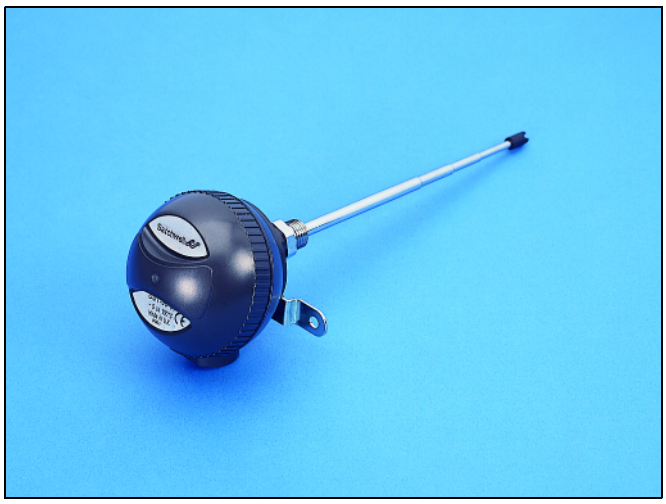
Satchwell

DDT 0001

AIR TEMPERATURE SENSOR



Specification No. DDT 0001

The DDT 0001 is a revolutionary control solution for today's applications. The adjustable probe length enables the user to find the best monitoring position with ease. This sensor is designed for use with Satchwell controllers to provide temperature control in ventilation systems. For typical applications see relevant controller data sheets.

FEATURES

- **Very fast response to temperature change**
- **Stylish design has easily removable, screw lid**
- **Simple wiring connections**
- **Simple commissioning**
- **IP 65 as standard**
- **Variable probe length; one sensor covers many applications**
- **Optimum sensing position can be met**
- **Technology covered by patent applications**
- **Simple replacement of existing sensors**
- **Reduced packaging for distribution/storage**

MLI 1.003 - Mounting Details
Controllers
DS 2.021 - CSC
DS 2.110 - CXR
DS 2.101 - CXT
DS 2.105 - CZT
DS 2.201 - CZU
DS 2.801 - IAC 420
DS 2.951 - IAC 600
DS 2.120 - KMC
DS 2.751 - MMC 4601
DS 2.701 - MMC 4701
DS 10.101- MN 300
DS 10.102 - MN 440
DS 10.103 - MN 500
DS 10.104 - MN 620

SPECIFICATION

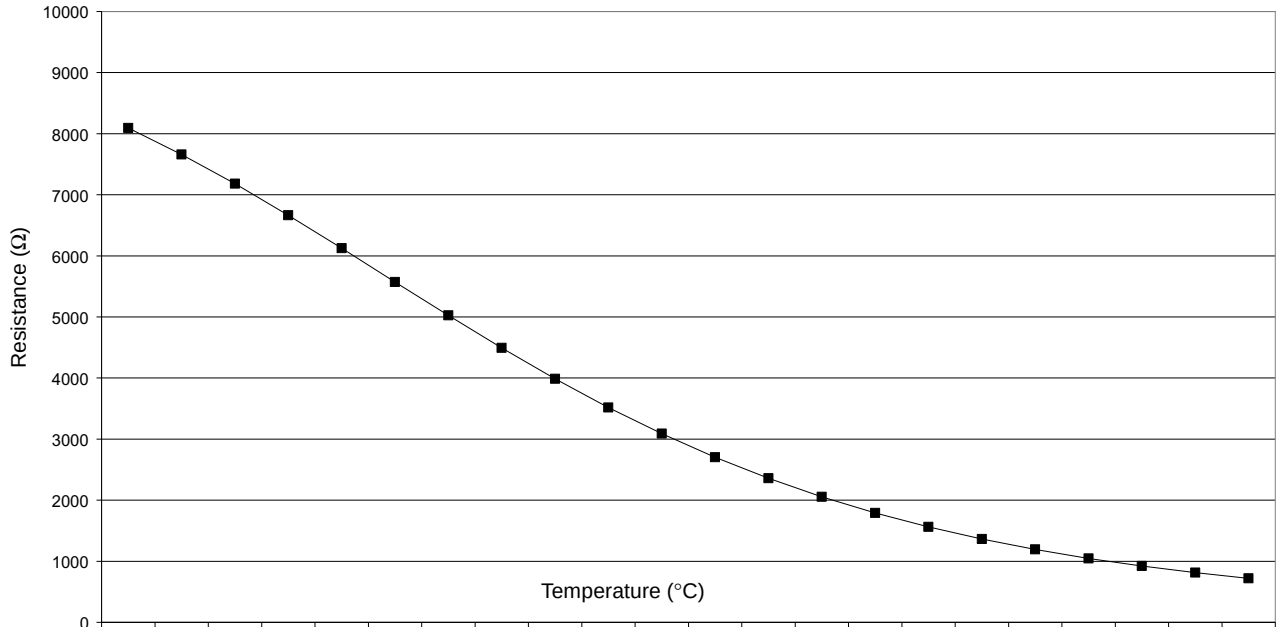
Type	Mounting & Stem Length	Resistance at 20°C	Temperature Sensing Range	Compatible Controllers
DDT 0001	Duct; Min 100mm, Max 330mm, infinitely variable between limits	5573Ω	-5 to 100°C	BAS, CSC, CXR, CXT, CZT, CZU, IAC, KMC, MMC, MicroNet

Protection Class: IP 65
Sensing Element: Negative temperature coefficient thermistor
Wiring: 2-wire non-polarised low voltage dc (Safety Extra Low Voltage (SELV))
Ambient Temperature Limits - at Head: -5 to 100°C
Max Ambient Temperature in Operation: 120°C
Min Ambient Temperature in Operation: -40°C
Max Temperature in Storage/Transit: 55°C
Min Temperature in Storage/Transit: -40°C
Max Humidity in Operation: 95%RH
Min Humidity in Operation: 0%RH
Max Humidity in Storage/Transit: 95%RH
Min Humidity in Storage/Transit: 0%RH
Head: Moulded base with screw on lid.
Head Material: Polyamide (Nylon 66), UV and heat stabilised, UL 94-V0 rated
Head Colour: Matt Black
Stem Material: Chromium plated Brass.
Max Stem Length: 330mm.
Min Stem Length: 100mm.
Terminals: Terminal block accepts 2 x 1.5mm^2 wires; larger sizes not recommended.
Characteristics: Non linear - see table/graph below.

CHARACTERISTICS

Sensor Temperature v Resistance

DDT 0001: -5 to 100°C



	-5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Ohms	8092	7660	7182	6666	6125	5573	5024	4492	3986	3517	3089	2702	2358	2055	1791	1562	1363	1193	1047	921	814	721

INSTALLATION

INSTALLATION GUIDELINES

- Always comply with local and installation safety regulations.
- A tight sealing test hole should be provided adjacent to every sensor.
- Do not use sensors where in areas where stratification can occur, such as downstream of mixing dampers, heating coils, cooling coils or heat recovery equipment.

Caution

Do not extend or retract the probe more than is necessary for installation only, otherwise damage to the internal connecting wires may be caused.

1. If installing sensor in a new location on the duct, select a location where the temperature sensitive stem will be fully immersed in the controlled air stream. The location must not suffer from direct hot or cold radiation effects. For heater batteries the distance from the battery should not be less than 2m (6ft). For cooler batteries and spray coils the minimum distance can be reduced to 25-50mm (1-2").
2. If replacing a Satchwell sensor, the footprint drilling dimensions for the DDT 0001 will be the as for the previous sensor.

Note:

The ¼" NPT thread (see drawing on Page 4) is not used. The 20mm hole will clear the hexagon and enable fixing to the duct using the two No. 8 screws provided.

3. Set the sensor probe to the required extent (e.g. equivalent to the middle of the duct).
4. Fix the sensor to the duct using the fixing screws provided.
5. Connect the flexible conduit to the sensor base. Allow sufficient length of flexible conduit for complete withdrawal of the sensor.
6. Unscrew sensor lid for access to terminals.
7. Connect the two controller wires (non-polarised) to the terminal block.
8. Replace lid.

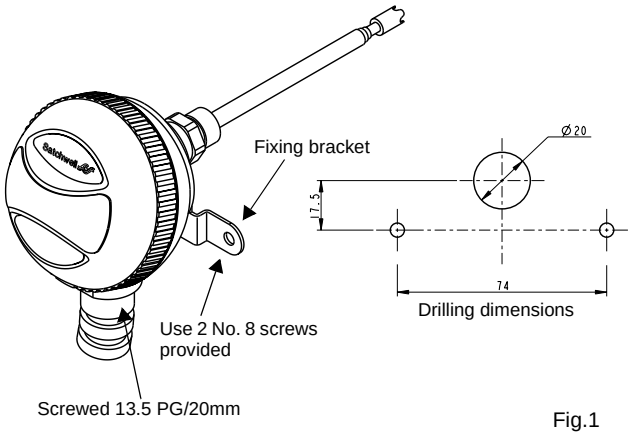


Fig.1

Dimensions in mm

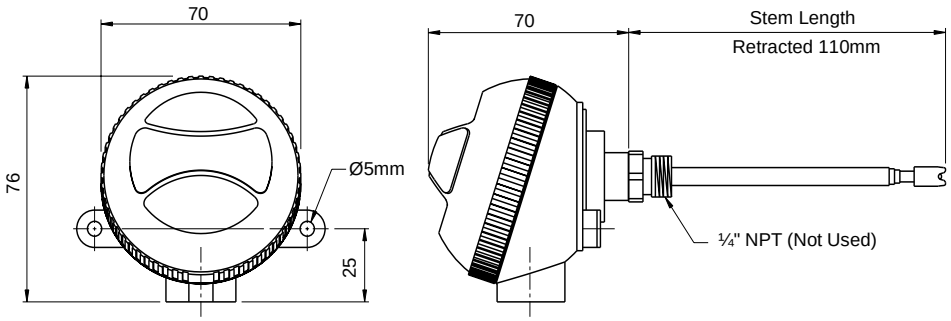
WIRING DIAGRAMS

WIRING PRECAUTIONS

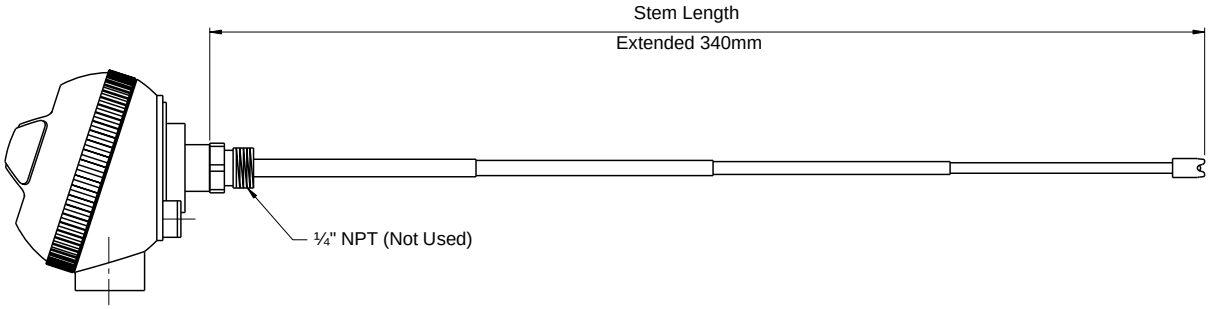
Refer to Data Sheet relevant to the controller to which sensor is to be connected (See Table on Page 2).

Maximum resistance, 15Ω per core.

DIMENSION DRAWINGS



Dimensions in mm



Cautions

- **Do not apply power to the system until it has been checked by a qualified technician and the commissioning procedures have been completed.**
- **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 continuous 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.**

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