Sontay®
Four Elms Road · Edenbridge
Kent · TN8 6AB · UK

ST-x
General Purpose Thermostats

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Features & Benefits

- Robust housing
- Easy setting of set point
- Pocket supplied with immersion types as standard
- Volt Free Contacts
- Concealed adjustment to prevent unauthorized adjustment (not ST-S)
- Manual reset versions have an exposed push button on the front cover so no tools needed to reset

Technical Overview

The ST-x range of thermostats can be used to control the temperatures of liquids and gases in a variety of applications. The liquid filled sensing elements ensure rapid response and accurate switching differentials.
They are available in two formats;

Control thermostats (auto reset), with an adjustable set point, adjustable differential and auto rest, which provides a switched output to a heater, or controller.
Safety thermostats (manual reset), with an adjustable set point, fixed differential and manual reset, which provides high limit cut-out on boilers etc.

Product Codes

Capillary		
ST-C-01M	Manual reset 50 to 140°C	
Duct		
ST-D-01A	Auto reset -35 to +35°C	Diff. 3°C
ST-D-02A	Auto reset 0 to 90°C	Diff. 2°C
ST-D-03A	Auto reset -30 to +30°C	Diff. 3°C
ST-D-04M	Manual reset 0 to 90°C	
Immersion		
ST-I-01A	Auto reset 0 to 120°C	Diff. 2 to 12°C
ST-I-02M	Manual reset 0 to 110°C	
ST-I-03M	Manual reset 20 to 90°C	
Wall		
ST-W-01A	Auto reset -30 to +30°C	Diff. 3°C
Strap-on		
ST-S-01A	Auto reset, 0 to 90°C	Diff. 6°C

Accessory

ST-IMM-PKT
Optional stainless steel pocket (ST-I range only)

Specification

Control range	See product codes for ranges
Switch rating	24 to 240Vac @16(4)A
Sensing element	Liquid filled copper element
Housing:	
Material	ABS UL94 VO (flame retardant)
Dimensions	108 x 70 x 72mm
ST-S-01A	86.5 x 38 x 53mm
Capillary (ST-C):	
Bulb	67mm x 6.5mm dia.
Capillary	1.5m
Duct probe (ST-D)	280mm x 16mm dia.
Immersion pocket (ST-I):	
Material	Stainless steel 316
Dimensions	130mm x ½" BSPT
Strap length (ST-S)	250mm
Ambient:	
RH	0 to 95% RH, non-condensing
Temperature	-35 to 65°C
Protection:	
ST-D-01A	IP54
ST-S-01A	IP30
Other auto reset	IP65
Manual reset	IP43
Weights:	
ST-C	340g
ST-D	700g
ST-I	580g
ST-W	480g
ST-S	250g
Country of origin	China

WEEE Directive:
At the end of the products useful life please dispose as per the local regulations.
Do not dispose of with normal household waste.
Do not burn.

CE

The products referred to in this data sheet meet the requirements of EU 2014/30/EU & 2014/35/EU

Tel: +44 (0)1732 861200 - E-mail: sales@sontay.com - Web: www.sontay.com

Installation

Common installation;

1. The ST-x range should only be installed by a competent, suitably trained technician, experienced in installation with hazardous voltages. (>50Vac & <1000Vac or >75Vdc & 1500Vdc)

2. Ensure that all power is disconnected before carrying out any work.

3. If the sensor is to be mounted outside (IP65 housing options only), it is recommended that the unit be mounted with the cable entry at the bottom. If the cable is fed from above then into the cable gland at the bottom, it is recommended that a rain loop be placed in the cable before entry into the sensor.

4. Chose a suitable for place to install the thermostat.

ST-C

Fix the capillary in position, sensing is only done at the bulb end not along the capillary length.

ST-D

When mounting in the duct ensure that it will give a representative sample of the prevailing air condition.
Mount to the supplied support to the duct and fix using suitable screws. Slide the capillary into the support and tighten the grub screw to secure the housing.

ST-I

Fit a ½" BSPT female threaded boss in a suitable location in the pipe.

Screw the pocket into the boss using a thread-seal compound, and slid the capillary into the pocket and tighten the grub screw to secure the housing.

ST-S

Mount the stat onto the pipe or surface to be monitored using the strap supplied, ensuring that there is sufficient room to adjust the controls. Ambient temperature around the sensor can affect the switching point.

Common installation;

5. Remove the front cover by removing the two screws, and separate from the main body.

6. Feed the cable through the waterproof gland and terminate the cores at the terminal block as required. Leaving some slack inside the unit, tighten the cable gland onto the cable to ensure water tightness.

7. Adjust the set point scale as required and replace the front cover.

Connections

Auto reset versions;		Manual reset versions;		ST-S-01A;	
3	Normally closed	2	Normally closed	2	Normally closed
2	Normally open	1	normally open	1	Normally open
1	Common	C	Common	C	Common

Auto Reset Version

1 makes to 3 if the actual temperature is below the thermostat setting
1 makes to 2 if the actual temperature is above the thermostat setting

Tolerance of Set Point

Part code	Set position (°C)	Tolerance (±) (°C)
ST-C-01M	50	-
	120	5
	140	-
ST-D-01A	-35	8
	+35	3
ST-D-02A	0	3
	90	8
ST-D-03A	-30	3
	+30	8
ST-D-04M	0	-
	70	5
	90	-

Part code	Set position (°C)	Tolerance (±) (°C)
ST-I-01A	0	4
	120	10
ST-I-02M	0	-
	90	5
	110	-
ST-I-03M	0	-
	70	5
	90	-
ST-W-01A	-30	3
	+30	8
ST-S-01A	0	-
	60	-10/+6
	90	-

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