

ROOM TEMPERATURE SENSOR with fan speed control switches

Specification No. 337-X-XXX*

The DRT Room Temperature Sensor incorporating fan speed control switches is used in conjunction with the CZU temperature controller.

This system is used for the control of temperature zones of buildings, such as hotel bedrooms or individual offices, which are air conditioned by means of fan coil units. The room occupant is provided with local adjustment of room temperature and also fan speed (ON/OFF or OFF, 1, 2 and 3), for optimum comfort settings.

The instrument can, alternatively, be applied as a remote temperature setting unit, in conjunction with a DDU temperature sensor located in the fan coil unit return air space, for example.

Alternative models are available to suit units with either single-speed or 3-speed fans.



* For the full specification number replace the 4Xs with the appropriate figures from the TYPE column in the table overleaf.



Controllers
DS 2.201 - CZU
DS 2.801/2.951 - IAC



SPECIFICATION

Type	Adjustable Scale	Number of Switch Positions	Switch Position	Switch Function
	10 to 35°C			
DRT 3801	●	2	0 1	OFF ON
DRT 3851	●	4	0 1 2 3	OFF LOW MEDIUM HIGH

Sensor Control Range: 10 to 35°C.

Sensing Element: Negative temperature coefficient thermistor.

Sensor Characteristics: Non-linear. See page 3 for table of resistance values.

Sensor Wiring: 2-wire low Voltage dc, non-polarised to controller.

Switch Rating: 2.5A 250Vac. Motor full load current. 12A motor starting, 250Vac

Note: Manual switches suitable for choke controlled or capacitor controlled fan motors only.

Slide switch.

Terminals: Screw-type to accept one 2.5mm² wires.

Housing: Tough fire resistant plastic case and backplate. Protection class IP20.

Ambient Temperature Limits: -10 to 55°C.

Associated Controller: CZU temperature controller. Refer to DS2.201 for details.

IAC controller. Refer to DS2.951 or DS2.801 for details. A look up table module should be used to offset the control module RPW input by -10°C if terminals A and B are used. If terminals A and C are used, set the control module set value to 10°C.

CONNECTION DIAGRAMS

DRT SWITCH WIRING

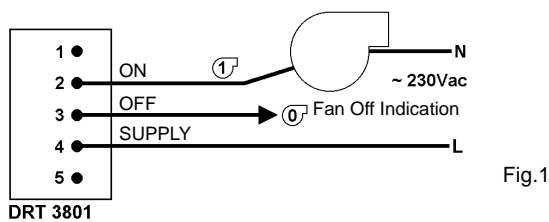


Fig.1

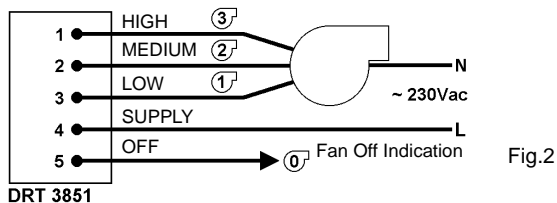


Fig.2

DRT SENSOR CONNECTIONS

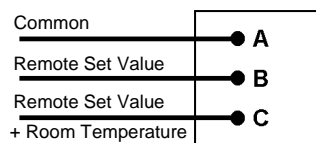


Fig.3

INSTALLATION

1. Select location for sensor which is representative of the space to be controlled and where it will be readily affected by changes in the general space temperature (See Fig.4). When used as remote setting unit, select location which is most convenient for room occupant.
2. Remove the backplate by pushing in the fixing lugs on the top and bottom of the sensor with a small screw driver or similar tool.
3. Thread the wires through the backplate and baffle card and fix it to the wall or conduit box with the arrow pointing upwards. The baffle card is used to ensure that there are no draughts from the cable entries to influence the sensed temperature.
4. Unscrew the mains wiring cover screw and slide the cover away from the mains terminals on the backplate.
5. Connect mains voltage wiring to switch terminals in accordance with the appropriate scheme diagram (See Fig.2 or Fig.3). This mains wiring must be suitably sized for the load and comply with local regulations. When 1 CZU controls a group of fan coil units, use interface relays or contactors for fan circuits, as required.
6. Slide the mains cover over the mains terminals and tighten the fixing screw.
7. **CZU Controllers Only**
 - i. Connect sensor wires to non-polarised terminals A & C of sensor, when used as temperature sensor (See Fig.3). Connect to terminals A & B when used as remote setting unit. (See Fig.3).

IAC Controllers Only

- i. When connecting terminals A and C (A is the common) to an IAC control module sensor input set the control module set value to 10°C. This allows temperature sensing and remote setting from the DRT.

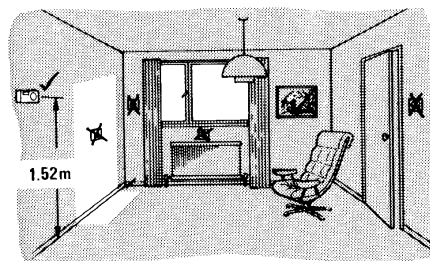


Fig.4

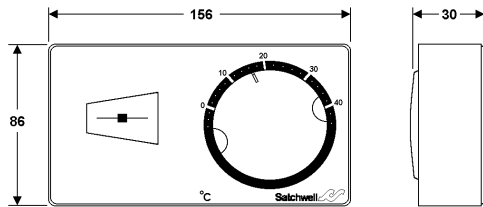
- ii. When connecting terminals A and B (A is the common) to an IAC control module RPW input a 300 Ohm resistor should be added between DRT terminal B and the IAC control module RPW input. A Look Up Table module must also be inserted between the control module RPW input and the DRT connection. The Look Up Table module must be set up as follows:-

	IN	OUT
1	45	35
2	53	30
3	62	25
4	74	20
5	94	15
6	145	10
7	---	---

Sensor wiring precautions:-

- Refer to DS 2.201, 2.801 or 2.951 for wiring precautions.
8. Refit the sensor housing to the backplate.

DIMENSION DRAWING



Dimensions in mm

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CAUTION

- This is a mains operated device. Local wiring regulations and usual safety precautions must be observed.
- Observe sensor wiring precautions. See DS 2.201, 2.801 or 2.951.
- Do not short circuit sensor terminals for test purposes.
- Observe maximum ambient temperature.
- Interference with those parts under sealed covers renders the guarantee void.
- Design and performance of Satchwell equipment are subject to continual improvement and therefore liable to alteration without notice.
- Information is given for guidance only and Satchwell do not accept responsibility for the selection or installation of its products unless information has been given by the Company in writing relating to a specific application.
- A periodic system and tuning check of the control system is recommended. Please contact your local Satchwell Service Office for details.