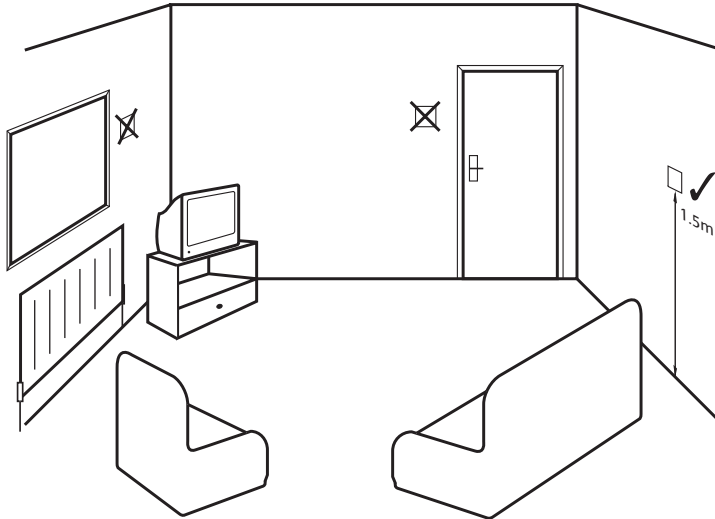
Switch Type & Rating: SPDT (voltage free) 2(1)A 230V AC or
23V AC (DC)

Wiring: Designed for fixed wiring only, to comply with current IEE regulations.

Reception Frequency: 433 MHz

Location

Room Thermostat



Care should be taken to mount the thermostat in a position which is not subject to direct sunlight or draughts. Preferably it should be mounted on an inside wall about 1.5m (5ft) above the floor in a position where it can respond to room temperature but away from the direct influence of radiators or other appliances giving off heat.

Signal Strength

Before fixing the *Digistat+RF* to the wall it is recommended to first check the signal strength from that location.

To do this, remove the batteries, press and hold the 'set' button whilst refitting the batteries, keep the 'set' button held and after a few seconds the display will show 'rF' which indicates that the *Digistat+RF* is continuously sending an OFF signal to the SCR (receiver). Leave the *Digistat+RF* in position and return to view the SCR. If the red LED is continuously flashing, this indicates a good signal. If the red LED is not flashing, this indicates a poor signal and you need to reposition the *Digistat+RF* until the red LED is flashing.

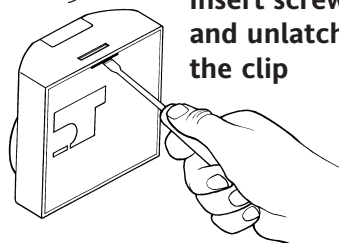
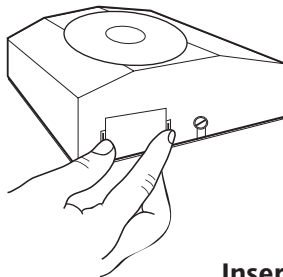
When the signal strength has been confirmed remove the batteries to cancel the test and follow the installation instructions.

Before Installation

If you do not have the knowledge to install the thermostat safely then you must arrange for a competent electrician to install it for you. Wiring must conform to the current IEE regulations.

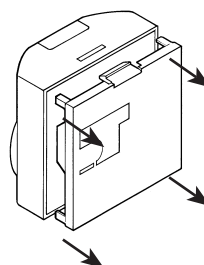
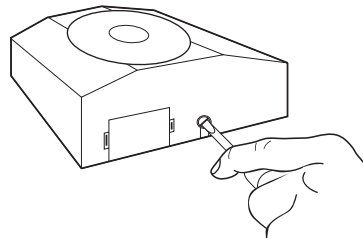
Prior to commencing the installation you must ensure the mains supply is switched off.

Remove battery compartment



Insert screwdriver and unlatch the clip

Loosen screw

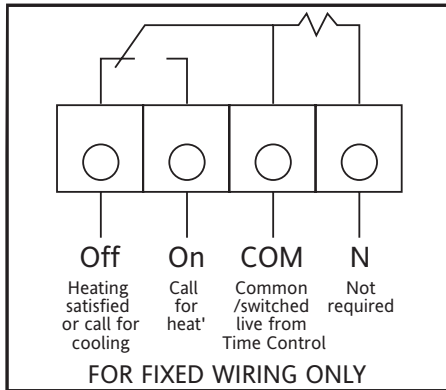


Pull back plate straight off

Standard cable entry is from the rear, but if surface wiring, from the top or bottom, is to be used, or extra space for cabling is required, use the optional Pattress box (sold separately).

WIRING

Room Thermostat (not RF models)



When changing an existing product and there is a neutral wire present, use the neutral (N) terminal on the product.

FAULT DIAGNOSIS (All Models)

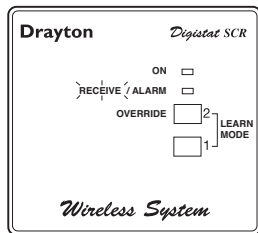
If the display shows E1, the following faults could have occurred

1. Internal temperature sensor has failed.
2. Ambient temperature is outside product operating temperature range.



RF PRODUCT ONLY

INSTALLATION OF SCR (RF Models only)



If you do not have the knowledge to install the SCR safely then you must arrange for a competent electrician to install it for you. Wiring must conform to the current IEE regulations.

Prior to commencing the installation you must ensure the mains supply is switched off.

Installation Instructions

Read all installation and commissioning instructions before proceeding.

Do not switch on until ready to commission.

The system wiring must be able to be fully disconnected from the mains supply by a switch incorporated in the fixed wiring having a contact separation of at least 3mm on both poles. Fused at 3A.

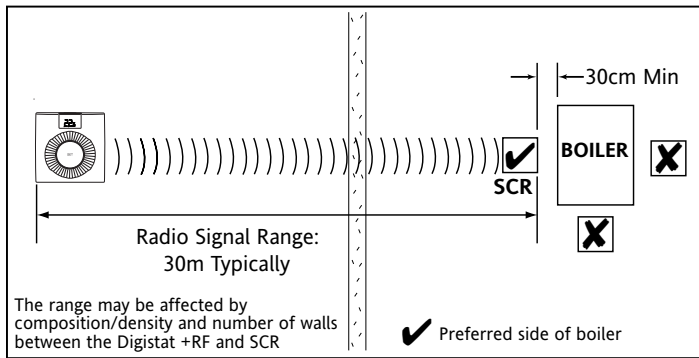
Location

The Digistat SCR (receiver) should be mounted in a convenient position, close to the combi boiler or central heating system wiring centre. (Care should be taken not to mount the SCR in a position where it is surrounded by metal objects or mains voltage cable, as this may interfere with the radio signal).

For the best performance install in an open space, at least 30cm distance from any metal objects including wall boxes and boiler housing.

It is recommended that the SCR is mounted on the wall nearest the final location of the Digistat +RF room thermostat and not less than 30cm from the boiler side panel.

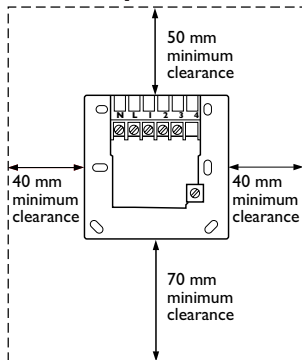
Warning: Installing the SCR too close to the metal side panel or mains cables may interfere with the radio signal.



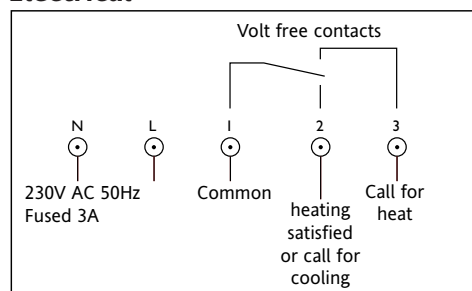
Fixing (minimum wall plate clearances shown)

1. Loosen the securing screws, remove the wallplate, and if surface wiring is to be used, snap out the cable entry strip on the bottom edge of the wallplate with a pair of pliers.
2. Fix the wallplate, terminals at the top, either direct onto the flat wall using wall plugs and no 6 x 1" wood screws or on a flush mounting single conduit box using M3.5 x 14 screws. Minimum wallplate clearances are shown.
3. Complete the wiring to the SCR wallplate in accordance with the relevant diagram, to comply with current IEE regulations.
4. Place the SCR onto the wallplate and tighten the securing screws.

SCR wallplate clearances

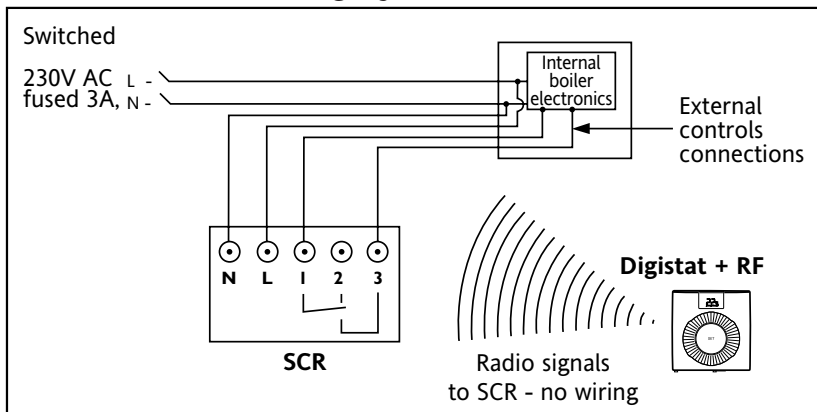


Electrical

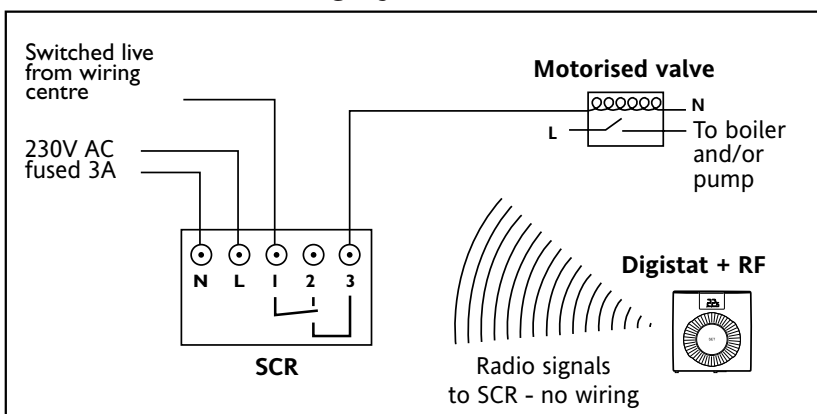


This product is double insulated and does not require an earth connection. The SCR should be wired to the combi boiler or central heating wiring using the correct type of cable or flex. The SCR should be wired in to replace hard wired room or programmable thermostats shown on the system or boiler wiring diagrams. Always check other manufacturers instructions for compatibility.

Combi boiler basic wiring layout



Zone control basic wiring layout



COMMISSIONING THE 'WIRELESS SYSTEM' (RF Models only)

Standard for all models

IMPORTANT: MULTIZONE INSTALLATIONS ONLY

If more than one 'wireless system' is fitted within the same property. ie. for controlling 2 or more zones (multi-zone) it is essential that the Digistat RF units are matched correctly to the relevant SCR. This is easily achieved by commissioning each Digistat and SCR in turn.

1. Install (see installation instructions) and turn power on to the SCR (receiver). If a separate programmer is fitted, ensure that it is switched on. The red LED should come on.
2. Push the 'override' button on the SCR once. The green LED should also come on. Check to see if the boiler and/or motorised valve are working.
3. To enter 'learn' mode push the button marked 1 followed by 2 (OVERRIDE) and hold both depressed together. The red LED should flash for 2 seconds and then go out signifying the SCR is in learn mode. Release both buttons.
4. The red and green LED's should both now be on.
5. Take the Digistat RF and hold it within sight of the SCR (no closer than one metre).
6. Insert the batteries into the holder and slide them into the Digistat RF until the drawer clicks into place.
7. The Digistat RF should now display the actual room temperature. If the unit has been stored in a cold place, it may take time to warm up.
8. As soon as the battery compartment is slid back into place, the red LED on the SCR should flash for 7 seconds and then go out. The green LED may be on or off depending on the room temperature at the time of commissioning.

9. If the red LED remains on, slide down the battery drawer on the Digistat RF, check the battery positions are correct, and once the display has faded, repeat steps 6 to 8.
10. Increase the 'SET' temperature on the Digistat RF by rotating the dial clockwise until a flame symbol appears, in the left hand segment of the display.
11. The red LED on the SCR should flash for 7 seconds. This confirms that the radio signal is being sent and received. After 7 seconds the red LED should go out and the green one come on.
12. Check to confirm that the boiler and/or motorised valves are working.
13. Decrease the 'SET' temperature on the Digistat RF by rotating the dial anticlockwise until the flame symbol disappears.
14. The red LED on the SCR should flash for 7 seconds. After 7 seconds both the red and green LEDs should go out. Check that the boiler and/or motorised valve have powered down.
15. Place the Digistat RF in the chosen operating position, (see Digistat RF location section) and repeat steps 10 to 14. Once you have confirmed the system operates correctly, fit and secure the Digistat RF to the wall (see installation instructions).

During normal operation the red LED on the SCR will flash for 7 seconds each time a radio signal is received from the Digistat RF. This will occur approximately every 5 minutes.

The green LED on the SCR denotes a call for heat (ON).

Once the system has been successfully commissioned, buttons 1 and 2 on the SCR should not be pressed simultaneously, unless a replacement Digistat RF or SCR is fitted.