

12

TEMPERATURE

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Temperature Sensors

For measuring the temperature, absolute or relative humidity, CO₂, VOC / air quality, frost for all types of air and water HVAC systems. Sophisticated interior and external applications that require high IP protection to NEMA 4X / IP65 protection with a snap-on cover. Special mounting bracket included. Other sensor element types and mounting flangers options available.

Specification

Supply voltage: 24V AC

(Active only) PG11 (20mm conduit adaptor available)

Enclosure: IP65 / NEMA 4x

• Snap-on cover

• All units come with easy to use instructions and diagrams

Outside Sensors

Description	Sensor Type	Additional Features	Part No.
Passive	PT1000		01UT-1B
	Ni1000		01UT-1C
	Ni1000TK5000 (Siemens)		01UT-1D
	NTC10k (UK equivalent 10K3A1)		10UT-1L
	NTC10k Precon (UK equivalent 10K4A1)		10UT-1M
Active	DC 0...5V / 0...10V		22UT-12
	4...20mA		22UT-14

Humidity / Temperature

Active	DC 0...5V / 0...10V		22UTH-11
	4...20mA		22UTH-13
Active with heat shield	DC 0...5V / 0...10V		22UTH-110X
	4...20mA		22UTH-130X
	MODBUS RTU		22UTH-150X
	BACnet MS/TP		22UTH-160X

Duct & Immersion Sensors

Description	Sensor Type	Additional Features	Part No.
Passive	PT1000		01DT-1BH
	Ni1000		01DT-1CH
	Ni1000TK5000 (Siemens)	Probe length 50mm	01DT-1DH
	NTC10k (UK equivalent 10K3A1)		01DT-1LH
	NTC10k Precon (UK equivalent 10K4A1)		01DT-1MH
Active	DC 0...5V / 0...10V		22DT-12H
	4...20mA		22DT-14H
Passive	PT1000		01DT-1BL
	Ni1000		01DT-1CL
	Ni1000TK5000 (Siemens)	Probe length 100mm	01DT-1DL
	NTC10k (UK equivalent 10K3A1)		01DT-1LL
	NTC10k Precon (UK equivalent 10K4A1)		01DT-1ML
Active	DC 0...5V / 0...10V		22DT-12L
	4...20mA		22DT-14L
Passive	PT1000		01DT-1BN
	Ni1000		01DT-1CN
	Ni1000TK5000 (Siemens)	Probe length 150mm	01DT-1DN
	NTC10k (UK equivalent 10K3A1)		01DT-1LN
	NTC10k Precon (UK equivalent 10K4A1)		01DT-1MN
Active	DC 0...5V / 0...10V		22DT-12N
	4...20mA		22DT-14N
Passive	PT1000		01DT-1BP
	Ni1000		01DT-1CP
	Ni1000TK5000 (Siemens)	Probe length 200mm	01DT-1DP
	NTC10k (UK equivalent 10K3A1)		01DT-1LP
	NTC10k Precon (UK equivalent 10K4A1)		01DT-1MP
Active	DC 0...5V / 0...10V		22DT-12P
	4...20mA		22DT-14P
Passive	PT1000		01DT-1BR
	Ni1000		01DT-1CR
	Ni1000TK5000 (Siemens)	Probe length 300mm	01DT-1DR
	NTC10k (UK equivalent 10K3A1)		01DT-1LR
	NTC10k Precon (UK equivalent 10K4A1)		01DT-1MR
Active	DC 0...5V / 0...10V		22DT-12R
	4...20mA		22DT-14R
Passive	PT1000		01DT-1BT
	Ni1000		01DT-1CT
	Ni1000TK5000 (Siemens)	Probe length 450mm	01DT-1DT
	NTC10k (UK equivalent 10K3A1)		01DT-1LT
	NTC10k Precon (UK equivalent 10K4A1)		01DT-1MT
Active	DC 0...5V / 0...10V		22DT-12T
	4...20mA		22DT-14T
Passive	PT1000		01HT-1B
	Ni1000		01HT-1C
	Ni1000TK5000 (Siemens)	Enclosure type	01HT-1D
	NTC10k (UK equivalent 10K3A1)		01HT-1L
	NTC10k Precon (UK equivalent 10K4A1)		01HT-1M
Active	DC 0...5V / 0...10V		22HT-12
	4...20mA		22HT-14

Contact your local sales office for additional products from this range.

Terms of Business applies, a copy of which is available on request. E&OE - Although we strive to keep this document as accurate as possible, we cannot be held responsible for any errors and omissions.



Temperature Sensors

Cable (Flying Lead) Sensors

Description	Sensor Type	Additional Features	Part No.
Passive	PT1000		01CT-1BH
	Ni1000		01CT-1CH
	Ni1000TK5000 (Siemens)		01CT-1DH
	NTC10k (UK equivalent 10K3A1)	Probe length 50mm	01CT-1LH
	NTC10k Precon (UK equivalent 10K4A1)		01CT-1MH
Active	DC 0...5V / 0...10V		22CT-12H
	4...20mA		22CT-14H

Strap-on Sensors

Passive	PT1000		01ST-1B3
	Ni1000		01ST-1C3
	Ni1000TK5000 (Siemens)	50mm probe with 2m cable	01ST-1D3
	NTC10k (UK equivalent 10K3A1)		01ST-1L3
	NTC10k Precon (UK equivalent 10K4A1)		01ST-1M3
Passive	PT1000		01HT-1B
	Ni1000		01HT-1C
	Ni1000TK5000 (Siemens)		01HT-1D
	NTC10k (UK equivalent 10K3A1)	Enclosure type	01HT-1L
	NTC10k Precon (UK equivalent 10K4A1)		01HT-1M
Active	DC 0...5V / 0...10V		22HT-12
	4...20mA		22HT-14

Immersion Pockets

Description	Part No.
Stainless steel 50mm Pocket	A-22P-A06
Brass 50mm Pocket	A-22P-A18
Stainless steel 100mm Pocket	A-22P-A08
Brass 100mm Pocket	A-22P-A20
Stainless steel 150mm Pocket	A-22P-A10
Brass 150mm Pocket	A-22P-A22
Stainless steel 200mm Pocket	A-22P-A12
Brass 200mm Pocket	A-22P-A24
Stainless steel 300mm Pocket	A-22P-A14
Brass 300mm Pocket	A-22P-A26
Stainless steel 450mm Pocket	A-22P-A16
Brass 450mm Pocket	A-22P-A28

Tightening straps + Thermal Contact Fluid

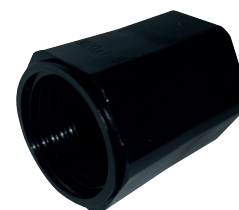
40...110mm length	A-22P-A41
40...900mm length	A-22P-A43

Sensor Adaptors

Sensor Adaptors

Description	Sensor Type	Additional Features	Part No.
20mm adaptor (in bags of 10x)	1 hole		A-22G-A01.1
	2 holes	20mm conduit adaptor	A-22G-A02.1
	4 holes		A-22G-A04.1

BELIMO



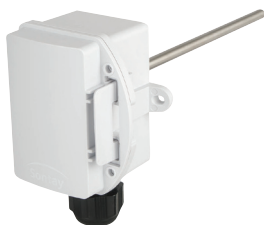


Part No. Completion

When ordering complete the Part No. by adding the following:-

TT-518 Series

Interface options		<input type="checkbox"/> Add
Aluminium housing	AL	
Stainless steel housing	SS	
Brass housing	BR	
Brilliant white thimble	BW	
5m cable length	5M	



Thimble Sensors

These direct output, thimble temperature sensors are used for measuring air temperature in indoor spaces. Units contain either a high quality thermistor, nickel or platinum sensing element. The sensing element is mounted in an attractive thimble enclosure for surface mounting, typically on a backplate or a ceiling tile.

Features

- Plastic, brass, stainless steel or aluminium thimble housing options

TT-518 Series

Output Type	Description	Part No.	Interface Option
Passive	10K3A1, Trend	TT-518-A	<input type="checkbox"/>
	10K4A1, Andover	TT-518-B	<input type="checkbox"/>
	20K6A1, Honeywell	TT-518-C	<input type="checkbox"/>
	PT1000A, Cylon	TT-518-E	<input type="checkbox"/>
	Ni 1000A, Sauter	TT-518-F	<input type="checkbox"/>
	Ni 1000A/TCR (LAN1), Siemens	TT-518-G	<input type="checkbox"/>
	SAT1, Satchwell	TT-518-H	<input type="checkbox"/>
	STA1, Landis & Staefa	TT-518-K	<input type="checkbox"/>
	TAC1, TAC	TT-518-L	<input type="checkbox"/>
	2.2K3A1, Johnson Controls	TT-518-M	<input type="checkbox"/>
	30K6A1, Drayton	TT-518-P	<input type="checkbox"/>
	50K6A1	TT-518-Q	<input type="checkbox"/>
	SAT2, Satchwell	TT-518-S	<input type="checkbox"/>
SAT3, Satchwell	TT-518-T	<input type="checkbox"/>	
Active	4-20mA/0-10V DC output ranges -10 to +40°C, -10 to +110°C	TT-518-CVO	<input type="checkbox"/>
	4-20mA/0-10V DC calibrated to customer spec. in the range -10 to +60°C	TT-518-CVO-C	<input type="checkbox"/>

Duct Sensors

The TT-322 is a direct output, temperature sensor used to measure air temperature in ducts. Units contain either a high quality thermistor, nickel or platinum sensing element. The sensing element is fitted into a 150mm long stainless steel probe with holes to allow air to flow directly over the sensing element. A flange plate is available for adjustment of penetration depth (order as TT-322-DFP).

TT-322 Series

Output Type	Description	Part No.	250mm Probe Part No.
Passive	10K3A1, Trend	TT-322-A	TT-322-A-250
	10K4A1, Andover	TT-322-B	TT-322-B-250
	20K6A1, Honeywell	TT-322-C	TT-322-C-250
	PT1000A, Cylon	TT-322-E	TT-322-E-250
	Ni 1000A, Sauter	TT-322-F	TT-322-F-250
	Ni 1000A/TCR (LAN1), Siemens	TT-322-G	TT-322-G-250
	SAT1, Satchwell	TT-322-H	TT-322-H-250
	STA1, Landis & Staefa	TT-322-K	TT-322-K-250
	TAC1, TAC	TT-322-L	TT-322-L-250
	2.2K3A1, Johnson Controls	TT-322-M	TT-322-M-250
	30K6A1, Drayton	TT-322-P	TT-322-P-250
	50K6A1	TT-322-Q	TT-322-Q-250
	SAT2, Satchwell	TT-322-S	TT-322-S-250
SAT3, Satchwell	TT-322-T	TT-322-T-250	
STA2, Siemens/Landis & Staefa	TT-322-Y	TT-322-Y-250	
Active	4-20mA/0-10V DC output ranges -10 to +40°C, -10 to +110°C	TT-322-CVO	TT-322-CVO-250
	4-20mA/0-10V DC selectable output (custom temp. scaling) calibration to cust. spec. in the range -30 to +70°C	TT-322-CVO-C	TT-322-CVO-C-250
Accessory			
	Duct flange plate		TT-322-DFP

Duct Averaging Sensors

These direct output, temperature sensors are used for measuring temperature in ducts where an average reading across the air flow is required. Units contain either high quality thermistor, nickel or platinum sensing elements which are housed in an 8mm diameter 'Nylon 12' tube, spaced at 0.5m intervals along the standard 2.2m length.

TT-325 Series			
Output Type	Description	Part No.	5m Probe Part No.
Passive	10K3A1, Trend	TT-325-A	TT-325-A-5M
	10K4A1, Andover	TT-325-B	TT-325-B-5M
	20K6A1, Honeywell	TT-325-C	TT-325-C-5M
	PT1000A, Cylon	TT-325-E	TT-325-E-5M
	Ni 1000A, Sauter	TT-325-F	TT-325-F-5M
	Ni 1000A/TCR (LAN1), Siemens	TT-325-G	TT-325-G-5M
	SAT1, Satchwell	TT-325-H	TT-325-H-5M
	STA1, Landis & Staefa	TT-325-K	TT-325-K-5M
	TAC1, TAC	TT-325-L	TT-325-L-5M
	2.2K3A1, Johnson Controls	TT-325-M	TT-325-M-5M
	30K6A1, Drayton	TT-325-P	TT-325-P-5M
	50K6A1	TT-325-Q	TT-325-Q-5M
	SAT2, Satchwell	TT-325-S	TT-325-S-5M
	SAT3, Satchwell	TT-325-T	TT-325-T-5M
	STA2, Siemens/Landis & Staefa	TT-325-Y	TT-325-Y-5M
Active	4-20mA/0-10V DC output ranges -10 to +40°C, -10 to +110°C	TT-325-CVO	TT-325-CVO-5M
	4-20mA/0-10V DC selectable output (custom temp. scaling) calibration to cust. spec. in the range -30 to +70°C	TT-325-CVO-C	TT-325-CVO-C-5M

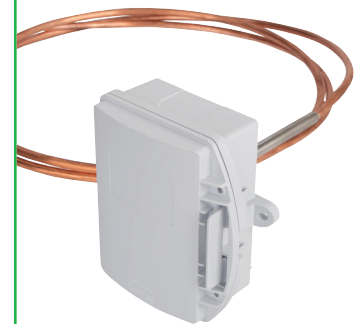


True Duct Averaging Sensors

The TT-626 true duct averaging sensor contains a PT100b element, which measures at every instantaneous point along the full length of the 10mm diameter copper tube and is suitable for use in the range -30 to +70°C

TT-626 Series		
Output Type	Description	Part No.
Passive	PT100b thermistor output	TT-626-PT100B
	4-20mA/0-10V DC output ranges -10 to +40°C, -10 to +110°C	TT-626-CVO
Active	4-20mA/0-10V DC selectable output (custom temp. scaling) calibration to cust. spec. in the range -30 to +70°C	TT-626-CVO-C

The unit does not measure over the first 100mm of the probe length



Outside Air Sensors

These direct output, temperature sensors are for measuring outside air temperature. Units contain either a high quality thermistor, Nickel or Platinum sensing element. The sensors are housed in IP65 rated enclosures. The TT-331 has a cap containing the sensing element located externally in the shadow of the lid to curb the effects of solar gain, but should always be situated in a sheltered position on a north facing wall.

TT-331 Series		
Output Type	Description	Part No.
Passive	10K3A1, Trend	TT-331-A
	10K4A1, Andover	TT-331-B
	20K6A1, Honeywell	TT-331-C
	PT1000A, Cylon	TT-331-E
	Ni 1000A, Sauter	TT-331-F
	Ni 1000A/TCR (LAN1), Siemens	TT-331-G
	SAT1, Satchwell	TT-331-H
	STA1, Landis & Staefa	TT-331-K
	TAC1, TAC	TT-331-L
	2.2K3A1, Johnson Controls	TT-331-M
	30K6A1, Drayton	TT-331-P
	50K6A1	TT-331-Q
	SAT2, Satchwell	TT-331-S
	STA2, Siemens/Landis & Staefa	TT-331-Y
	Active	4-20mA/0-10V DC output ranges -10 to +40°C, -10 to +110°C
4-20mA/0-10V DC selectable output (custom temp. scaling) calibration to cust. spec. in the range -30 to +70°C		TT-331-CVO-C





Outside Air Sensors with Radiation Shield

Direct output, temperature sensors for measuring outside air temperature. Units contain either a high quality thermistor, nickel or platinum sensing element. The sensors are housed in IP65 rated enclosures. The TT-332 has the element fitted into a PTFE radiation shield, designed to provide fast response times to changes in outside air temperature and to protect the element from the effects of direct sunlight.

TT-332 Series

Output Type	Description	Part No.
Passive	10K3A1, Trend	TT-332-A
	10K4A1, Andover	TT-332-B
	20K6A1, Honeywell	TT-332-C
	PT1000A, Cylon	TT-332-E
	Ni 1000A, Sauter	TT-332-F
	Ni 1000A/TCR (LAN1), Siemens	TT-332-G
	SAT1, Satchwell	TT-332-H
	STA1, Landis & Staefa	TT-332-K
	TAC1, TAC	TT-332-L
	2.2K3A1, Johnson Controls	TT-332-M
	30K6A1, Drayton	TT-332-P
	50K6A1	TT-332-Q
	SAT2, Satchwell	TT-332-S
	STA2, Siemens/Landis & Staefa	TT-332-Y
	Active	4-20mA/0-10V DC output ranges -10 to +40°C, -10 to +110°C
4-20mA/0-10V DC calibrated to customer spec. in the range -30 to +70°C		TT-332-CVO-C

Strap-on Sensors

The TT-351 is used to measure pipe temperature, and contain either a high quality thermistor, nickel or platinum element, which is housed in a 50mm long brass probe with 2 metres of PTFE 2-core screened cable as standard connecting the probe to an IP65 housing for termination.



TT-351 Series

Output Type	Description	Part No.	5m Probe Part No.	
Passive	10K3A1, Trend	TT-351-A	TT-351-A-5M	
	10K4A1, Andover	TT-351-B	TT-351-B-5M	
	20K6A1, Honeywell	TT-351-C	TT-351-C-5M	
	PT1000A, Cylon	TT-351-E	TT-351-E-5M	
	Ni 1000A, Sauter	TT-351-F	TT-351-F-5M	
	Ni 1000A/TCR (LAN1), Siemens	TT-351-G	TT-351-G-5M	
	SAT1, Satchwell	TT-351-H	TT-351-H-5M	
	TAC1, TAC	TT-351-L	TT-351-L-5M	
	2.2K3A1, Johnson Controls	TT-351-M	TT-351-M-5M	
	30K6A1, Drayton	TT-351-P	TT-351-P-5M	
	50K6A1	TT-351-Q	TT-351-Q-5M	
	SAT2, Satchwell	TT-351-S	TT-351-S-5M	
	STA2, Siemens/Landis & Staefa	TT-351-Y	TT-351-Y-5M	
	Active	4-20mA/0-10V DC output ranges -10 to +40°C, -10 to +110°C	TT-325-CVO	TT-325-CVO-5M
		4-20mA/0-10V DC selectable output (custom temp. scaling) calibration to cust. spec. in the range -30 to +70°C	TT-325-CVO-C	TT-325-CVO-C-5M

Flying Lead Sensors

The TT-555 is a direct output temperature sensor used to measure air temperature, especially in fan-coil units etc., and contain either a high quality thermistor, nickel or platinum sensing element suitable for the range -10 to +60°C. The sensing element is housed in a 35mm long acetyl probe, with 2 metres of 2-core screened cable fitted as standard. Longer lengths can be made to order. Order option - R for a stainless steel cap with the element potted in a waterproof compound.



TT-555 Series

Output Type	Description	Part No.	Insert Option
Passive	10K3A1, Trend	TT-555-A	<input type="checkbox"/>
	10K4A1, Andover	TT-555-B	<input type="checkbox"/>
	20K6A1, Honeywell	TT-555-C	<input type="checkbox"/>
	PT1000A, Cylon	TT-555-E	<input type="checkbox"/>
	Ni 1000A, Sauter	TT-555-F	<input type="checkbox"/>
	Ni 1000A/TCR (LAN1), Siemens	TT-555-G	<input type="checkbox"/>
	SAT1, Satchwell	TT-555-H	<input type="checkbox"/>
	STA1, Landis & Staefa	TT-555-K	<input type="checkbox"/>
	TAC1, TAC	TT-555-L	<input type="checkbox"/>
	2.2K3A1, Johnson Controls	TT-555-M	<input type="checkbox"/>
	30K6A1, Drayton	TT-555-P	<input type="checkbox"/>
	50K6A1	TT-555-Q	<input type="checkbox"/>
	SAT2, Satchwell	TT-555-S	<input type="checkbox"/>
	STA2, Siemens/Landis & Staefa	TT-555-Y	<input type="checkbox"/>
	Active	4-20mA/0-10V DC output ranges -10 to +40°C, -10 to +110°C	TT-555-CVO
4-20mA/0-10V DC calibration to cust. spec. in the range -10 to +60°C		TT-555-CVO-C	<input type="checkbox"/>

Part No. Completion
When ordering complete the Part No. by adding the following:-

TT-555 Series

Options
5m cable length
Cap potted

Add
5M
R

Space Sensors

The TT-1000 is a direct output temperature sensor used for measuring air temperature in a room environment. Units contain either a high quality thermistor, nickel or platinum sensing element. Active outputs (0-10V DC or 4-20mA) are also available. The TT-1000 can be configured with a variety of user interface options including, setpoint control, fan speed switching, latching or momentary switching.

TT-1000 Series			
Output Type	Description	Part No.	Interface Option
Passive	10K3A1, Trend	TT-1000-A	<input type="checkbox"/>
	10K4A1, Andover	TT-1000-B	<input type="checkbox"/>
	20K6A1, Honeywell	TT-1000-C	<input type="checkbox"/>
	PT1000A, Cylon	TT-1000-E	<input type="checkbox"/>
	Ni 1000A, Sauter	TT-1000-F	<input type="checkbox"/>
	Ni 1000A/TCR (LAN1), Siemens	TT-1000-G	<input type="checkbox"/>
	SAT1, Satchwell	TT-1000-H	<input type="checkbox"/>
	STA1, Landis & Staefa	TT-1000-K	<input type="checkbox"/>
	TAC1, TAC	TT-1000-L	<input type="checkbox"/>
	2.2K3A1, Johnson Controls	TT-1000-M	<input type="checkbox"/>
	30K6A1, Drayton	TT-1000-P	<input type="checkbox"/>
	50K6A1	TT-1000-Q	<input type="checkbox"/>
	4-20mA/0-10V DC / 0-5V DC selectable output, output ranges -0 to +40°C	TT-1000-ACT	<input type="checkbox"/>
	Active	4-20mA/0-10V DC / 0-5V DC selectable output, output ranges -20 to +50°C (custom temp. scaling)	TT-1000-ACT-TR



Part No. Completion
When ordering complete the Part No. by adding the following:-

TT-911 Series

Interface options	<input type="checkbox"/> Add
Black housing	BL
Brilliant white housing	BW
2-wire, 1-11 Ω setpoint	SP
3-wire, 0-10 Ω setpoint	SP3
3-speed fan switch	FS3
4-speed fan switch	FS4
5-speed fan switch	FS5
Latching switch	LS
Momentary switch	MS

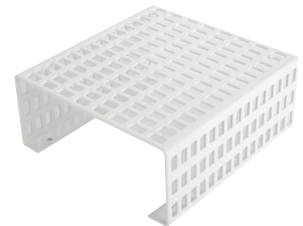
Space Sensor Guard

The TT-GD is designed to protect TT-1000 and TT-1015 sttemperature sensors from accidental damage.

Features

- Robust construction
- Easy fixing

TT-GD Series	
Description	Part No.
Space Sensor Guard	TT-GD





Immersion Sensor

These immersion sensors are used for measuring the temperature of liquids in pipework. Units contain either a high quality thermistor, nickel or platinum element. The TT-341 sensing element is housed in a 150mm long stainless steel probe fitted to an IP65 rated enclosure, for direct mounting into a TT-PO-521 stainless steel pocket.

Specification

Output type:
Current 4 to 20mA
Voltage 0 to 10V DC
Ambient range: -10 to +60°C

TT-341 Series

Description	Part No.
Passive Output Type	
10K3A1 Trend	TT-341-A
10K4A1 Andover	TT-341-B
20K6A1 Honeywell	TT-341-C
PT100A Serck	TT-341-D
PT1000A Cylon	TT-341-E
Ni 1000A Sauter	TT-341-F
Ni 1000A/TCR (LAN1) Siemens	TT-341-G
SAT1 Sauter	TT-341-H
TAC1 TAC	TT-341-L
2.2K3A1 Johnson Controls	TT-341-M
3K3A1 Alerton	TT-341-N
30K6A1 Drayton	TT-341-P
50K6A1	TT-341-Q
100K6A1 York .40°C	TT-341-R
SAT2 Satchwell	TT-341-S
SAT3 Satchwell	TT-341-T
SIE1 Siebe	TT-341-W
STA2 Siemens/Landis & Staefa	TT-341-Y
Active Output Type	
Selectable temp. ranges -10 to +40°C, or -10 to +110°C	TT-341-CVO
Custom temp. scaling in the range of -30 to +70°C (dependent on sensor type/application)	TT-341-CVO-C



Temperature Sensors

Specification

Ambient temperature: up to 110°C
Enclosure flammability: ED, EF, EM & ES - UL94-V0

Part Number Completion

1 Select Sensor Type e.g room ER

2 Select Compatibility e.g Drayton 30K6A1

Part Number ER-30K6A1



Sensor Selection Chart

Type	Rating	Description	Part No.
Duct	IP65	2m long cable sensor 7.1 dia. x 40	ED-
Flue gas	IP65	Probe length 230mm	EF-
Room	IP30	85H x 85W x 30D	ER-
Strap-on	IP65	Approx. 80 dia. x 55 2m long cable includes strap for up to 6" pipe diameter	ES-
Outside	IP65	Approx. 80 dia. x 55	EX-

Ordering Chart

Compatibility	Part No.	Sensor Type				
		Duct	Flue Gas	Room	Strap-On	Outside
Honeywell, Trend, Alerton & Smart	2 10K3A1	1 ED-	EF-	ER-	ES-	EX-
Satchwell	10K3A1/A					
Honeywell	20K6A1					
Drayton	30K6A1					
Landis & Staefa	LST1					
Siemens, Landis & Staefa	LS1000					
TAC	TAC1					
Serck	PT100					
Cylon	PT1000					

Capillary Thermostats

These products are used to monitor the temperature of air or liquids. Applications include heating and air conditioning systems. The liquid filled sensor element enables a rapid response to temperature changes.

EC-EMC Series				
Type	IP Rating	Range	Part No.	
1-Stage	IP43	-20 to +40°C	EC-2	
		-20 to +40°C	EC-3	
		-20 to +40°C	EC-4	
		-20 to +40°C	EC-5	
		0 to 100°C	EC-6	
		0 to 200°C	EC-7	
		0 to 200°C	EC-8	
		-15 to +45°C	EC-3D	
	IP43*	0 to 70°C	EC-6D	
		30 to 65°C	EC-6DM	
		60 to 95°C	EC-7DM	
		-20 to +40°C	EC-3W	
		-20 to +40°C	EC-4W	
		0 to 100°C	EC-6W	
IP65	0 to 200°C	EC-7W		
	0 to 200°C	EC-8W		
	2-Stage	IP43	-20 to +40°C	EMC-22A
			0 to 100°C	EMC-23A

* Also available with IP65 weatherproof enclosure

Freeze Protection Thermostats

These products are used to prevent the freezing of liquids inside pipes or heating/cooling units.

EFP Series			
Type	IP Rating	Range	Part No.
Freeze protection thermostats	IP43	-15 to +15°C	EFP-1
		-15 to +15°C	EFP-2
		-15 to +15°C	EFP-3
		-15 to +15°C	EFP-4
	IP65	-15 to +15°C	EFP-1W
		-15 to +15°C	EFP-2W
		-15 to +15°C	EFP-3W
		-15 to +15°C	EFP-4W

Immersion Thermostats

These products are used to monitor liquid temperatures in pipes, boilers tanks etc. The liquid filled sensing enables a rapid response to temperature changes. The E10 - is a single function thermostat and the EBD dual function has two separate thermostats inside the enclosure.

EBS Series - Single & Dual Function				
Type	Range		IP Rating	Part No.
	Control	Limit		
Manual reset single function	0 to 35°C	-	IP43	EBS-1
	0 to 80°C	-		EBS-2
	35 to 95°C	-		EBS-3
	50 to 30°C	-		EBS-4
	-	35 to 95°C		EBS-7
	-	60 to 95°C		EBS-8
	-	95 to 130°C		EBS-9
Manual reset dual function	0 to 80°C	0 to 80°C		EBD-1
	35 to 95°C	35 to 95°C		EBD-2
	35 to 95°C	60 to 95°C		EBD-8

Strap-On Thermostat

These products are used to monitor the temperature of liquids in pipes and cylinders.

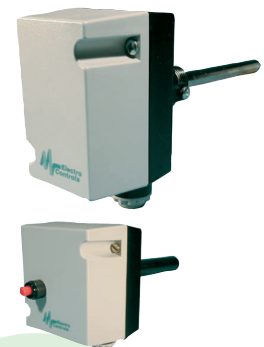
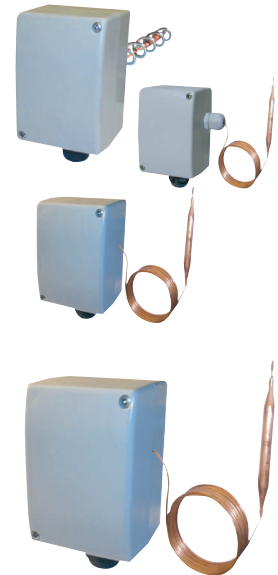
BRC Series			
Type	Rating	Range	Part No.
Manual reset	IP30	20 to 90°C	BRC

Outside Frost Thermostats

These products are used to monitor the temperature outside buildings and switch heating / cooling or other units in the event of high / low temperatures.

EOF Series - Single & Dual Function			
Type	Rating	Range	Part No.
Single function	IP65	-20 to +30°C	EOF-01
Dual function	IP65	-20 to +30°C/-20 to +30°C	EOF-21

Electro Controls





Capillary Frost Thermostats (Economy)

The ST-FRE range of thermostats provide a low cost switch output based on the average temperature detected along a six metre capillary sensor. The most common application is for frost protection on fresh air intakes or air-conditioning systems, to prevent the icing up of filters, fans and coils. The capillary is fixed in a matrix across the duct, in a position downstream of the pre-heater or frost coil.

Features

- Easy adjustment of setpoint
- Setting indicator

ST-FRE Series

Description	Part No.
Auto reset 6m capillary	ST-FRE-1
Manual reset capillary	ST-FRE-2
Accessories	
Pack of six additional capillary fixing clips	ST-DFK
Mounting bracket for ST-FRE	BRK

Strap-on Thermostats

Sontay's range of strap-on thermostats can be used to control the temperature of liquids and gases in a variety of applications where it is not possible to insert a pocket.

Features

- Install in any position
- Easy adjustment of setpoint
- Setting indicator

ST-S Series

Type	Protection	Range	Part No.
Auto Reset	IP30	0 to 90°C	ST-S01-A

Immersion Thermostats

The ST-I range of immersion thermostats can be used to control the temperature of liquids in pipe work systems. Liquid filled sensing elements ensure rapid response and accurate switching differentials.

Features

- Units supplied with stainless steel pocket
- Single and dual stage versions
- ½" BSP connection
- Robust housing

These are available in two types:

Control thermostats (auto reset) with an adjustable setpoint, adjustable differential and auto reset, which provides a switched output to a heater, cooler or controller.

Safety thermostats (manual reset) with an adjustable setpoint, fixed differential and manual reset, to provide high limit cut-out on boilers etc.

ST-I Series

Type	Protection	Range	Part No.
Auto reset	IP65	0 to 120°C	ST-I-01A
Manual reset		0 to 110°C	ST-I-02M
Accessories			
Stainless steel pocket replacement			ST-IMM-PKT

Duct Thermostats

These duct thermostats can be used to control the temperature in duct work systems. Liquid filled sensing elements ensure rapid response and accurate switching differentials.

Features

- Robust housing

These are available in two types:

Safety thermostats (manual reset) with an adjustable setpoint, fixed differential and manual reset, which provides high limit cut-out on boilers etc.

Control thermostats (auto reset) with an adjustable setpoint, adjustable differential and auto reset, which provides a switched output to a heater, cooler or controller.

ST-D Series

Type	Protection	Range	Part No.
Manual reset	IP43	0 to 90°C	ST-D-04M
Auto reset	IP54	-35 to +35°C	ST-D-01A
	IP65	-30 to +30°C	ST-D-03A

Wall Mount Thermostats

These wall mount thermostats are suitable for industrial use. Typical applications are damp, dusty and strongly polluted areas and are ideally suited for greenhouse applications.

Features

- IP65 protection
- Single version
- Robust housing

ST-W Series

Type	Range	Part No.
Auto reset	-30 to +30°C	ST-W-01A

Temperature Controllers

These products can monitor the temperature inside buildings, rooms, ducts (return air), tanks, pipes etc and give 0-10V DC output signal linear across the desired proportional band. Suitable for control damper motors, valve actuators, step controls, relay modules and thyristors etc. The duct unit should be mounted in the return air, if multi-stages of heating and cooling are required.

ETC Series			
Mounting Type	Range	Function	Part No.
Duct	-10 to +50°C	Heating or cooling	ETC-D50
		Heating and cooling	ETC-D52
Immersion	-10 to +50°C	Heating or cooling	ETC-I50
		Heating or cooling	ETC-I95
Accessories			
½" BSP x 120mm stainless steel pocket for ETC-I...			EE-STK

Temperature Controllers

These products are used to monitor liquid temperatures in pipes, boilers tanks etc. The liquid filled sensing enables a rapid response to temperature changes. The EBS is a single function thermostat and the EBD dual function has two separate thermostats inside the enclosure.

Features

- DIN rail mounting

E15-P0 Series			
Output Signals	Range	Function	Part No.
1	-10 to +50°C	Heating or cooling	E15-P01
		Heating or cooling	E15-P02
2	-10 to +50°C	Heating & cooling, (2 heating or 2 cooling)	E15-P03
3	-10 to +50°C	Heating & cooling & cooling	E15-P04
Accessories			
Wall mounting enclosure IP65			EE-M2T

Sensors, Adjusters & Displays

These products are used to monitor liquid temperatures in pipes, boilers tanks etc. The liquid filled sensing elements enables a rapid response to temperature changes.

Features

- IP43 Protection
- Robust housing

E10 Series		
Type	Description	Part No.
Bead Sensor	with 2 way terminal strip	E10-B
Cable Sensor	with 2m cable	E10-C
Duct sensor	Probe length 160mm	E10-D
Duct Averaging	Probe length 160mm (use 2xE10-DA for averaging)	E10-DA
	Stainless brushed satin with 200mm cable, drill hole 12 dia.	E10-GS
Thimble sensor	Brass with 200mm cable, drill hole 12 dia.	E10-GB
	White with 200mm cable, drill hole 12 dia.	E10-GW
Black bulb sensor	For radiant tube heaters	E10-H
Immersion sensor	Probe length 120mm "Order pocket separately"	E10-I
Fan Coil sensor	With duct flange & 2m cable	E10-K
Room sensor	Can be mounted on square or round outlet box	E10-R
	As E10-R (use 2 x E10-RA for averaging)	E10-RA
Strap-On sensor	Includes fixing strap for up to 6" dia. Pipe. 2m cable	E10-S
Room sensor + knob	With knob adj. ±4°C above & below main set point knob setting	E10-V
Outside sensor	Weatherproof	E10-X
	-10 to +50°C front panel mounting	E10-P50
	25 to 95°C front panel mounting	E10-P95
Setpoint Adjuster	±4°C front panel mounting	E10-P4
	For minor adjustment of main set point knob setting	
Accessories		
½" BSP x 120mm stainless steel pocket for E10-I		EE-STK

Electronic Thermostats

These products monitor the temperature of air/liquid & control multiple heating/cooling or other units in response to temperature changes according to the model used. The set-point is adjustable via the dial on the PCB. All units can be used with a wide range of remote accessories. For Use with E10 series of sensors.

Sensors, Adjusters & Displays			
Type	Range	Supply	Part No.
1-Stage function	-10 to +95°C	230V AC	ETE-1D
		24V AC	ETE-1DL24
2-Stage function	-10 to +95°C	230V AC	ETE-2D
		24V AC	ETE-2DL24
4-Stage function	-10 to +95°C	230V AC	ETE-4D
		24V AC	ETE-4DL24

Electro Controls

