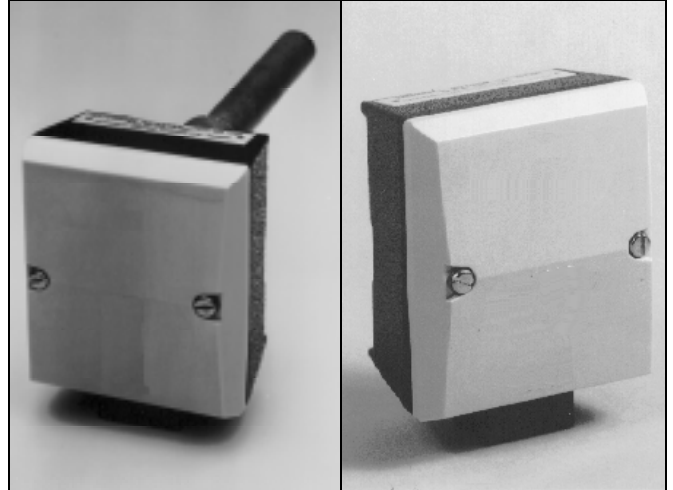


WATER TEMPERATURE SENSORS

Specification No. DWT 335-X-XXX*
DST 339-X-XXX*

The sensors described below are for use with Satchwell controllers to provide temperature control of heating, air conditioning and solar heating systems. If a fast acting water loop is to be controlled see the DWT 1801 on DS 1.26\1.202.



* For the full specification number replace the 4Xs with the appropriate figures from the Type column in the table on page 2.



MLI 1.2/1.201 - Mounting Details
Controllers
DS 2.24/2.110 - CXR
DS 2.41/2.021 - CSC
DS 2.22/2.101 - CXT
DS 2.23/2.105 - CZT
DS 2.47/2.541 - CSMC
DS 2.74/2.701 - MMC 4701
DS 2.72/2.751 - MMC 4601



SPECIFICATION

Type	Mounting & Stem length	Resistance at 20°C (ohms)	Adjustable	Temperature Sensing Range	Proportional Band Adjustment
DWT 1701 DWT 1702	Immersion 125mm 200mm	5573	No	-10 to 120°C	CMC, MMC, CSMC, BAS, IAC, CXR, CZT, CXT, CSC
DST 1601	Pipe Surface	5573	No	5 to 120°C	CMC, MMC, CSMC, BAS, CXR, CZT, CXT, CSC

Sensing element:	Negative temperature coefficient thermistor
Wiring:	2-wire non-polarised low Voltage dc
Ambient Temperature Limits - at Head:	-40 to +70°C (Type DWT only: -40 to 100°C)
Characteristics:	Non linear - See table on page 4.
Head:	Aluminium alloy die-casting with moulded plastic cover. Protection Class: IP 43.
Stem:	DWT only: Aluminium alloy tube
Terminals:	Accept 3 x 1.5mm ² wires: Larger sizes not recommended.
Pocket:	DWT only: Corrosion resisting bronze pocket screwed ½" BSP parallel. Maximum working pressure of 16 bar. Retaining screw to fix sensor in position. Pocket is included in specification type number and is supplied as standard. Stem lengths quoted are overall, including pocket.
Fixing Strap:	DST only: Length supplied is sufficient for pipes up to 100mm dia.
Accessories:	Weatherproofing kit (gasket and screws for head cover) all types: 836-1-203 (improves protection of sensor head to I.P. 47)

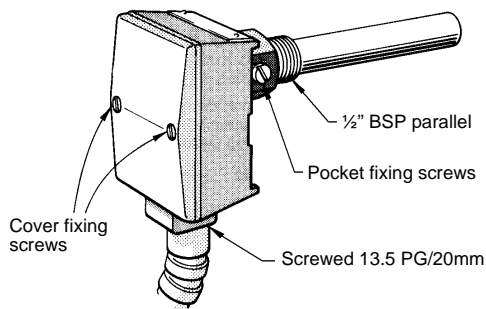
INSTALLATION

Immersion Sensor type DWT

1. Select location where water can circulate freely around the sensor pocket ensuring that the whole of the pocket is immersed in the water to be controlled.
2. The pocket should be plugged to prevent entry of foreign matter before sensor is fitted.

NOTE: For chilled water applications pocket should be mounted horizontally or sloping downwards towards mouth to allow condensation to drain away. If this is not possible the pocket may be filled with a suitable oil, e.g. Fina 'Solco' AC43 or Shell 'Dialo Oil B'.

3. Fix sensor pocket into pipe. Allow a sufficient length of flexible conduit to permit complete withdrawal of the sensor.
4. Insert sensor and tighten clamping screw.
5. Remove cover for access to terminals.
6. Connect wires (non-polarised).
7. Replace cover and tighten fixing screws.



WIRING DIAGRAMS

WIRING PRECAUTIONS

Refer to Data Sheet relevant to the controller to which sensor is to be connected (See Table on page 2).

Maximum resistance, 15 Ohms per core.

Surface Sensor type DST

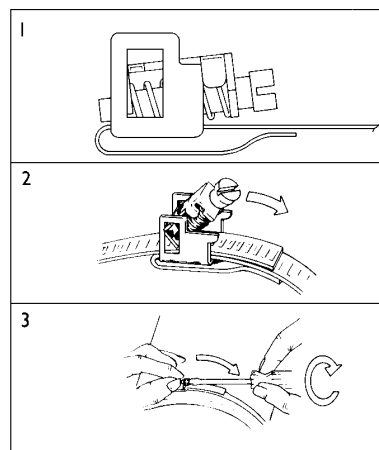
1. Select location on pipe surface which has an unrestricted flow of water.
2. Clean pipe contact area and assemble the strap to the sensor. Fix to the pipe as shown in the diagram. Allow sufficient flexible conduit to avoid straining sensor fixing.
3. Remove cover for access to terminals and temperature adjustment.
4. Connect wires (non-polarised).
5. Replace cover and tighten fixing screws.
6. Keep pipe insulation clear of cover.

WIRING DIAGRAMS

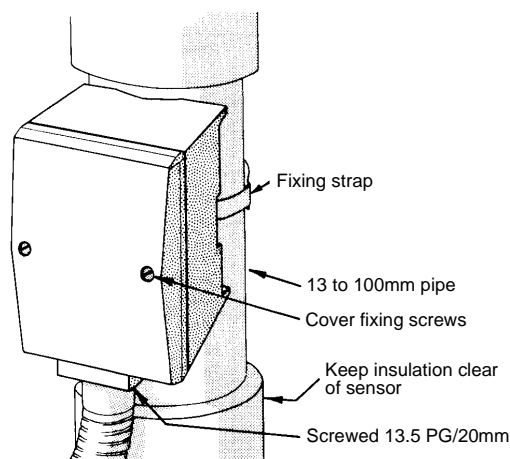
WIRING PRECAUTIONS

Refer to Data Sheet relevant to the controller to which sensor is to be connected. (See Table on page 2).

Maximum resistance, 15 Ohms per core.

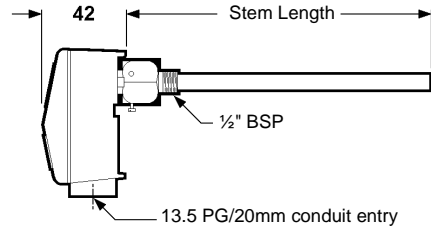
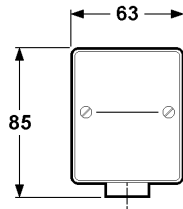


Fixing strap details

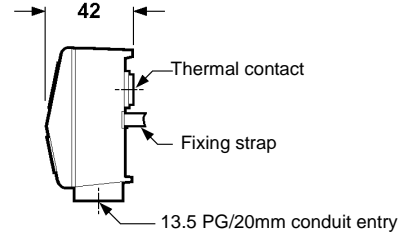
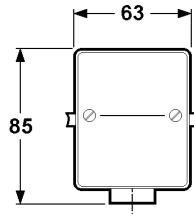


DWT 1701 -10 to 120°C DWT 1702 -10 to 120°C DST 1601 5 to 120°C	
°C	Resistance
-10	8471
-5	8092
0	7660
5	7182
10	6666
15	6125
20	5573
25	5024
30	4492
35	3986
40	3517
45	3089
50	2702
55	2358
60	2055
65	1791
70	1562
75	1363
80	1193
85	1047
90	921
95	814
100	721
105	642
110	574
115	516
120	466

DWS



DST



Dimensions in mm



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CAUTION

- These sensors must only be used in conjunction with the appropriate Satchwell controllers shown on page 2.
- Observe wiring precautions given on the data sheet for the controller that the sensor will be connected to.
- Do not exceed the maximum ambient temperature.
- Interference with parts under sealed covers invalidates guarantee.
- 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 and installation of its products unless information has been given to 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.