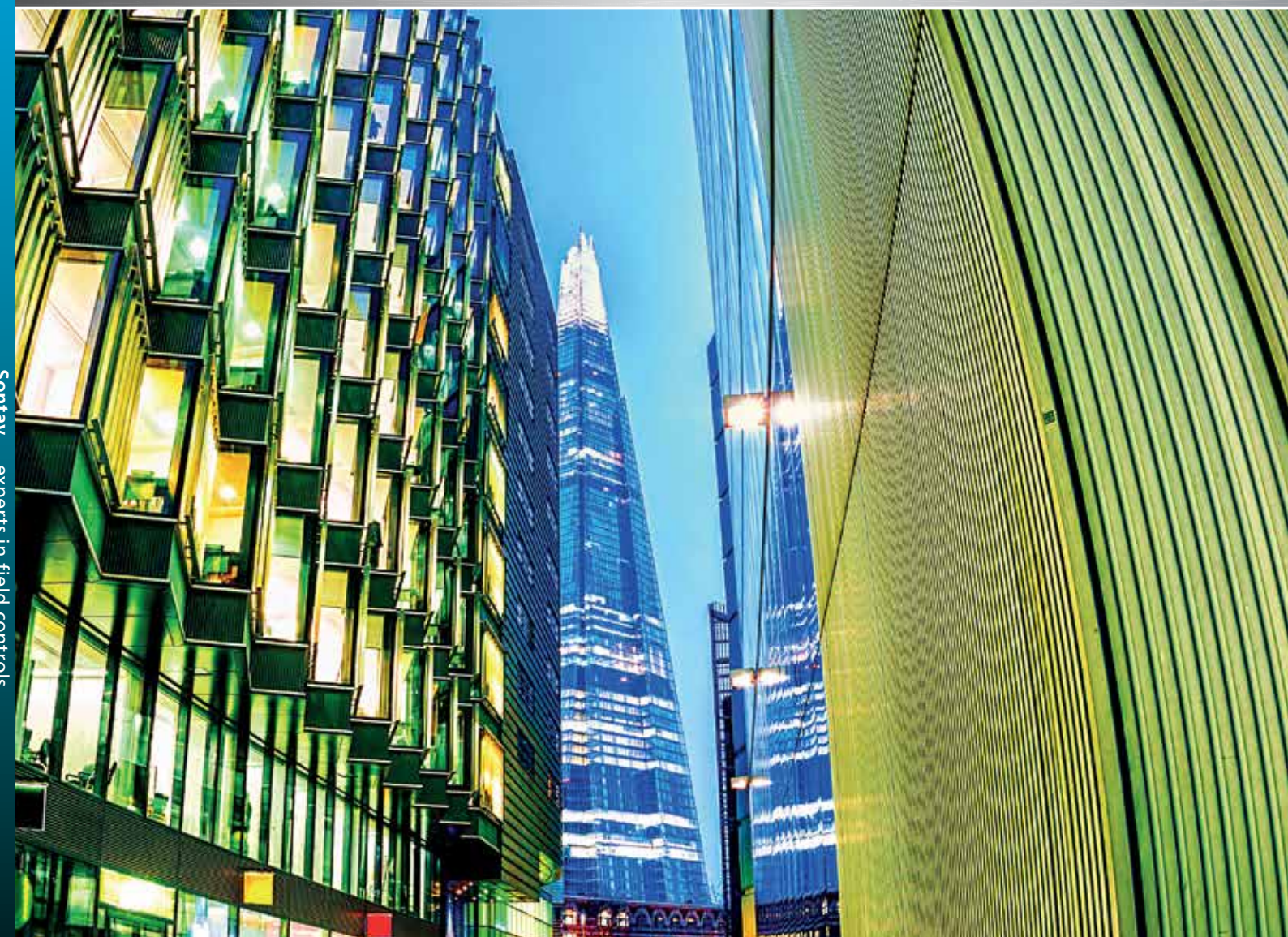




... experts in field controls

2015

Sontay
experts in field controls



2016

Product Catalogue

INNOVATION • QUALITY • COMMITMENT • SUPPORT

Who are Sontay?

... the number one choice for all Building Measurement and Control Peripherals

Leading



Market leading manufacturer of field control devices for the HVAC market.

Support



Offering outstanding service and support to customers.

Quality



Renowned for providing products with the highest accuracy and reliability.

Production



Products produced in our fully equipped UK manufacturing facility.

Authority



Industry authority providing training on products and applications through the Sontay Academy.

Revolutionary



Focussing on technical advancements to release ground breaking products.

Sontay's Mission

Sontay is renowned for providing the HVAC industry with high quality and reliable field peripheral devices for the sensing, measurement and control of intelligent buildings.

Our mission is to commit ourselves to continuous improvement in every aspect of our organisation. Customers come first and are the most important factor in our business.

Competitive pricing, excellent customer service and technical support, plus a 3 year product warranty all demonstrate our commitment to the customer experience.

Continuous innovation, investment in research, development and quality, together with our employees and customers make us who we are.



Case Studies

Our clients talk about their experiences with Sontay

Wrights Food



Improved energy efficiency and reduced costs are provided by SonNet wireless sensors providing accurate and reliable data through direct integration with a Centraline BMS.

Newham Collegiate Sixth Form Centre



Optimum control in a listed building using SonNet wireless sensors interfacing with a Trend BMS through SonNet powered by SIP technology.

The importance of sensors in building controls...

SONTAY PRODUCTS

In a typical air handling unit application

Sontay products can ensure you get the most accurate and reliable control in your applications.

VA Damper Actuators



Information from the Space sensor will determine whether the damper actuators open to manage air temperature, humidity and CO₂.

ST-FRE Frost Thermostat



To determine how much heating the air will need before being introduced to the space.

RE Electric Heater Controller

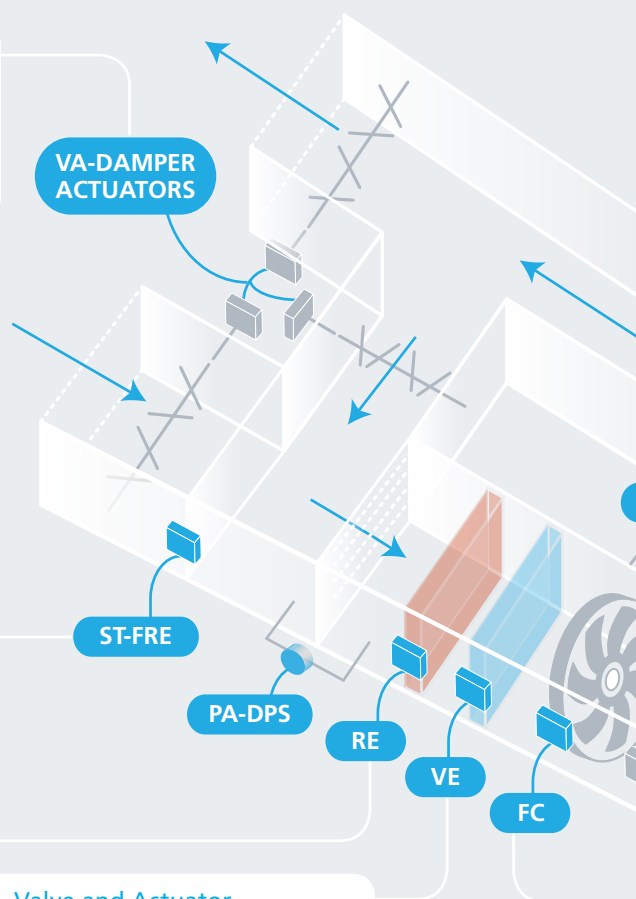


Will accurately modulate the heating output of the electric heater.

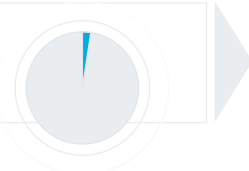
VE Valve and Actuator



Controls chilled water entering the cooling coil.



Sensors can account
for **2%** of a total project cost.



However, their impact in
the performance of any system is critical.

RH-622 Duct RH & T Sensors



Measure the temperature and relative humidity of the air entering the controlled space and in the return.

If the air is recirculated the temperature calculation will be used to decide whether it requires heating or cooling before re-entering the controlled space.

PA-DPS Air DP Switches



The system will use these to give advance warning of dirty filter and fan status.

GS-CO2-RHT

GS-CO2-RHT-1001 Space Temperature, Humidity and CO₂ Sensor



Combines 3 vital measurements for occupancy comfort.

User interface options such as:

- setpoint
- fan-speed
- LCD display are available.

FC Fan Speed Controllers

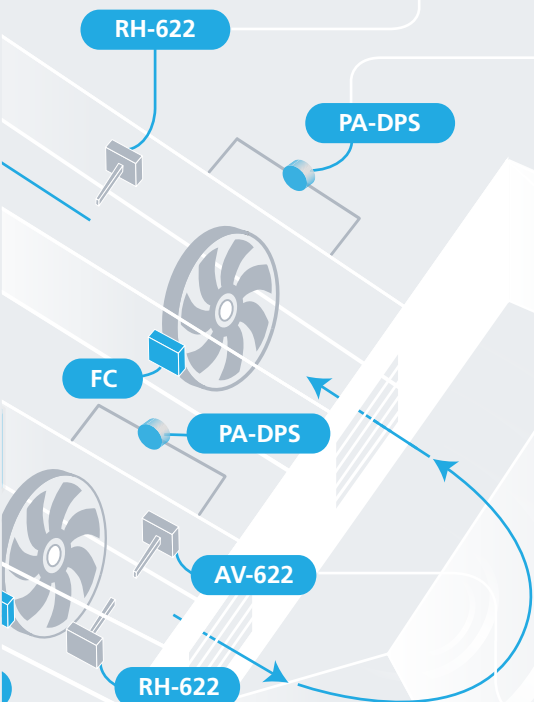


Is used to control the speed of fans on supply and return to determine how quickly air is moved around the system.

AV-622 Air Velocity Sensor



Monitoring air velocity ensures the system is running efficiently and sufficient air changes are made.



New Products for 2016

... take a look at what new products are being released for 2016

Smart Communication Range



SB/SM

Smart Communication Sensors offer the ability to sense and transmit data from up to 7 variables in one sensor over a simple 2-wire data bus saving on installation and controller I/O.



SC-FS

A range of gateways to convert and transmit data to your desired protocol.



SC-IO

Smart I/O Module can take inputs from standard field devices and transmit them over BACnet or Modbus protocols.



Smart Communication Range communicating through smart protocols is rapidly increasing in popularity. The enhanced Smart Communication range from Sontay, offers a wide range of products that can communicate through BACnet, Modbus or Mbus protocols. See the complete range starting on page 51.

Touch Screen Thermostats



ST-Touch

Visualisation of data is in great demand and the new Sontay touchscreen thermostat offers visual status of room temperature and user interface options.

The sleek modern design provides the perfect solution for today's modern buildings. There are 2 versions available for HVAC and smart home applications. Take a look at page 51 for more details.



New Products for 2016

... take a look at what new products are being released for 2016

Universal Sensor Range

UN-Option

Energy Efficiency



The single output universal sensor provides the perfect solution in price sensitive projects.




This product has a lower cost than our standard sensor range due to there only being one sensing output. However, it has added clever functionality in that it can automatically determine controller input configuration of current or voltage and run accordingly. Sensors are available for RH, Air Quality and CO₂. Find more information in the relevant sensing sections within the catalogue.

Car Park Sensing

GS-S Range



For Car Park Ventilation Control




To help with specifying systems for car park ventilation, we have selected a range of products that provide the perfect solution. To ensure adequate ventilation you will need to monitor CO, NO₂ and SO₂. Go to page 18 to find out more and look for the carpark symbol.



SonNet Wireless Sensing

SonNet





Self Healing Tree Topology

Powered by **niagara AX** FRAMEWORK

BACnet

Not only can SonNet measure and transmit data on temperature, RH & CO₂. it can also incorporate standard wired devices into the network. Look out for the SonNet symbols throughout the catalogue to show other devices that can transmit wirelessly. The system also offers direct integration through Niagara AX framework, along with Trend and BACnet systems.

SONTAY'S Contact Team

Our team will be pleased to hear from you whenever you require any information on our range of products and services.

Sales & Technical Support



Kate, Jo, Lisa and Sophie can help with any query you have to do when ordering.

Tony and Martin are there to help with any technical enquiry.

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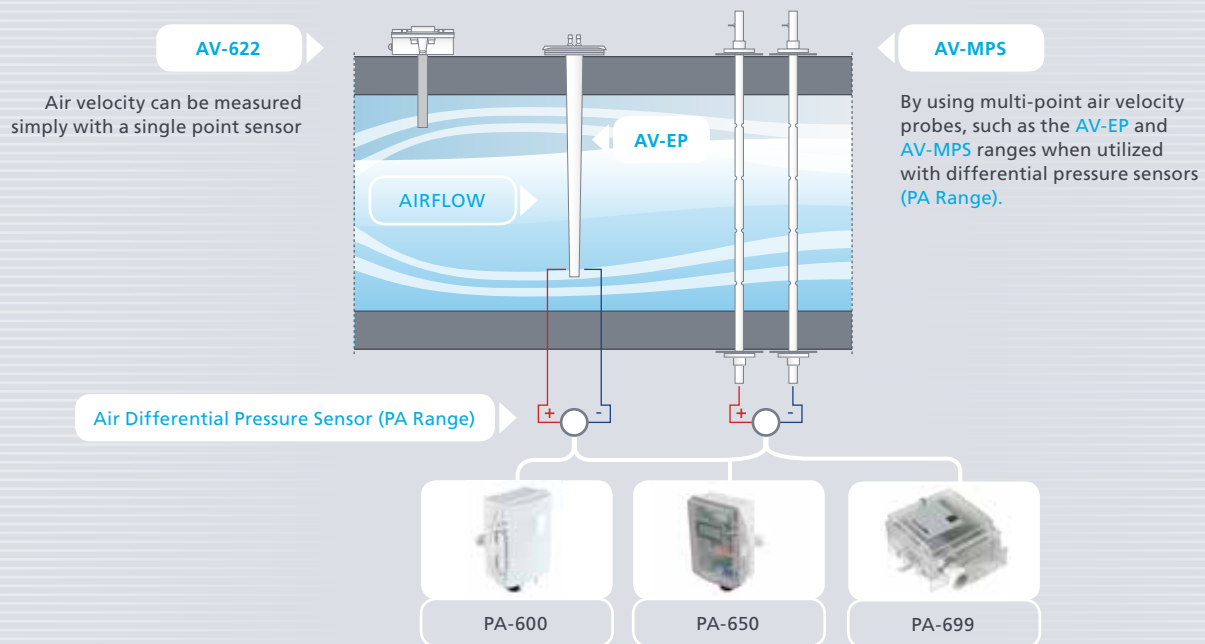
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Air Velocity Probes & Sensors

Accurate measurement of air flow and velocity is essential for the efficient delivery of conditioned air in a controlled environment. While monitoring air and liquid flow in heating and cooling systems it is vital for the safe operation of those systems.

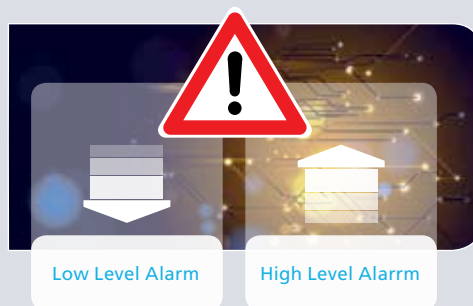


Air And Liquid Flow Switches



Air and liquid flow switches, such as the **FS** and **LS** ranges, provide a simple and cost-effective method of proving media flow for fan and pump systems, allowing safe interlocking of other equipment, such as heater batteries.

Liquid Level Switches And Sensors



Liquid level switches and sensors provide auto-filling functions and low or high level alarming for storage tanks, whether mechanical, hydrostatic, capacitive or ultrasonic.



AV-622

Single-point Air Velocity Sensor



The AV-622 is a single-point, multi-range Air Velocity Transmitter with user selectable 0-10Vdc or 4-20mA outputs and four user selectable measurement ranges. The unit has a built-in self-test feature and the user can manually override the output to 0%, 50% or 100% of output range to aid commissioning.

FEATURES

- User selectable 0-10Vdc or 4-20mA outputs
- Built-in self-test feature
- Built-in manual override facility for 0%, 50% or 100% of output range
- Durability and resistance to chemical reagent



Part code	Description
AV-622	Air Velocity Sensor
	Accessory
DPA	Duct probe adjustment flange

Data sheet: [AV-622.pdf](#)

SPECIFICATION

Selectable ranges:	0 to 4 m/s, 0 to 8 m/s, 0 to 16 m/s, 0 to 32 m/s, 0 to 787 ft/min, 0 to 1575 ft/min, 0 to 3150 ft/min, 0 to 6299 ft/min
Accuracy:	± 5% of ranges ±3% of ranges
Output:	4-20mA into 100Ω min. 0-10Vdc into 4.7kΩ min.
Supply (current output):	20 to 35Vdc for 500Ω loop resistance 12 to 30Vdc for 100Ω loop resistance
Supply (voltage output):	17 to 34Vdc 14 to 26Vac supply into 4.7kΩ min.
Max. current:	50mA
Ambient temp. range:	-10 to +50°C (14 to 122°F)
Housing:	Material Flame retardant ABS Dimensions 116 x 106 x 52mm (4.57 x 4.17 x 2.05")
Probe:	Material Delrin Dimensions 215 x 19mm dia. (8.46 x 0.75" dia.)
Protection:	IP65
Weight:	280g (0.62 lb)



Want to make this sensor wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

AV-W

Wind Speed and Direction Sensors



The AV-WS measures wind speed providing a pulsed output and is intended for applications where external weather conditions influence the building control strategy, such as for the automatic closing of windows. A mounting arm and 'U' bolts for pole mounting are included.

SPECIFICATION – AV-WS

Output:	1 contact closure per 1.493 metre (4.90 ft) (zero bounce)
Min. start speed:	0.5 m/s (98 ft/min)
Accuracy:	±2%
Contact rating:	Power 50W max. (DC resistive) Voltage 100Vdc max. Current 1A max.
Weight:	1.46kg (3.22 lb)

COMMON SPECIFICATION

Electrical conns:	Flying lead (3m long) (9.48 ft)
Ambient range:	-20 to +70°C (-4 to +158°F)
Dimensions:	Height 280mm (11.02") (max. arc 120mm) (4.72")
Protection:	IP65

SPECIFICATION – AV-WAD

Mechanical travel:	360° endless travel
Electrical travel:	357° (±2°)
Output:	0 to 1kΩ for 0 to 357° @ 80Vdc max.
Weight:	1.56kg (3.44 lb)

Part code	Description
AV-WS	Wind Speed Sensor
AV-WAD	Wind Speed and Direction Sensor

Data sheet: [AV-W.pdf](#)

AV-x

Multi-point Air Velocity Probes



The AV-EP series of air velocity probes are available in lengths from 100 to 600mm (3.94 to 23.62") and the AV-MPS series in lengths of 700 to 2000mm (27.56 to 78.74"). They are used to ensure that recommended flow rates for public buildings and industrial plants are achieved.

Using a PA-60x, PA-65x, PA-699 Air Differential Pressure Sensor of an appropriate range (please refer to data sheet on Sonya's website for further information). the output of the sensor represents the velocity pressure and is defined by the following equation:

$$\text{Velocity} = \sqrt{(2 \times \text{Velocity Pressure}) / 1.2}$$

Part code	Description
AV-EP-100	100mm (3.94") Multi-point Probe (ABS)
AV-EP-200	200mm (7.87") Multi-point Probe (ABS)
AV-EP-300	300mm (11.81") Multi-point Probe (ABS)
AV-EP-400	400mm (15.71") Multi-point Probe (ABS)
AV-EP-500	500mm (19.69") Multi-point Probe (ABS)
AV-EP-600	600mm (23.62") Multi-point Probe (ABS)

FEATURES

- Mounting plates included
- Double gasket seals the probe to the duct
- Push on connectors to suit PA-TUBE-8MM

SPECIFICATION

Probe Material:	AV-EP PVC Flame retardant (VO)
	AV-MPS 316 Stainless steel
Connectors:	Nickel plated brass to suit 6mm ID PVC tubing

Part code	Description
AV-MPS-700	To suit duct size of 600-700mm (23.62-27.56")
AV-MPS-800	To suit duct size of 700-800mm (27.56-31.50")
AV-MPS-1000	To suit duct size of 750-1000mm (31.50-39.37")
AV-MPS-1250	To suit duct size of 1000-1250mm (39.37-49.21")
AV-MPS-1500	To suit duct size of 1250-1500mm (49.21-59.06")
AV-MPS-1750	To suit duct size of 1500-1750mm (59.06-68.90")
AV-MPS-2000	To suit duct size of 1750-2000mm (68.90-78.74")

Accessory

PA-TUBE-8MM	PVC tube 8mm (0.31") o/d x 1.5mm (0.06") wall. 30m (98.5 ft)
-------------	--

Data sheets: [AV-EP.pdf](#) · [AV-MPS.pdf](#)

FS-521

Air Flow Switch



The FS-521 paddle switch is intended to monitor air flow within a duct and provides a switched output on detection of either a specific air velocity or flow failure.

FEATURES

- Adjustable switching point
- Lid-mounting screws provide tamper proofing

SPECIFICATION

Operating temp:	Ambient	-20 to +70°C (-4 to +158°F) max.
	Media	-20 to +120°C (-4 to +248°F) max.
Materials:	Paddle	Stainless steel
	Rod	Brass
	Enclosure	ABS flame retardant (type VO)
Switch rating:	15(8)A SPDT @ 230Vac	
Protection:	IP65	
Dimensions:	Paddle	80 x 175mm (3.15 x 6.89")
	Housing	113.5 x 65 x 62mm (4.47 x 2.56 x 2.44")
Weight:	300g (0.66 lb)	

Part code	Description	Volume Price Breaks
FS-521	80 x 175mm (3.15 x 6.89") Paddle Switch	See Price List

Data sheet: FS-521.pdf



Want to make this switch wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

FS-541

Liquid Flow Switches



The FS-541 paddle switch is intended to monitor liquid flow within pipes and provide a VFC output on detection of either a specific flow rate or flow failure.

They screw directly into a 1" BSPT boss.

FEATURE

- Adjustable switching point

SPECIFICATION

Operating temp:	-40 to +120°C (-40 to +248°F) (max.)	
Materials:	Paddle	Stainless steel
	Rod	Brass (S/S for FS-541S)
	Enclosure	ABS flame retardant
Switch rating:	15(8)A SPDT @ 24-250Vac. VFC	
Pipe suitability:	1" to 8"	
Protection:	IP65	
Dimensions:	Housing	113.5 x 65 x 62mm (4.47 x 2.56 x 2.44")
	Paddles	28.5. 54.5. 83.5 and 161.5mm (1.12. 2.15. 3.29 and 6.36")
Weight:	300g (0.66 lb)	

Part code	Description	Volume Price Breaks
FS-541	1" BSPT Flow Switch	See Price List

Data sheet: FS-541.pdf



Want to make this switch wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

LS-541

Float Switch



The LS-541 is intended to monitor the liquid level in a tank or vessel and provides a switched output for local alarm, pump or valve control. The differential between switching is equivalent to approximately 15mm (0.59").

The unit mounts into 1" BSPT female boss. Access is not required to the inside of the tank.

SPECIFICATION

Mounting:	1" BSPT boss	
Media:	Non-aggressive fluids with specific gravity >0.75	
Operation:	For high or low level	
Operating temp:	Ambient	-40 to +85°C (-40 to 185°F).
	media	85°C max. (185°F)
Operating pressure:	5 bar max. (72.5 psi max.)	
Materials:	Float	Acrylic
	Rod	Brass
	Bellows	Phosphor bronze
Enclosure	ABS flame retardant	
Switch rating:	15(8)A SPDT @ 230Vac. VFC	
Protection:	IP65	
Dimensions:	Housing	113.5 x 65 x 62mm (4.47 x 2.56 x 2.44")
	Float & rod	200 x 26mm dia. max. (7.87 x 1.02" dia.)
Weight:	300g (0.66 lb)	

Part code	Description	Volume Price Breaks
LS-541	1" BSPT Float Switch (horizontal mount)	See Price List

Data sheet: LS-541.pdf



Want to make this switch wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

LS-712

Hydrostatic Level Transmitter



Sontay's LS-712 range of submersible water level transmitters provides continuous hydrostatic level measurement up to 10.2m (33.46ft) of water column. They are suitable for many applications such as water tanks, wells, sumps and ponds. Transmitters have a vented cable which provides an atmospheric reference for the sensor, which is necessary for ensuring repeatable, precision depth measurements under the most adverse conditions.

FEATURES

- Compact design
- Simple installation
- Stainless steel construction



Want to make this sensor wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

SPECIFICATION

Supply voltage:	4-20mA	10 to 30Vdc
	0-10Vdc	12 to 30Vdc
Measurement ranges:	LS-712-A	300mbar 3.06m (9.94ft)
	LS-712-B	1000mbar 10.2m (33.46ft)
Response time:	< 2ms	
Materials:	Case	Stainless steel 1.4404 / AISI 316L
	Cable	PE-HD
	Sealing material	EPDM
Temperature:	-40 to +80°C (-40 to +176°F)	
Protection:	IP68	
Dimensions:	Sensor	116 x 23.4mm (4.57 x 0.92")
	Cable	5 or 15m (16.4 or 49.21ft)
Weight:	640g (1.41 lb) max.	

Note: These are built to order and not available ex-stock.

Data sheet: [LS-712.pdf](#)

LS-AFS

Automatic Float Switch



The LS-AFS is designed for simple reliable water level control. The float switch can be used to control a pump for either tank filling or tank emptying (a high or low level cut-out). It is easily achieved by positioning the float stops on the cord. The electrical connections are easily made inside the housing, via the terminal strip. Two M20 cable glands are provided for use with suitable conduit.

FEATURES

- Reliable
- Easy to install
- Easy to adjust
- Simple wiring

SPECIFICATION

Max. switching voltage:	250Vac	
Current rating:	Resistive	20A
	Inductive	8A
Float operating range:	Maximum	700mm (27.56")
	Minimum	50mm (1.97")
Material:	Housing & float	Polypropylene
	Weights	Brass
	Cord	Nylon
Ambient temp. range:	0 to 50°C (32 to 122°F)	
Media temperature:	4 to 50°C (39 to 122°F)	
Protection:	IP22	
Weight:	560g (1.23 lb)	

Part code	Description
LS-AFS	Automatic Float switch

Data sheet: [LS-AFS.pdf](#)

LS-CAP

Capacitance Level Sensors



These sensors are designed for level measurement in tanks or sumps providing a 4-20mA output relating to the level of fluid in the tank. The LS-CAP-1 is suitable for conducting liquids such as water whilst the LS-CAP-2 is designed for use with clean, low viscosity non-conducting liquids, such as oil.

FEATURES

- Suitable for a wide range of media
- Easy in-situ range adjustment
- 4-20mA output
- No moving parts

SPECIFICATION

Output:	4-20mA
Supply:	20 to 38Vdc
Insertion length:	0.5 to 3m variants (1.64 to 9.84 ft)
Process connection:	1" BSP
Process temperature:	100°C max. (212°F)
Ambient temperature:	-20 to +60°C (-4 to +140°F)
Max. pressure:	20 bar @ 20°C (290 psi @ 68°F)
Electrode insulation:	Polypropylene
Termination housing:	ABS
Protection:	IP65
Weight:	8.24kg max. (18.17 lb max.)

Part code	Description
Sensors for Conducting Liquids	
LS-CAP-1-0.5	0.5m (1.64 ft) Probe, Sensor
LS-CAP-1-1.0	1m (3.28 ft) Probe, Sensor
LS-CAP-1-1.5	1.5m (4.92ft) Probe, Sensor
LS-CAP-1-2.0	2m (6.56 ft) Probe, Sensor
LS-CAP-1-2.5	2.5m (8.20 ft) Probe, Sensor
LS-CAP-1-3.0	3m (9.84 ft) Probe, Sensor

Part code	Description
Sensors for Non-conducting Liquids	
LS-CAP-2-0.5	0.5m (1.64 ft) Probe, Sensor
LS-CAP-2-1.0	1m (3.28 ft) Probe, Sensor
LS-CAP-2-1.5	1.5m (4.92ft) Probe, Sensor
LS-CAP-2-2.0	2m (6.56 ft) Probe, Sensor
LS-CAP-2-2.5	2.5m (8.20 ft) Probe, Sensor
LS-CAP-2-3.0	3m (9.84 ft) Probe, Sensor

Data sheet: [LS-CAP.pdf](#)



Want to make this sensor wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

LS-FL

Liquid Level Float Switches



The LS-FL series is a range of level switches suitable for single or multi-level applications where access is only available from the top surface or where multiple level sensing is desired from a single penetration. Units consist of a float, which is suspended from a weighted cable. As the liquid level changes, the float follows the surface level, at the same time tilting due to its weighted restraint. Inside the float are a number of micro switches which trigger as the float tips.



Want to make this switch wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

SPECIFICATION

Switch rating:	6A @ 240Vac
Std. cable length:	5m (16.40 ft)
Min. switching level difference:	250mm (9.84")
Max. std. switching level diff:	1200mm (47.24")
Materials of construction:	Polypropylene & PVC
Min. fluid S.G.:	0.7
Ambient temperature:	0 to 55°C (32 to 131°F)
Max. ext. pressure:	200kPa
Protection:	IP68
Dimensions:	170 x 155mm (6.69 x 6.10")
Weight:	1.5kg (3.31 lb)

Part code	Description
LS-FL-1H	High Level, Alarm Switch
LS-FL-1L	Low Level, Alarm Switch
LS-FL-2H	Emptying Pump, Control Switch

Part code	Description
LS-FL-2L	Filling Pump, Control Switch
LS-FL-2LH	High & Low Level Alarm Switch

Data sheet: [LS-FL.pdf](#)

LS-MC

Ultrasonic Level Transmitter



The LS-MC is an ultrasonic level transmitter for measurement of liquids in tanks or sumps. The 4-20mA output represents the distance between the surface of the liquid being detected and the sensor. The LS-MC has an integral LCD display, three push buttons under the lid for security, and just eight parameters to set making it one of the simplest ultrasonic level transmitters to calibrate and use.

FEATURES

- IP65 housing
- Fast speed of response, as much as 10m (32.8 ft) per minute
- Locking nut supplied



Want to make this sensor wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

SPECIFICATION

Measurement range:	0.3 to 8m (0.98 to 26.25 ft)
Output:	4-20mA
Supply:	12 to 30Vdc loop powered
Display:	Integral 4-digit LCD
Resolution:	Better than 1mm (0.04")
Temperature range:	-20 to +70°C (-4 to +158°F)
Material:	Transducer: PVDF Housing: Glass filled nylon
Dimensions:	205.5 x 141mm overall (8.09 x 5.55")
Protection:	IP65
Weight:	1.25kg (2.76 lb)

Part code	Description
LS-MC	Ultrasonic Level Transmitter
Accessories	
LS-NUT	Additional fixing nut
LS-FK	Adaptor flange for LS-UL3 fixings

Data sheet: [LS-MC.pdf](#)

LS-S

Compact Liquid Level Switch



A range of level switches designed for high and low liquid level detection in tanks and vessels. The LS-S types are for side mounting, type 1 switches fit from the inside of the tank and tighten on to a back nut whilst the type 2 switches mount from the outside into a tapered boss.

The LS-TM is an easy to install Top Mounting Level Switch, and has a reversible float so that it can be used for either high or low level alarms. The float is suspended from a 5 metre (16.4 ft) PVC cable with a polyethylene weight and is fully submersible and adjustable.

FEATURES

- Low cost solution
- Easy to install
- Reliable switching

SPECIFICATION

Switch rating:	LS-SN	230Vac/200Vdc @ 0.5A max.
	LS-SS	300Vac/350Vdc @1A max.
	LS-TM	240Vac/200Vdc @ 0.5A max.
Contact (LS-TM):	N/O. reversible to N/C	
Material:	LS-SN	Polypropylene
	LS-SS	Stainless steel 316
	LS-TM	Cable
		Float
		Weight
		Polypropylene
Tank fixing:	LS-SN-1	M16 back nut
	LS-SS-1	M8 back nut
	LS-SN-2	½" NPT
	LS-SS-2	½" PF
	LS-TM	1¼" BSP
Operating range:	LS-SN & LS-TM	-20 to +80°C (-4 to +176°F)
	LS-SS	-20 to +120°C (-4 to +248°F)
Dimensions:	115 x 65mm (4.53 x 2.56")	
Weight:	280g max. (0.62 lb)	

Part code	Description
Polypropylene Float Switches	
LS-SN-1	Internal fixing to M16 back nut
LS-SN-2	½" NPT external fixing
Stainless Steel Float Switches	
LS-SS-1	Internal fixing to M8 back nut
LS-SS-2	½" PF external fixing
Top Mounting Reversible Float Switch	
LS-TM	Top Mounting Level Switch

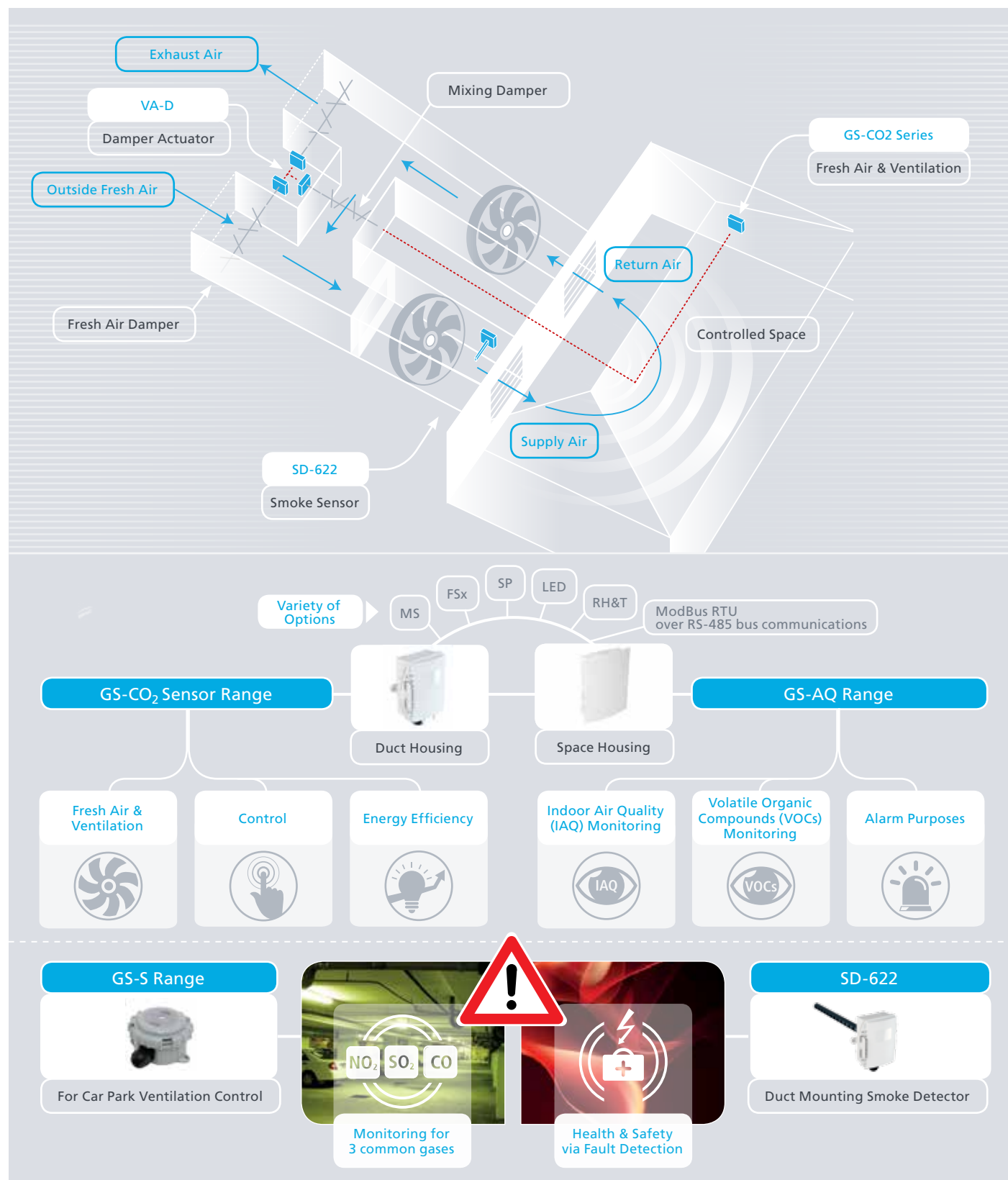
Data sheets: [LS-S.pdf](#) · [LS-TM.pdf](#)



Want to make this switch wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Air Quality & Gas Sensing

Sontay offer a wide range of air sensing products



GS-AQ

Space & Duct Air Quality Sensors



The GS-AQ series of air quality transmitters are designed for use with the control of fresh air for ventilation purposes.

They determine the air quality through measurement of Volatile Organic Compounds (VOC's) and other mixed gases. This signal can be used to control fresh air fans and dampers according to the ventilation load.

The -UN has a single output which automatically determines whether to run in current or voltage mode. no more jumpers or switches to worry about.

FEATURES

- Selectable 0-10Vdc, 0-5Vdc or 4-20mA output
- Self-detecting output (-UN types)
- Direct thermistor options available
- Fully configurable LCD display option

INTERFACE RESTRICTIONS (wall types only)

- SP only
- MS only
- SP-MS only
- SP-FS only

SPECIFICATION

Active Outputs:

Voltage	0-10Vdc or 0-5Vdc
Current	4-20mA (3-wire)
-UN Types	Self-detecting 0-10Vdc or 4-20mA (not loop powered)

Optional Passive Outputs (space types only):

Setpoint	2-wire 11-1kΩ/0-10kΩ. linear
Override	VFC
Fan Speed	Resistive

Other Options:

PTC/NTC Element Any Sontay resistive type*

Power Supply:

	12 - 26Vac or 16 - 26Vdc
-UN types	24Vac/dc

Ambient:

Temperature	(Wall types) 0 to 50°C (32 to 122°F)
	(Duct types) -30 to +70°C (-22 to 158°F)
RH	0 to 95% RH, non-condensing

Housing:

(Wall types)	115 x 85 x 28mm (4.53 x 3.35 x 1.10")
(Duct types)	116 x 106 x 52mm (4.57 x 4.17 x 2.05")

Probe:

215 x 19mm dia. (8.45 x 0.75")

Material:

(Wall types)	ABS (Flame retardant) RAL9003
(Duct types)	ABS (Flame retardant)

Protection:

(Wall types)	IP30
(Duct types)	IP65

Weight:

(Wall types)	180g (0.40 lb)
(Duct types)	240g (0.53 lb)



Notes:

- * -T version uses a thermistor element for direct measurement of temperature. Please specify thermistor type when ordering. Please see pages 82-85 for Thermistor Types and Compatibility Chart.
- * Not available on UN versions

Part code	Description
	Duct Mounting Sensors
GS-AQ622	Duct Air Quality Transmitter
GS-AQ622-UN	Duct Air Quality Transmitter Single Analogue Output
	Suffixes (add to part code)
-ACT	Active temperature output*
-TR	Custom temperature output range*
-T	Direct resistive temperature output*
-LCD	Integral LCD display

Data sheets:

UN-1000.pdf · UN-600.pdf · GS-AQ1000.pdf · GS-AQ622.pdf



Part code	Description
	Wall Mounting Sensors
GS-AQ1000	Space Air Quality Sensor
GS-AQ1000-UN	Space Air Quality Transmitter Single Analogue Output
	Suffixes (add to part code)
-T	Direct resistive temperature output *
-SP	2-wire, 11-1kΩ/0-10kΩ setpoint
-MS	Momentary switch
-FS3	3-speed fan switch (1. 2. 3)
-FS4	4-speed fan switch (off.1. 2. 3.)
-FS5	5-speed fan switch (off.1. 2. 3. auto)
-LCD	Integral LCD display
-ACT	Active Output-Temperature*
-TR	Custom temperature output range*
	Accessories
DECOR	Decorators trim plate
GASKET	Insulating gasket (pack of 10)



Want to make this sensor wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

GL-CO

Gas Leak Alarm Systems



A range of stand-alone gas leak alarm Systems for use in commercial / industrial gas installations to provide safety alarm and shutdown facilities on detection of gas leakage.

FEATURES

- 1, 2 & 3 channel options
- Audio and visual alarms
- Adjustable alarm sensitivity
- Relay output for gas shut-off valves
- Relay output for remote alarms
- Auto or manual reset selectable
- Self-diagnosis fault system

SPECIFICATION

Power supply:	230Vac $\pm 10\%$ @ 50/60Hz or 12V $\pm 10\%$
Relay output(s):	GL-CO-RFG-361 SPDT. 250V @ 5(1)A GL-CO-RFG-65x 2 x SPDT. 250V @ 5(1)A
Materials:	Base Nylon Cover ABS
Ambient:	Storage temp. -25 to $+60^{\circ}\text{C}$ (-13 to $+140^{\circ}\text{F}$) Operating temp. 0 to 45°C (32 to 113°F) Relative humidity Class F DIN 40040
Protection:	IP40
Weight:	GL-CO-RFG-361 250g (0.55 lb) GL-CO-RFG-65x 600g (1.32 lb)

SENSOR TYPES

Natural Gas Sensor:	GL-CO-SRS-150
Propane Sensor:	GL-CO-SRS-250
Carbon Monoxide Sensor:	GL-CO-SRS-350

Part code	Description
Controllers (DIN-rail mount)	
GL-CO-RFG-361	1-channel, 1 x SPDT
GL-CO-RFG-651	1-channel, 2 x SPDT
GL-CO-RFG-652	2-channel, 2 x SPDT
GL-CO-RFG-653	3-channel, 2 x SPDT
Options	
GL-CO-RFG-FMK3	Panel door mounting kit for RFG361
GL-CO-RFG-FMK6	Panel door mounting kit for RFG65x
GL-CO-RFG-WMK6	Wall mounting kit for RFG65x
Sensors	
GL-CO-SRS-150	Combustibles Sensor (natural gas)
GL-CO-SRS-250	Propane/LPG Sensor
GL-CO-SRS-350	Carbon Monoxide Sensor

Data sheets: [GL-CO-RFG361.pdf](#) · [GL-CO-RFG65x.pdf](#)

GS-S

Gas Sensors



The GS-S range of 4-20mA loop powered gas sensors are fitted into a robust housing, to detect the following gases:

- Nitrogen dioxide (NO_2)
- Oxygen (O_2)
- Sulphur dioxide (SO_2)

FEATURES

- 4-20mA output
- Wide supply voltage range (7.5 to 35Vdc)
- Excellent long term stability
- Accuracy unaffected by position

SPECIFICATION

Temp. range:	-30 to $+50^{\circ}\text{C}$ (-22 to $+122^{\circ}\text{F}$)
RH range:	15 to 90% non-condensing
Output:	4-20mA
Supply:	7.5 to 35Vdc
Output impedance:	825 Ω
Housing material:	ABS (flame retardant)
Protection:	IP65 (housing only, suitable for internal mounting only)
Dimensions:	95 x 90mm dia. (3.74 x 3.54" dia.)
Weight:	160g (0.35 lb)



Want to make this sensor wireless – check out our RF-IOM wireless IO module in the SonNet section on page 52.

Part code	Range	Resolution
NO_2 – Nitrogen Dioxide Sensors		
GS-S-ND10	0 to 10ppm	0.1ppm
O_2 – Oxygen Sensor		
GS-S-OX25	15 to 25%	0.1%

Data sheet: [GS-S-x.pdf](#)

Part code	Range	Resolution
SO_2 – Sulphur Dioxide Sensor		
GS-S-SD20	0 to 20ppm	0.5ppm

Data sheet: [GS-S-x.pdf](#)



Note: These units are not intended for use in life safety applications.



Using a non-dispersive infrared sensor for measuring CO₂ concentrations and utilizing microprocessor based electronics, they offer long-term stability and accuracy. Transmitters are available with active temperature and RH outputs, as well as a directly connected passive resistive temperature output along with other passive outputs.

The -UN has a single output which automatically determines whether to run in current or voltage mode, no more jumpers or switches to worry about.

The sensor can be used to ensure adequate ventilation while maximizing energy savings by ventilating at the optimum level, making these ideal for all types of ventilation in commercial buildings, industrial plants, laboratories and public spaces, such as schools.



FEATURES

- Selectable 0-10Vdc, 0-5Vdc or 4-20mA output
- Self -detecting output (UN Types)
- Direct thermistor options available
- Fully configurable LCD display option
- "Traffic Light" LED CO₂ indication option

INTERFACE RESTRICTIONS (wall types only)

- SP only
- MS only
- SP-MS only
- SP-FS only

SPECIFICATION

Active Outputs:	Voltage	-10Vdc or 0-5Vdc
	Current	4-20mA (3-wire)
	-UN TypesSelf-detecting 0-10Vdc or 4-20mA (not loop powered)	
Optional Passive Outputs	(space types only):	
	Setpoint	2-wire 11-1kΩ/0-10kΩ. linear
	Override	VFC
	Fan Speed	Resistive
Other Options:	PTC/NTC Element Any Sontay resistive type*	
Power Supply:	12 - 26Vac or 16 - 26Vdc	
	-UN types	24Vac/dc
Output Ranges:	CO ₂	0 to 2000ppm
	Temperature*	
	Wall types	0 to 40°C (32 to 104°F)
	Duct types	-20 to +50°C (-22 to 158°F)
Optional*:	-RHT	0 to 100% RH
	-HR	0 to 5000ppm
	-TR	Custom temperature output range
LED Indication:	3-colours. indicating CO ₂ levels	
	Green	optimal
	Yellow	moderate
	Red	poor
Ambient:	Temperature	Wall types 0 to 50°C (32 to 122°F)
		Duct types -30 to +70°C (-22 to 158°F)
		RH 0 to 95% RH, non-condensing
Housing:	Wall types	115 x 85 x 28mm (4.53 x 3.35 x 1.10")
	Duct types	116 x 106 x 52mm (4.57 x 4.17 x 2.05")
Probe:	215 x 19mm dia. (8.45 x 0.75")	
Material:	Wall types	ABS (Flame retardant) RAL9003
	Duct types	ABS (Flame retardant)
Protection:	Wall types	IP30
	Duct types	IP65
Weight:	Wall types	200g (0.44 lb)
	Duct types	250g (0.55 lb)

Part code	Description
Duct Mounting Sensors	
GS-CO2-622	Duct CO ₂ and Temperature transmitter 0-2000ppm
GS-CO2-RHT-622	Duct CO ₂ and RH & Temperature transmitter 0-2000ppm
GS-CO2-622-UN	Duct CO ₂ transmitter 0-2000ppm Single Output Analogue
Suffix (add to part code)	
-T	Direct resistive temperature output*
-HR	0-5000ppm CO ₂ range
-LCD	Integral LCD display
-LED	3-colour LED indication for CO ₂
-TR	Custom temperature output range*

Data sheets:

[GS-CO2-1001.pdf](#) · [GS-CO2-622.pdf](#) · [UN-1000.pdf](#) · [GS-1000.pdf](#)



Notes:

* -T version uses a thermistor element for direct measurement of temperature. Please specify thermistor type when ordering. Please see pages 82-85 for Thermistor Types and Compatibility Chart.

* Not available in UN Versions.

Part code	Description
Wall Mounting Sensors	
GS-CO2-1001	Space CO ₂ and Temperature transmitter 0-2000ppm
GS-CO2-RHT-1001	Space CO ₂ and RH & Temperature transmitter 0-2000ppm
GS-CO2-1000-UN	Space CO ₂ transmitter 0-2000ppm Single Output Analogue
Suffix (add to part code)	
-T	Direct resistive temperature output*
-SP	2-wire. 11-1kΩ/0-10kΩ setpoint
-MS	Momentary switch
-FS3	3-Speed fan switch (1. 2. 3)
-FS4	4-Speed fan switch (off. 1. 2. 3)
-FS5	5-Speed fan switch off. (1. 2. 3. auto)
-HR	0-5000ppm CO ₂ range
-LCD	Integral LCD display
-LED	3-colour LED indication for CO ₂
-TR	Custom temperature output range*
Accessories	
DECOR	Decorators trim plate
GASKET	Insulating gasket (pack 10)



WIRELESS TECHNOLOGY

Did you know we also sell wireless CO₂ sensors in our SonNet range? Go to page 44 for more details.

GS-S-CO

Carbon Monoxide Sensors



Sontay's range of CO sensors offer real time detection for Carbon Monoxide measurement.

All sensor types have user selectable outputs, voltage or current and use a long life electrochemical Carbon Monoxide sensor making these ideal for many applications including underground parking, loading bays and warehouses.

FEATURES

- 5 Year sensor lifetime
- Accurate and reliable
- User selectable output
- Robust housing for industrial application options



Want to make this sensor wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Part code	Description
GS-S-CO-W-K	CO Sensor 0-100ppm
GS-S-CO-W-P	CO Sensor 0-1000ppm
GS-S-CO-W-K-M	CO Sensor 0-100ppm With Modbus Output
GS-S-CO-W-P-M	CO Sensor 0-1000ppm With Modbus Output
Duct Mounting Sensors	
GS-CO-622	Duct CO Transmitter
Wall Mounting Sensors	
GS-CO-1000	Space CO Transmitter
Suffix (add to part code)	
-T	Direct resistive temperature output*
-SP	2-wire, 11-1kΩ/0-10kΩ setpoint
-MS	Momentary switch
-FS3	3-Speed fan switch (1. 2. 3)
-FS4	4-Speed fan switch (off. 1. 2. 3)
-FS5	5-Speed fan switch off. (1. 2. 3. auto)
-ACT	Active temperature output
-TR	Custom temperature output range*

SPECIFICATION

Outputs:	4-20mA (3-wire)
	GS-S-CO types 0-10Vdc
	GS-CO types 0-10Vdc or 0-5Vdc
Power Supply:	24Vac/dc ±10%
Output Ranges:	
	GS-S-CO types 0 to 100ppm / 0 to 1000ppm
	GS-CO types 0 to 160ppm
Optional Outputs (GS-CO types only):	
	Active Temperature Voltage/current
	PTC/NTC Element Any Sontay resistive type
(Space types only*)	
	Setpoint 2-wire 11-1kΩ/0-10kΩ, linear
	Override VFC
	Fan Speed Resistive
Housing:	
	GS-S-CO types
	Housing 100 x 80 x 50mm (3.94 x 3.15 x 1.97 ")
	Probe 69 x 26mm dia. (2.72 x 1.02" dia.)
	GS-CO types
	Wall types 115 x 85 x 28mm (4.53 x 3.35 x 1.10")
	Duct types 116 x 106 x 52mm (4.57 x 4.17 x 2.05")
	Probe: 215 x 19mm dia. (8.45 x 0.75")
Material:	
	GS-CO-1000 ABS (Flame retardant) RAL9003
	Other types ABS (Flame retardant)
Ambient:	
	Temperature Wall types 0 to 50°C (32 to 122°F)
	Duct types -30 to +70°C (-22 to 158°F)
	RH 0 to 95% RH, non-condensing
Protection:	
	Wall types IP30
	Duct types IP65
Weight:	
	GS-S-CO 260g (0.57 lb)
	GS-CO-622 250g (0.55 lb)
	GS-CO-1000 200g (0.44 lb)



Part code	Description
Accessories	
DECOR	Decorators trim plate
GASKET	Insulating gasket (pack 10)

Data sheets: [GS-S-CO-W.pdf](#) • [GS-CO-622.pdf](#) • [GS-CO-1000.pdf](#)



Notes:

- * -T version uses a thermistor element for direct measurement of temperature. Please specify thermistor type when ordering.

SD-622

Duct Smoke Detector



The SD-622 provides relay outputs on the detection of smoke or fault conditions. The alarm output relay can be either manual or auto reset depending on application type.

FEATURES

- Manual or auto reset
- Fault relay output
- Self-test feature



Want to make this detector wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Part code	Description
SD-622	Duct Smoke Detector

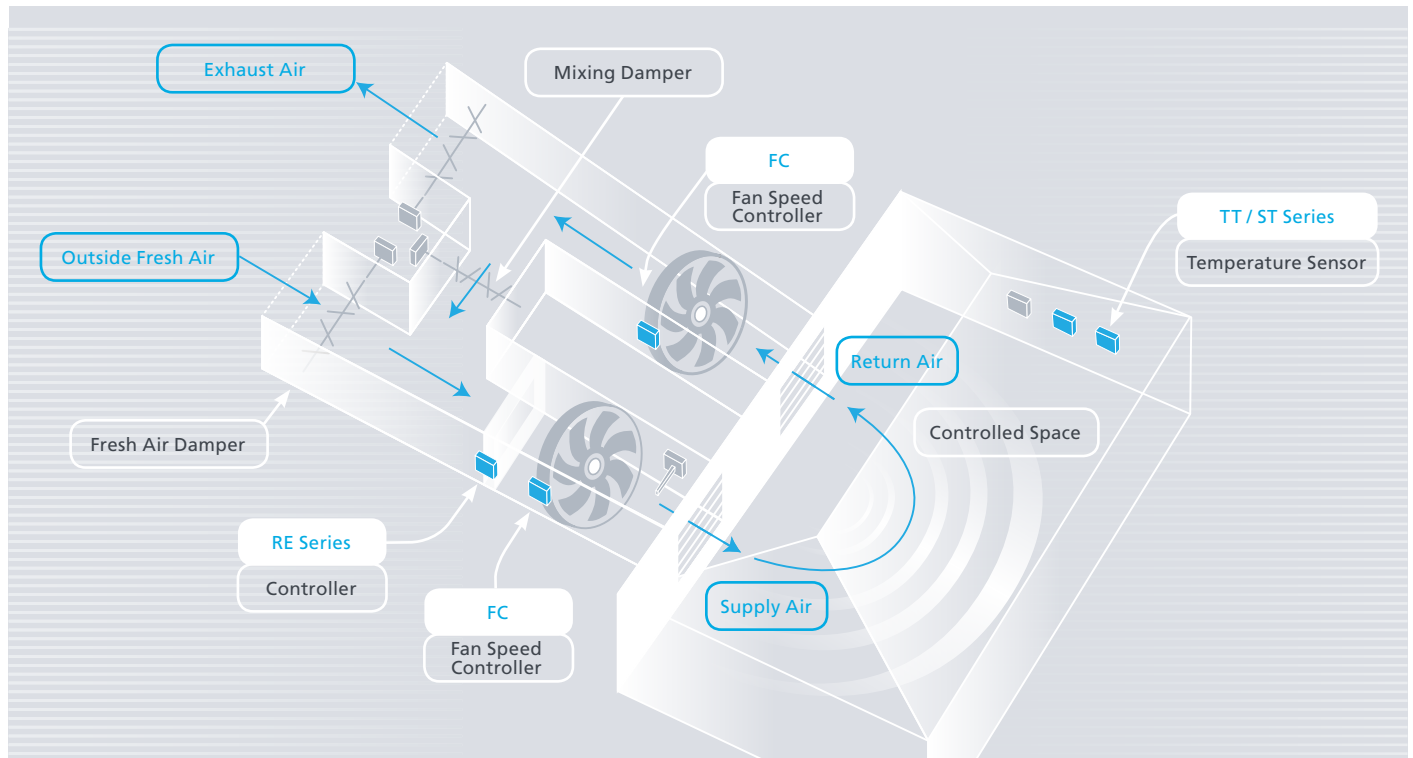
Data sheet: [SD-622.pdf](#)

SPECIFICATION

Supply voltage:	24Vac/dc, ±20%
Power consumption:	50mA max.
Relay outputs	
(smoke & fault):	SPST 2A @ 48V
Minimum duct size:	100 x 320mm (3.94 x 12.60")
Maximum duct size:	450 x 450mm (17.72 x 17.72")
LED indication:	On in alarm
Reset:	Manual or auto reset, selectable
Housing:	
	Material ABS (flame retardant type VO)
	Dimensions 116 x 106 x 52mm (4.57 x 4.17 x 2.05")
Probe:	
	Material Plastic
	Dimensions 300 x 20mm (11.81 x 0.79") diameter
Ambient range:	
	Temperature 10 to 40°C (50 to 104°F)
	Ambient 20 to 80% non-condensing
Protection:	IP65
Weight:	350g (0.77 lb)



Controllers



FC Fan Speed Controller Range

For fans and suitable single-phase AC electric motors.



FC Speed Controller

Close Control at Optimal Speeds



Accurate Duct Pressure Maintenance



Manual and Automatic Variants



RE Electric Heater Battery Controllers

Are used to accurately modulate the heating output of single and 3-phase heaters.



RE Single Phase & 3-Phase Controller

Accurately Modulate the Heating Output



Automatic Reset & Alarm Function



FC-MTY

Manual Speed Controllers for small motors



Manual control for small, single-phase motors up to 4 amps. Suitable for wall and/or flush mounting.

SPECIFICATION

Nominal supply:	230Vac, 1-phase, 50Hz
Control type:	Manual via potentiometer
On/off switch:	Inbuilt with pot.
Pot. action:	Clockwise = min. to max. speed
Minimum speed:	Adjustable via trim pot
Current ratings:	FC-MTY-1 0.1 to 1.0A
	FC-MTY-2 0.2 to 2.0A
	FC-MTY-4 0.4 to 4.0A
Fuse:	20mm 'FF' type
Fuse ratings:	FC-MTY-1 FF 1.25A
	FC-MTY-2 FF 2.5A
	FC-MTY-4 FF 5A
Mounting style:	Wall and flush mount (FC-MTY-4 wall mount only)
Protection:	FC-MTY-1 IP44
	FC-MTY-2 IP44
	FC-MTY-4 IP54
Dimensions:	Wall mount 82 x 82 x 65mm (3.23 x 3.23 x 2.56")
	Flush mount 82 x 82 x 56mm (3.23 x 3.23 x 2.20")
Weight:	360g max. (0.79 lb)

Part code Description

FC-MTY-1	1A. 230V, 1-phase Controller
FC-MTY-2	2A. 230V, 1-phase Controller
FC-MTY-4	4A. 230V, 1-phase Controller

[Data sheet: FC-MTY.pdf](#)

FC-STL

Manual Speed Controllers



This range of manual speed controllers provide single-phase voltage control for AC motors, by varying the supplied voltage through phase-angle control.

SPECIFICATION

Nominal supply:	230Vac. 1-phase. 50Hz
On/off switch:	Separate to potentiometer, mounted on side
Starting sequence:	Full speed for 6 to 7 secs
Pot. action:	Clockwise = max. to min. speed
Minimum speed:	Adjustable via trim pot.
Current ratings:	FC-STL-3D 0.3 to 3.0A
	FC-STL-5D 0.2 to 5.0A
	FC-STL-10D 0.5 to 10.0A
Fuse:	20mm 'FF' type
Fuse ratings:	FC-STL-3D FF 5A
	FC-STL-5D FF 8A
	FC-STL-10D FF 16A
Mounting style:	Wall mount
Protection:	IP54
Dimensions including cable gland:	FC-STL-3D 160 x 83 x 66mm (6.30 x 3.27 x 2.60")
	FC-STL-5D 160 x 83 x 81mm (6.30 x 3.27 x 3.19")
	FC-STL-10D 178 x 113 x 102mm (7.01 x 4.45 x 4.02")
Weight:	740g max. (1.63 lb)

Part code Description

FC-STL-3D	3A. type D. 1-phase Controller
FC-STL-5D	5A. type D. 1-phase Controller
FC-STL-10D	10A. type D. 1-phase Controller

[Data sheet: FC-STL.pdf](#)

RE-PR1

1.5, 3 and 6kW. Single-phase Controllers



This range of triac control assemblies provide full seamless control of single phase electric heating loads.

The controllers incorporate a temperature trip, automatic reset, integral semi-conductor fuses and heatsink.

FEATURES

- 0-10Vdc or 0-5Vdc control input
- Over temperature protection with auto reset
- No additional heatsinks required
- No external 24V supply required
- No external RFI filters required

SPECIFICATION

Input signal:	0-5Vdc or 0-10Vdc
Supply:	230Vac RMS $\pm 10\%$. 50/60Hz
Over temp:	Trip-in temp. @ 90°C (194°F) $\pm 1^\circ\text{C}$ ($\pm 1.8^\circ\text{F}$)
	Trip-out temp. @ 85°C (185°F) $\pm 1^\circ\text{C}$ ($\pm 1.8^\circ\text{F}$)
Fault condition:	Over temp. LED flashes in 0.5 sec pulse bursts
	Loss of signal LED flashes in 1 sec pulse bursts
Ambient temp:	65°C (149°F) – maximum operational
Dimensions:	RE-PR1-F-1.5 112 x 95 x 75mm (4.41 x 3.74 x 2.95")
	RE-PR1-F-3 112 x 95 x 75mm (4.41 x 3.74 x 2.95")
	RE-PR1-F-6 112 x 95 x 85mm (4.41 x 3.74 x 3.35")
Weights:	RE-PR1-F-1.5 - 280g (0.62 lb).
	RE-PR1-F-3 - 280g (0.62 lb)
	RE-PR1-F-6 - 700g (1.54 lb)

Part code Description Current rating

RE-PR1-F-1.5	1.5kW Controller	6.3A
RE-PR1-F-3	3kW Controller	12.5A
RE-PR1-F-6	6kW Controller	25A

Part code Description

	Accessories
RE-PR1-F15102	1.5kW Replacement fuse
RE-PR1-F15103	3kW Replacement fuse
RE-PR1-F11307	6kW Replacement fuse
RE-PR1-F-6-GD	Replacement 6kW guard

[Data sheet: RE-PR1-F.pdf](#)



Want to make these controllers wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

RE-PR3

12 and 18kW. 3-phase Controllers



The RE-PR3-DIN-xx range of thyristor stacks provides full seamless control of 415V supply loads. They incorporate a temperature trip, automatic reset, alarm output, LED indication (output on) and heatsink.

FEATURES

- 0-10Vdc control input
- Over temperature protection with auto reset
- No additional heatsinks required

Part code	Description	Current rating
RE-PR3-DIN-12	12kW Controller	16.7A per phase
RE-PR3-DIN-18	18kW Controller	25A per phase

Data sheet: [RE-PR3-DIN.pdf](#)

SPECIFICATION

Input signal:	0-10Vdc
External supply:	(control) 24Vac/dc $\pm 10\%$. 50Hz
Supply:	(load) 3-Phase. 400Vac RMS $\pm 10\%$. 50Hz
Fault condition:	24Vac/dc (as power supply)
	24V alarm terminal normally present, drops to 0V in the event of over-temp. or loss of external power supply
LED indication:	T1 & T3 LED pulse when output is 'ON'
Mounting:	DIN-rail
Ambient temp:	40°C (104°F) – max. operational
Dimensions:	RE-PR3-DIN-12 217 x 92 x 85mm (8.54 x 3.62 x 3.35")
	RE-PR3-DIN-18 217 x 92 x 107mm (8.54 x 3.62 x 4.21")
Weights:	RE-PR3-DIN-12 600g (1.32 lb)
	RE-PR3-DIN-18 960g (2.12 lb)

RE-PR3-E

25. 36. 54. 86 and 105 kW. 3-phase Controllers



These thyristor control assemblies provide full seamless control of 3-phase resistive loads of up to 25, 36, 54, 86 and 105 kW.

The controllers incorporate a temperature trip, automatic reset, alarm output, LED indication (output on) and heatsink.

FEATURES

- 0-5Vdc, 0-10Vdc or 4-20mA control input
- Over temperature protection with auto reset
- No additional heatsinks required
- No external 24V supply required

SPECIFICATION

Input signal:	0-5Vdc, 0-10Vdc or 4-20mA
Supply:	(control) 24Vac/dc $\pm 10\%$ (by dipswitch)
	(load) 3-Phase, 400Vac RMS $\pm 10\%$, 50/60Hz
Over temp:	Trip-in temp. @ 90°C (194°F) $\pm 1^\circ\text{C}$ ($\pm 1.8^\circ\text{F}$)
	Trip-out temp. @ 85°C (185°F) $\pm 1^\circ\text{C}$ ($\pm 1.8^\circ\text{F}$)
Fault condition:	Relay rated at 230Vac @ 8A
Fault status:	Phase loss – LED flashes in 1.5 sec pulse bursts
	Sensor loss – LED flashes in 0.5 sec pulse bursts
Ambient temp:	65°C (149°F) – maximum operational
Mounting:	Panel
Dimensions:	RE-PR3-E -25 150 x 240 x 100mm (5.91 x 9.45 x 3.94")
	-36 205 x 155 x 120mm (8.07 x 6.10 x 4.72")
	-54 250 x 155 x 120mm (9.84 x 6.10 x 4.72")
	-86 & 105 340 x 232 x 124mm (13.39 x 9.13 x 4.88")
Weights:	RE-PR3-E -25 3.0kg (6.61 lb)
	-36 3.6kg (7.94 lb)
	-54 3.6kg (7.94 lb)
	-86 & 105 6.6kg (14.55 lb)

Part code	Description	Current rating
RE-PR3-E-25	25 kW Controller	38A per phase
RE-PR3-E-36	36 kW Controller	50A per phase
RE-PR3-E-54	54 kW Controller	75A per phase
RE-PR3-E-86	86 kW Controller	120A per phase
RE-PR3-E-105	105 kW Controller	146A per phase

Note: Larger sizes are available on request.

Part code	Description
Accessories	
RE-PR3-F11310	25kW Replacement fuse
RE-PR3-F11511	36kW Replacement fuse
RE-PR3-F11513	54kW Replacement fuse
RE-PR3-F11606	86kW Replacement fuse
RE-PR3-F11610	105kW Replacement fuse

Data sheets: [RE-PR3-E-25.pdf](#) • [RE-PR3-E-36&54.pdf](#) • [RE-PR3-E-86&105.pdf](#)

FC-ERV

Fan Speed Controllers



The FC-ERV can control the speed of single-phase, voltage controllable electric motors, with a 0-10Vdc or 4-20mA control signal.

Centrifugal fans, axial fans, propeller fans and centrifugal pumps are prime candidates for electronic speed control.



Want to make these controllers wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Part code	Description
FC-ERV-1	1A. 230V, 1-phase Controller
FC-ERV-3	3A. 230V, 1-phase Controller
FC-ERV-5	5A. 230V, 1-phase Controller
FC-ERV-10	10A. 230V, 1-phase Controller

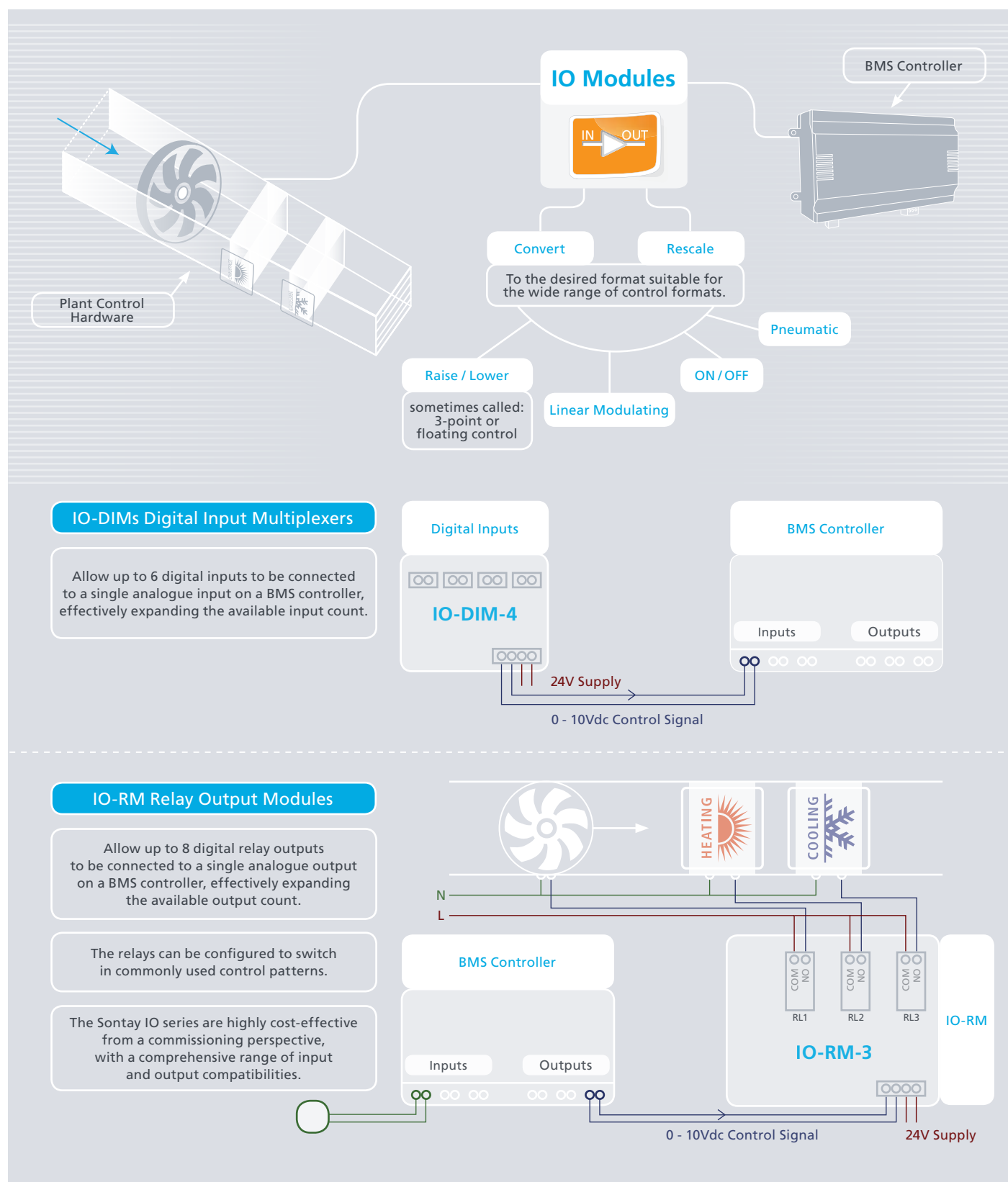
Data sheet: [FC-ERV.pdf](#)

SPECIFICATION

Nominal supply:	230Vac, 1-phase, 50Hz
Control type:	Automatic from remote signal
On/off switch:	Mounted on side
Remote signal:	Two wire 4-20mA or 0-10Vdc
Starting speed:	According to signal value
Minimum speed:	Adjustable via trim pot.
Current ratings:	FC-ERV-1 0.1 to 1.5A
	FC-ERV-3 0.1 to 3.0A
	FC-ERV-5 0.5 to 5.0A
	FC-ERV-10 0.5 to 10.0A
Fuse:	20mm 'FF' type
Fuse ratings:	FC-ERV-1 FF 3A
	FC-ERV-3 FF 5A
	FC-ERV-5 FF 10A
	FC-ERV-10 FF 16A
Mounting style:	Wall mount
Protection:	IP54
Dimensions including cable gland:	178 x 113 x 92mm (7.01 x 4.45 x 3.62")
Weight:	810g max. (1.79 lb)

IO Modules

Sontay offer a wide range of input/output modules



IO-A

Signal Conditioning



For signal rescaling, the IO-A-RM can accept either a voltage or current input which can be rescaled to either a voltage or current output. The signal rescaling is achieved by using the trimming potentiometers and jumpers links. The IO-A-RM can also reverse an input signal.



The IO-A-UD accepts a raise/lower relay signal and provides a 0-10Vdc output. Additional features include Hand/Off/Auto jumper for manual override, LED status indication and selectable hysteresis.

FEATURES

- Field selectable ranges
- LED Status
- Voltage to current, current to voltage conversion (IO-A-RM)
- Current or voltage outputs (IO-A-UD)

SPECIFICATION

Input signals:	IO-A-RM	Voltage	0 to 25Vdc max.
		Current	0 to 44mA max.
	IO-A-UD	Relay contact, transistor, triac, 24Vac 50/60Hz	
Input ranges:	IO-A-UD	45. 60 or 240 seconds, selectable	
Output signals:	IO-A-RM	Voltage	0.25 to 20Vdc max.
		Current	1 to 44mA max.
	IO-A-UD	Voltage	0-10Vdc 3.3KΩ min.
		Current	4-20mA 750Ω max.
Power supply:	IO-A-RM	24Vac/dc ±10%, 200mA max.	
	IO-A-UD	21.6 to 28Vdc or 24 to 35Vdc	
Ambient range:	Temperature	-10 to +50°C (14 to 122°F)	
		RH 10 to 95% RH non-condensing	
Dimensions:	IO-A-RM	93 x 60 x 40mm (3.66 x 2.36 x 1.57")	
	IO-A-UD	96 x 58 x 30mm (3.78 x 3.15 x 1.18")	
Weight:		60g (0.13 lb)	

Part code	Description
IO-A-RM	Analogue Rescaling Module
IO-A-UD	R/L to Analogue Module

Data sheets: [IO-ARM.pdf](#) · [IO-AUD.pdf](#)

IO-ABM4

Analogue Override Module



Intended for applications which require independent manual override of analogue output channels from a BMS controller, as a fail-safe in the event of controller failure.

Enables actuators to be manually overridden from the panel where local access is difficult. Also useful for commissioning or temporary control of plant prior to controller installation.

FEATURES

- 4 x 0-10Vdc channels
- Hand/off/auto link selectable
- Manual adjustment of output signal
- 24Vac/dc powered
- Up to four outputs to be controlled from one input
- Direct or buffered output signals

SPECIFICATION

Input signals:	0-10Vdc
Output signals:	0-10Vdc direct or buffered
Max. output current:	20mA per channel in buffered mode
Power supply:	24Vac/dc ±15%
Max. supply current:	AC supply 260mA DC supply 115mA
Fused output:	24Vac @ 8A
Fuse:	8A max.
Ambient range:	-10 to +50°C (14 to 122°F)
Dimensions:	104 x 106 x 70mm (4.09 x 4.17 x 2.76")
Weight:	110g (0.24 lb)

Part code	Description
IO-ABM4	4-channel Module

Data sheet: [IO-ABM4 .pdf](#)

IO-DIM

Digital Input Multiplexers



These modules are intended for use with BMS controllers to expand their input capacity by multiplexing four or six digital signals, or 4 or 6 x 24Vac/dc inputs into a single analogue controller unit. Each combination of input states corresponds to an analogue value from the IO-DIM4 and IO-DIM6 which can be decoded into four or six digital status bits.



FEATURES

- Fault finding LED indication
- Input status indication
- Input status simulation
- Expands controller input capacity
- Self calibrating output

SPECIFICATION

Inputs:	VFC, 24Vac or 24Vdc
Outputs:	0-10Vdc into 2kΩ impedance 4-20mA into 500Ω max.
Power supply:	24Vac ±15% @ 50Hz or 24Vdc +15% - 6%
Current:	35mA max. voltage output mode 55mA max. current output mode
LED indication:	Supply OK, supply voltage low, supply voltage high, current output (4-20mA output only)
Ambient range:	Temperature -10 to +50°C (14 to 122°F)
	RH 0 to 80% non-condensing
Dimensions:	IO-DIM-4 75 x 55 x 42mm (2.95 x 2.17 x 1.65")
	IO-DIM-6 75 x 75 x 42mm (2.95 x 2.95 x 1.65")
Weight:	IO-DIM-4 80g (0.18 lb)
	IO-DIM-6 100g (0.22 lb)

Part code	Description	Volume Price Breaks
IO-DIM-4	4 x VFC or 24Vac/dc inputs, selectable output	See Price List
IO-DIM-6	6 x VFC or 24Vac/dc inputs, selectable output	—

Data sheets: [IO-DIM-4.pdf](#) · [IO-DIM-6.pdf](#)

IO-IIM

Input Isolation Modules



Intended for use with BMS controllers wherever the output signal requires isolation from the supply ground. The IO-IIM accepts either a current loop or voltage input. The module is powered by 24Vac and the output 0V is floating with respect to the input and supply ground.

FEATURES

- 4-20mA, 0-5Vdc, or 0-10Vdc input
- Full opto-isolation between inputs and output

Part code	Description
IO-IIM-I	4-20mA. Input Isolation Module
IO-IIM-V	0-5/0-10Vdc. Input Isolation Module

Data sheet: [IO-IIM.pdf](#)

SPECIFICATION

Input signal:	IO-IIM-I	4-20mA
	IO-IIM-V	0-5Vdc, 0-10Vdc
Output signal:	IO-IIM-I	0-10Vdc
	IO-IIM-V	0-5Vdc or 0-10Vdc
Output current:	20mA max.	
Supply:	24Vac +15% -10%	
Typical current:	80mA + load	
Power supply to sensor:	24Vdc ±5%	
Max. sensor current:	100mA	
Ambient range:	-10 to +50°C (14 to 122°F)	
Dimensions:	75 x 102 x 65mm (2.95 x 4.02 x 2.56")	
Weight:	325g (0.72 lb)	

IO-RM1

Single Relay Modules



A range of relays for use with BMS controllers for switching plant and isolation of input signals. They are supplied complete with DIN-rail mounting base and retaining clip.

Part code	Description	Volume Price Breaks
IO-RM1-12DC	Single Relay, 12Vdc Module	See Price List
IO-RM1-24DC	Single Relay, 24Vdc Module	See Price List
IO-RM1-24AC	Single Relay, 24Vac Module	See Price List
IO-RM1-240AC	Single Relay, 230Vac Module	See Price List

Data sheet: [IO-RM1.pdf](#)

SPECIFICATION

Relay clip:	Auto eject type supplied	
Ambient range:	-10 to +50°C (14 to 122°F)	
Dimensions:	55 x 12 x 50mm (2.17 x 0.47 x 1.97")	
Input signals:	IO-RM1-12DC	10Vdc
	IO-RM1-24AC	24Vac
	IO-RM1-24DC	24Vdc
	IO-RM1-240AC	230Vac
Output contacts:	IO-RM1-12DC	10A resistive
	Others	12A resistive
	IO-RM1-24AC	12A resistive
	IO-RM1-240AC	12A resistive
Weight:	60g (0.13 lb)	

IO-RM

Relay Modules



This range of relay modules is intended for use with BMS controllers to convert an analogue control output to various switching relay modes. The adjustable relay module provides individually adjustable on and off switching points.

Example applications include the control of raise/lower valves, damper actuators, pump changeover and boiler control. LEDs indicate correct operation and Hand/Off/Auto jumpers ease commissioning.

Low current draw from 0-10Vdc controller output means that the IO-RM range works successfully with most BEMS controllers.

FEATURES

- Fault finding LED indication
- Relay status LED indication
- Link selectable switching modes
- On/Off/Auto links for ease of commissioning

SPECIFICATION

Input signal:	0 to 10Vdc <1mA	
Input impedance:	Approx. 11kΩ	
Output contacts:	8A @ 230Vac (resistive load)	
Power supply:	24Vac/dc ±15% @ 50Hz	
Power consumption:	100mA max.	
Ambient range:	Temperature	0 to 40°C (32 to 104°F)
	RH	0 to 80% RH non-condensing
Dimensions:	IO-RM-2 + RM-A	72 x 49.5 x 55mm (2.83 x 1.95 x 2.17")
	IO-RM-3	72 x 64 x 55mm (2.83 x 2.52 x 2.17")
	IO-RM-4	72 x 82 x 55mm (2.83 x 3.23 x 2.17")
	IO-RM-8	72 x 156 x 55mm (2.83 x 6.14 x 2.17")
Weights:	IO-RM-2	100g (0.22 lb)
	IO-RM-3	140g (0.31 lb)
	IO-RM-4	200g (0.44 lb)
	IO-RM-8	300g (0.66 lb)
	IO-RM-A	82g (0.18 lb)

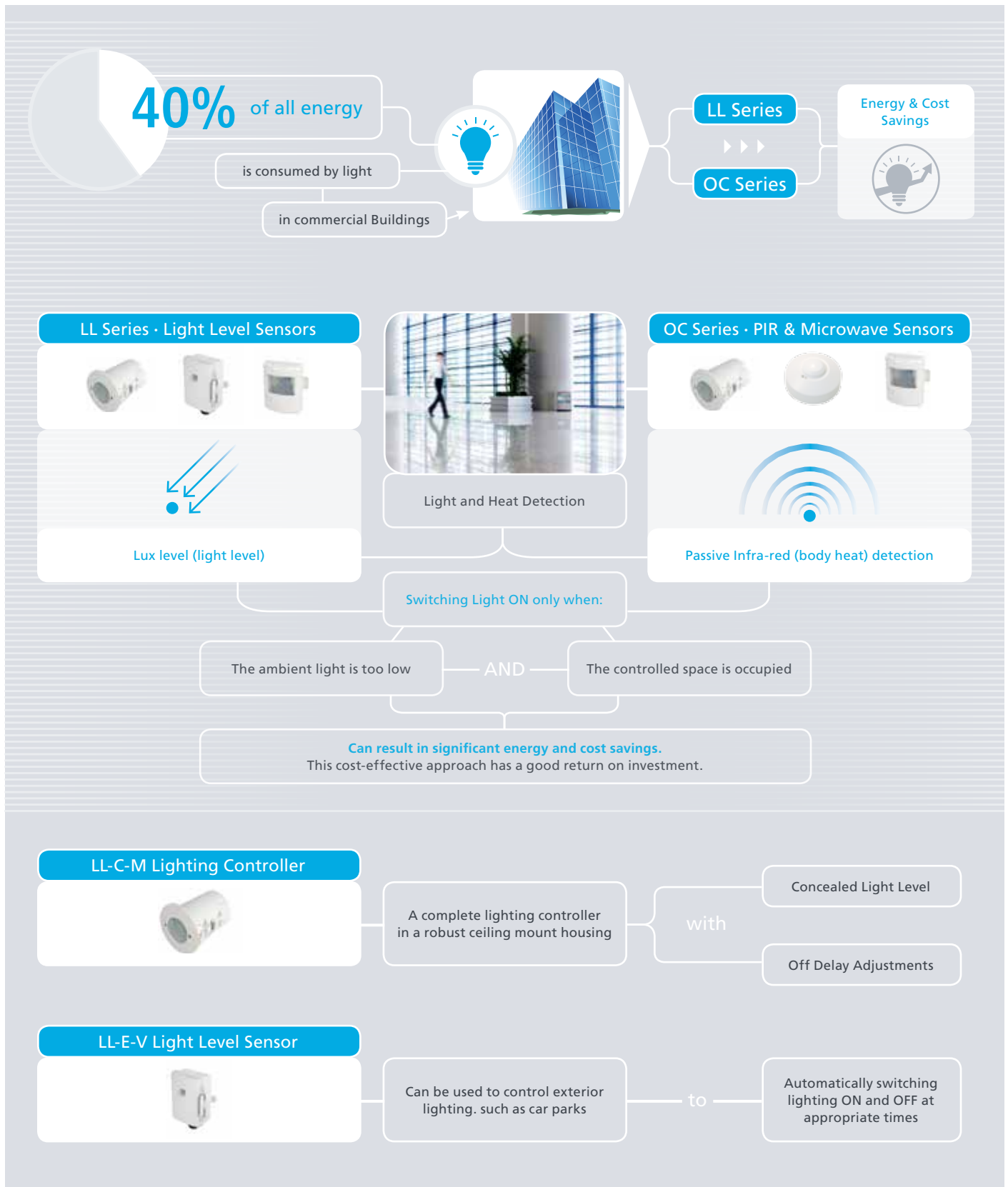
Part code	Description	Volume Price Breaks
IO-RM-2	2-stage Relay Module	See Price List
IO-RM-3	3-stage Relay Module	—
IO-RM-4	4-stage Relay Module	—
IO-RM-8	8-stage Relay Module	—
IO-RM-A	Adjustable Switching Point Relay Module	—

Data sheets: [IO-RM2.pdf](#) · [IO-RM3.pdf](#) · [IO-RM4.pdf](#)
[IO-RM8.pdf](#) · [IO-RMA.pdf](#)



Want to make these models wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Energy Saving through Lighting Control



LL

Light Level Sensors



Our range of light level sensors output a linear 0-10Vdc signal representing the lux level at the sensor element. This is typically used in lighting strategies to optimise energy efficiency through dimming and/or disabling of lights as required. The LL-E-V has two selectable ranges of 10-2000 and 10-10,000 where as the others have a fixed range of 10-2000 lux.

FEATURES

- 0-10Vdc output
- 24Vac/dc powered

Part code	Description
LL-E-V	External, Light Level Sensor
LL-C-V	Ceiling Mounted Internal, Light Level Sensor
LL-W-V	Wall Mounted Internal, Light Level Sensor

Data sheets: [LL-E-V.pdf](#) · [LL-C-V.pdf](#) · [LL-W-V.pdf](#)

SPECIFICATION

Sensor reference:	Photo-diode
Accuracy:	±5% across range
Field of view:	60°
Output:	0-10Vdc
Supply:	24Vac/dc
Ambient range:	Temperature 0 to 50°C (32 to 122°F) RH 0 to 90% RH non-condensing
Housing material:	LL-E-V Flame retardant ABS, polycarbonate Others Flame retardant ABS, polypropylene
Dimensions:	LL-E-V 116x106x52mm (4.57 x 4.17 x 2.17") LL-C-V 76mm (2.99") (dia.) x 95mm (3.74") (H) LL-W-V 100 x 43 x 75mm (3.94 x 1.69 x 2.95")
Protection:	LL-E-V IP65 Others IP30
Weight:	160g (0.35 lb) max.



Want to make these controllers wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

LL-C

Lighting Controller



The LL-C are designed to give savings over uncontrolled lighting whilst retaining an ease of installation and configuration. A passive infra-red detector monitors occupancy through moving body heat and a photo-sensitive device monitors light level. This will ensure that lighting is only switched on when the area covered is occupied and the light level is too low for normal working conditions.

FEATURES

- Energy saving
- Adjustable light level and off delay time
- Simple to install

Part code	Description
LL-C-M	230Vac. flush ceiling mounted light level and occupancy controller

Data sheet: [LL-C-M.pdf](#)

SPECIFICATION

Occupancy sensor:	Passive infra-red detector
Field of view:	360°
Coverage:	6 metres (19.7ft) max.
Light range:	10 to 2000 Lux
Off delay timer:	10 seconds to 30 minutes
Connections:	Live, neutral & switched live
Ambient:	Temperature -10 to +40°C (14 to 104°F) RH 0 to 90% RH, non-condensing
Housing material:	Flame retardant ABS, polypropylene
Dimensions:	76mm (2.99") dia. x 95mm (3.74") height
Protection:	IP30
Weight:	150g (0.33 lb)



Want to make these controllers wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

OC

Occupancy Detectors



Using passive infra-red detection, the OC-x-LV range of occupancy detectors monitors occupation through moving body heat and upon detection the internal SPDT relay activates. The OC-C-M is an active motion detector, it emits high-frequency electromagnetic wave (5.8GHz) and receives their echo. The detector detects the change in echo from even the slightest movement in its detection zone.

The OC-C-LV is for flush mounting through a false ceiling using the clips provide, the OC-W-LV can be directly fixed to a wall or mounted using the angled bracket supplied and the OC-C-M is for direct ceiling mounting.

FEATURES

- Wall mounting or ceiling versions
- Low voltage loads can be switched directly without the need for interposing relays

Part code	Description
OC-C-LV	Ceiling Mounted, PIR Occupancy Detector
OC-W-LV	Wall Mounted, PIR Occupancy Detector
OC-C-M	Ceiling Mounted, Microwave Occupancy Detector

Data sheets: [OC-C-LV.pdf](#) · [OC-W-LV.pdf](#) · [OC-C-M.pdf](#)

SPECIFICATION

Supply:	OC-x-LV 24Vac/dc OC-C-M 220-240Vac
Sensor type:	OC-x-LV Passive infra-red detector OC-C-M Microwave, 5.8GHz CW radar, ISM band
Field of View:	OC-C-LV OC-C-M 360° OC-W-LV 90°
Coverage:	OC-C-LV 6 meters max. (19.7ft) OC-W-LV 18 meters (59ft) OC-C-M 1-8 meters radius (adjustable) (3.3-26.25ft)
Off delay timer:	OC-C-LV OC-W-LV 10 seconds to 30 minutes OC-C-M 8 seconds to 12 minutes
Switching capacity:	OC-C-LV OC-W-LV 6(2)A @24V OC-C-M. 1200W 220-240Vac
Ambient range:	Temperature -10 to 40°C (14 to 104°F) RH 0 to 90% RH. non-condensing
Dimensions:	OC-C-LV 76mm (2.99") (dia.) x 95mm (3.74") (H) OC-W-LV 100 x 43 x 75mm (3.94 x 1.69 x 2.95") OC-C-M 95mm (3.74") x 40mm (1.57") (H)
Protection:	IP30
Weight:	140g (0.31 lb)



Want to make these controllers wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Metering & Power Monitoring

How to size your water meter...

Sontay offer a wide range of water & heat metering products

Upper Limit (m³/h)	90	120	150	250	300	350	650
Permanent (m³/h)	15	25	40	60	100	150	250
Lower Limit (m³/h)	0.35	0.45	0.8	1.5	3	3.5	6.5
Meter Code	MW-xF-50	MW-xF-65	MW-xF-80	MW-xF-100	MW-xF-125	MW-F-150	MW-F-200
Upper Limit (m³/h)	60	60	90	180	250	300	500
Permanent (m³/h)	15	25	40	60	100	150	250
Lower Limit (m³/h)	0.6	1	3.2	2	3	8	10
Meter Code	MW-F-50	MW-F-65	MW-F-80	MW-F-100	MW-F-125	MW-F-150	MW-F-200
Upper Limit (m³/h)	3	5	7	12	12	20	
Permanent (m³/h)	1.5	2.5	3.5	6	6	10	
Lower Limit (l/h)	30	50	65	90	90	160	
Meter Code	MW-MJx-20A	MW-MJx-20B	MW-MJx-25A	MW-MJx-25B	MW-MJx-32	MW-MJx-40	
Upper Limit (m³/h)	3	5	7	12	20	30	
Permanent (m³/h)	1.5	2.5	3.5	6	10	15	
Lower Limit (l/h)	15	25	35	60	100	450	
Meter Code	MW-MxS-15	MW-xS-20	MW-xS-25	MW-xS-32	MW-xS-40	MW-CS-50	
Qi. Minimum (l/h)	12	30	50	To ensure you get the best performance and accuracy from your meter it is essential that it is sized correctly. To do this you will need to know your permanent, upper limit and lower limit flow rates. Select the closest match from these tables.			
Qp. Nominal (m³/h)	0.6	1.5	2.5				
Qs. Maximum (l/h)	1.2	3	3.5				
Meter Code	MW-SJ-15A	MW-SJ-15B	MW-SJ-20				

In today's energy efficient environment, metering isn't just desirable, in many cases **it's a legal requirement.**

New standards and EU directives are brought into UK law by Sis (Statutory Instruments), so it's vital that metering products and systems are compliant.

Metering in buildings falls into basic categories, such:

Gas
(MG Series)

Electricity
(PM series)

Water
(MW series)

Heat
(MW series)

All these categories are covered by MID (the Measuring Instruments Directive).

Sontay have all the in-house knowledge of the SI's. standards and directives (the legal metrology) applicable to this complex range of products to allow the correct choices to be made when specifying.

Flow parts for metering

Sontay offer flow parts for two distinct applications

Flow parts for water

denoted in the Sontay catalogue as 'water meters'

Are used specifically for sanitary water only, i.e. water without additives or chemical treatment, and are designed for non-continuous flow, such as domestic cold and hot water supplies.

- The total daily flow should not exceed 3 hours, over a 6 year period
- Volumetric flows higher than this can lead to increased wear in the bearings of the impellor, causing inaccuracies in reading meters
- Water meters have a narrow fluid temperature range, typically between:
0 to +90°C (32 to 194°F) for hot water meters
0 to +30°C (32 to 86°F) for cold water meters

Flow parts for heating

denoted in the Sontay catalogue as 'flow sensors'

Can be used with chemically treated water, and are designed for continuous or very high duty cycle flow conditions typically found in hot water heating systems.

- Flow sensors have a wider fluid temperature range than water meters, typically between 0 to +120°C (32 to 248°F)

Note: Because of these distinct differences, only flow parts designed specifically for heat metering should be used for heat metering applications. Although water meters can, in theory, be used for heat meter applications. Sontay cannot warranty water meters if used in this manner.

The Importance of MID Certification

After October 2016 every new meter installed for billing must be MID approved. It is a criminal offence to use a non-approved meter for billing. MID makes no distinction between primary main supply meters and secondary sub-billing meters.

For billing purposes, meters must be approved to one of the following;

- MID Annex B + Annex D
- MID Annex B + Annex F. or
- MID Annex H1.

The use of unapproved meters is prohibited by the Electricity Act 1989, and to bill electricity or gas with a non-approved meter is a breach of the 1989 Act and is classed as a criminal offence.

From October 2016, for residential, commercial, or industrial landlords or property managers, an MID approved meter must be employed in:

- Multi-use commercial buildings
- Industrial Estates
- Sub-let shops or concessions
- Residential flats
- Marinas
- Caravan parks
- Data centre server supplies
- Sports facilities
- Any charging of electricity by meter reading



For our full guide to MID compliance, please visit www.sontay.com/news or scan the QR code.



MG-G

Gas Meters (with pulsed output)



Our range of diaphragm gas meters use proven, reliable technology to measure the volume of gas used and then send a pulsed signal to a BMS system.

FEATURES

- Diaphragm type
- All meters include pulsed output lead

Part code	Description	Max flow (m ³ /h)
MG-G4	1" Screwed Gas Meter	6
MG-G6	1" Screwed Gas Meter	10
MG-G10	1½" Screwed Gas Meter	16
MG-G16	1½" Screwed Gas Meter	25
MG-G25	2" Screwed Gas Meter	40
MG-G40	100mm (4") Flanged Gas Meter	65
MG-G65	100mm (4") Flanged Gas Meter	100

Data sheet: [MG-G.pdf](#)

SPECIFICATION

Max. pressure:	MG-G4 to G10 500mbar (7.3 psi)
	MG-G16 to G65 200mbar (2.9 psi)
Material:	Epoxy coated steel
	Pulsed output specification
Pulse value:	MG-G4 to G10 0.01m ³ per pulse
	MG-G16 to G65 0.1m ³ per pulse
Max. load current:	100mA
Max. switching voltage:	24Vdc
Max. contact rating:	0.6W
Switch actuating time:	0.3s
Connection type:	4-core flying lead
Lead length:	2m (6.56 ft)
Conformity:	EEC 71/318. UNI-CIG 7987/1988 norms.
	OIML Regulations
Ambient temperature:	0 to 40°C (32 to 104°F)
Weight:	90kg max. (198 lb)

MW-M-BUS

M-BUS Network

The MW-MD & MW-U range of heat meter integrators, when ordered with the optional M-Bus output module and an M-Bus master, will allow up to 250 devices to be connected together on a network.

The M-Bus master module receives data from the meters, and using the MW-GMM software it is possible to read the meters and export information as a .CSV file, typically energy usage for billing purposes. M-Bus was developed specifically for meter reading applications.

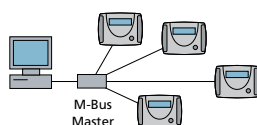
SUPPORTED TOPOLOGIES

Star

Each device is linked to a central master with an individual transmission line. The devices can transmit to the central master either sequentially or simultaneously.

Disadvantage:

- Increased requirement for cabling

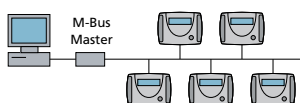


Bus (Sontay recommends BUS topology only)

The devices are connected together with a common transmission line, with the result that at any given time only one device can transmit data.

Advantages:

- Very cost-effective
- No disruption if one of the devices fails
- Combination of star and bus
- NB – Ring topology is NOT supported



BENEFITS INCLUDE:

- Only 2-core cable required (multi-strand is preferred)
- Polarity independent connections
- Up to 250 devices per M-Bus segment

M-BUS SEGMENTS TYPICALLY CONSIST OF:

- M-Bus 'slave' devices (for example. heat meters)
- An M-Bus 'master'/level convertor
(A master unit - typically a PC with M-Bus software - polls the slaves for data, the level convertor changes M-Bus data levels to RS-232 for connection to a PC)
- M-Bus repeaters (if required)
- Maximum cable length per segment = 1000m
- Maximum number of M-Bus slaves per segment = 250
- M-Bus baud rate = 2400
- Cable resistance <73Ω / km
- Cable capacitance <300pF / 100m

Part code	Description
MW-GMM	M-Bus Communication software
	Single user PC licence. Other packages available on request.
MW-MASTER-32	M-Bus Master, 32 metering points
MW-MASTER-250	M-Bus Master, 250 metering points

Data sheet: [MW-M-BUS.pdf](#)

MW-C

Cold Water Meters (non-continuous flow)



SCREWED COLD WATER METERS

- Inbuilt water strainer
- Complete with couplings
- Epoxy resin coated brass to DIN 50 930 part 6
- Dry dial

Please refer to data sheet or Sontay's website for performance data, dimensions information and pressure drop tables.

SPECIFICATION

Max. fluid temperature:	30°C (86°F) (safety margin 50°C / 122°F)
Max. working pressure:	16 bar (232 psi)
Installation position:	Horizontal, dial upwards
Conformity:	EN 14154
MID:	Annex B, Annex D, Annex I & MI-001

Part code	Size	Litres / pulse	Qi (l/h)	Qp (m³/h)	Qs (m³/h)
Cold Water Meters (Screw connections)					
MW-CS-15-A	½"	10	30	1.5	3
MW-CS-20-A	¾"	10	50	2.5	5
MW-CS-25-A	1"	10	70	3.5	7
MW-CS-32-A	1¼"	10	120	6	12
MW-CS-40-A	1½"	10	200	10	20
MW-CS-50-B	2"	100	450	15	30

Data sheet: MW-S.pdf



FLANGED COLD WATER METERS

- Cast Iron body

Please refer to data sheet or Sontay's website for performance data, dimensions information and pressure drop tables.

SPECIFICATION

Max. fluid temperature:	30°C (86°F) (safety margin 50°C / 122°F)
Max. working pressure:	16 bar (232 psi)
Flanges:	DIN 2501 PN16
Installation position:	Horizontal / vertical, dial upwards
Conformity:	EN 14154
MID:	Annex B, Annex D, Annex I & MI-001



Want to make this meter wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Part code	Size	Litres / pulse	Qi (m³/h)	Qp (m³/h)	Qs (m³/h)
Cold Water Meters (Flanged connections)					
MW-CF-50-B	50mm (2")	100	0.35	15	90
MW-CF-65-B	65mm (2½")	100	0.45	25	120
MW-CF-80-B	80mm (3")	100	0.8	40	150
MW-CF-80-C	80mm (3")	1000	0.8	40	150
MW-CF-100-B	100mm (4")	100	1.5	60	250
MW-CF-100-C	100mm (4")	1000	1.5	60	250
MW-CF-125-C	125mm (5")	1000	3	100	300
MW-CF-150-C	150mm (6")	1000	3.5	150	350
MW-CF-200-C	200mm (8")	1000	6.5	250	650

Data sheet: MW-F.pdf

MW-H

Hot Water Meters (non-continuous flow)



SCREWED HOT WATER METERS

- Inbuilt water strainer
- Complete with couplings
- Epoxy resin coated brass to DIN 50 930 part 6
- Dry dial

Please refer to data sheet or Sontay's website for performance data, dimensions information and pressure drop tables.

SPECIFICATION

Max. fluid temperature:	90°C (194°F) (safety margin 120°C / 248°F)
Max. working pressure:	16 bar (232 psi)
Installation position:	Horizontal, dial upwards
Conformity:	EN 14154
MID:	Annex B, Annex D, Annex I & MI-001

Part code	Size	Litres / pulse	Qi (l/h)	Qp (m³/h)	Qs (m³/h)
Hot Water Meters (Screw connections)					
MW-HS-15-A	½"	10	30	1.5	3
MW-HS-20-A	¾"	10	50	2.5	5
MW-HS-25-A	1"	10	70	3.5	7
MW-HS-32-A	1¼"	10	120	6	12
MW-HS-40-A	1½"	10	200	10	20

Data sheet: MW-S.pdf



FLANGED HOT WATER METERS

- Cast Iron body

Please refer to data sheet or Sontay's website for performance data, dimensions information and pressure drop tables.

SPECIFICATION

Max. fluid temperature:	90°C (194°F) (safety margin 120°C / 248°F)
Max. working pressure:	16 bar (232 psi)
Flanges:	DIN 2501 PN16
Installation position:	Horizontal / vertical, dial upwards
Conformity:	EN 14154
MID:	Annex B, Annex D, Annex I & MI-001



Want to make this meter wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Part code	Size	Litres / pulse	Qi (m³/h)	Qp (m³/h)	Qs (m³/h)
Hot Water Meters (Flanged connections)					
MW-HF-50-B	50mm (2")	100	0.35	15	90
MW-HF-65-B	65mm (2½")	100	0.45	25	120
MW-HF-80-B	80mm (3")	100	0.8	40	150
MW-HF-80-C	80mm (3")	1000	0.8	40	150
MW-HF-100-B	100mm (4")	100	1.5	60	250
MW-HF-100-C	100mm (4")	1000	1.5	60	250
MW-HF-125-C	125mm (5")	1000	3	100	300
MW-HF-150-C	150mm (6")	1000	3.5	150	350
MW-HF-200-C	200mm (8")	1000	6.5	250	650

Data sheet: MW-F.pdf

MW

Flow Sensors (continuous flow)

Meters for measuring the volume flow in heating and cooling systems.

The MW range of flow sensors are meters especially designed for the special conditions in heating and cooling circuits.

The pulse transmission takes place via the tried and tested reed-contact and is thus, compatible with the MW-MD.

The special construction and the material design guarantee long-term measuring stability and high reliability. All of the flow sensors are designed for temperatures up to 120°C (248°F) with safety up to 130°C (266°F).

FEATURES

- Reinforced bearings
- High measuring stability
- Wide load range
- Reliable in operation up to 130°C (266°F)

GENERAL SPECIFICATION

Temperature range:	10 to 120°C (50 to 248°F) (safety margin 130°C / 266°F)	
Max. operating pressure:	PN16 (232 psi)	
Measuring accuracy:	Class 3 (MID Annex MI-004)	
Conformity:	MID (Annex B and Annex D)	
Connections:	MW-SJ & MW-MJ types	Screwed
	MW-F types	Flanged
Materials:	Screwed	Brass
	Flanged	Cast iron
Weight:	47kg max. (103 lb)	

**SINGLE-JET FLOW SENSORS**

MW-SJ flow sensors (DN15 & 20) are very compact devices used for flows of up to Qp 2.5. They can be installed horizontally or vertically.

Part code	Size	Litres /pulse	Qi (l/h)	Qp (m³/h)	Qs (m³/h)
MW-SJ-15A	½"	10	12	0.6	1.2
MW-SJ-15B	½"	10	30	1.5	3
MW-SJ-20	¾"	10	50	2.5	5

Data sheet: [MW-SJ.pdf](#)

**MULTI-JET FLOW SENSORS**

MW-MJ flow sensors (DN20 to 40) have proven themselves for use with heavier flows. They are available for horizontal installation positions.

The MW-MJR (riser pipe) and MW-MJD (down pipe) meters have the advantage for vertical piping. Due to the low bearing load, this results in improvements in the long-term stability of measuring results.

Part code	Size	Litres /pulse	Qi (l/h)	Qp (m³/h)	Qs (m³/h)
Horizontal Types					
MW-MJ-20A	¾"	10	30	1.5	3
MW-MJ-20B	¾"	10	50	2.5	5
MW-MJ-25A	1"	10	65	3.5	7
MW-MJ-25B	1"	10	90	6	12
MW-MJ-32	1¼"	10	90	6	12
MW-MJ-40	1½"	10	160	10	20
Vertical Riser Pipe Types					
MW-MJR-20	¾"	10	30	1.5	3
MW-MJR-25A	1"	10	65	3.5	7
MW-MJR-25B	1"	10	90	6	12
MW-MJR-32	1¼"	10	90	6	12
MW-MJR-40	1½"	10	160	10	30
Vertical Down Pipe Types					
MW-MJD-20	¾"	10	30	1.5	3
MW-MJD-25A	1"	10	65	3.5	7
MW-MJD-25B	1"	10	90	6	12
MW-MJD-32	1¼"	10	90	6	12
MW-MJD-40	1½"	10	160	10	30

Data sheet: [MW-MJx.pdf](#)

**FLANGED FLOW SENSORS**

MW-F flow sensors (DN50 to 200) can be installed horizontally or vertically. They are characterised by extremely low starting flows with high measuring accuracy and excellent measuring stability – even in the most extreme of situations.

This applies for the upper, as well as the lower measuring ranges.

Part code	Size	Litres /pulse	Qi (m³/h)	Qp (m³/h)	Qs (m³/h)
MW-F-50	50mm (2")	100	0.6	15	60
MW-F-65	65mm (2½")	100	1	25	60
MW-F-80	80mm (3")	100	3.2	40	90
MW-F-100	100mm (4")	100	2	60	180
MW-F-125	125mm (5")	100	3	100	250
MW-F-150	150mm (6")	1000	8	150	300
MW-F-200	200mm (8")	1000	10	250	500

Data sheet: [MW-FS.pdf](#)

MW-CHM

Compact Heat Meters



Heat energy is calculated by using a matched pair of high accuracy sensors to measure the difference between the forward and flow temperatures. The amount of water flowing through the circuit is measured by the water meter, and the microprocessor-controlled calculator then calculates the consumed heat energy from the temperature and flow data. The large, easy-to-read display shows the energy used. Additional measurement and instrument data can be easily displayed by scanning the display loops. The integrated non-volatile E²PROM automatically stores the meter data once a day. It is possible to view the last 18 monthly values from the display.

FEATURES

- Compact design
- Simple operation
- Measures heating or cooling
- Pulsed output or M-Bus options

SPECIFICATION - Water Meter

Temperature range:	10 to 90°C (50 to 194°F)
Nominal pressure:	16 bar (232 psi)
Installation:	Return
Cable length to heat meter:	50cm (19.69")
Nominal diameter (DN):	15mm or 20mm (½ or ¾")
Nominal flow (Qp):	15mm (½") 0.6 or 1.5m³/h 20mm (¾") 2.5m³/h
External thread:	15mm (½") G¾" 20mm (¾") G1"



Want to make this meter wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

SPECIFICATION - Temperature Sensors

Sensor element:	PT500
Sensor:	Lead length: 1.5m (4.92 ft) Diameter: 5mm (0.20")
Installation:	Flow ¾" or 1" ball valve with integral pocket

SPECIFICATION - Heat Meter

Temperature range:	1 to 130°C (34 to 266°F)
Display type:	8 digit LCD
Energy display:	MWh
Data storage:	Non-volatile memory, once daily
Battery life:	>6 years
Output pulse:	Max. operating voltage 30Vdc. 20mA max Pulse width 400-600ms
Conformity:	MID (Annex B & Annex D)
Measuring accuracy:	Class 3 (MID Annex MI-004)
Ambient temperature:	5 to 55°C (41 to 131°F)
Protection:	IP54
Weight:	1.02 kg (2.25 lb)

Part code	Description
MW-CHM-1	Meter with 0.6m³/h nominal flow
MW-CHM-2	Meter with 1.5m³/h nominal flow
MW-CHM-3	Meter with 2.5m³/h nominal flow
Output Options (add type to above code)	
-A	Pulsed output
-B	M-Bus output
Replacement Items	
MW-BV-1	¾" ball valve c/w pocket
MW-BV-2	1" ball valve c/w pocket

Data sheet: [MW-CHM.pdf](#)

The default location of the flow sensor is in the return. If the meter is to be fitted in the flow please advise at time of order.

MW-MD

Heat Meter Integrators



The MW-MD range of heat meter integrators uses the latest innovative technology to calculate heat usage from heating and cooling systems. They are for use with mechanical flow parts. With its dynamic measuring cycle even the smallest energy consumptions are reliably collected. The large multifunction display permanently shows the heat consumption total, and by using the button it is possible to scroll through the display to show all data.

FEATURES

- Simple operation
- Integral wall and DIN-rail mounting bracket
- Pulsed or M-Bus output options
- Measures heating or cooling and heat/cooling

SPECIFICATION

Temp. range:	1 to 150°C (34 to 302°F)
Temp. diff:	3 to 120K
Battery life:	6 years (optional 11 year)
Display:	Multifunction 8-digit + characters LCD
Output pulse:	30Vdc max. @ 20mA
Pulse duration:	400ms <TP <600ms
M-Bus Baud rate:	2400
Sensor type:	PT500 Matched pair
Pocket thread:	½" BSP
Conformity:	EN 1434. MID Annex. I M1/E1 & Annex M1-004
Ambient range:	Temperature 5 to 55°C (41 to 131°F) RH 95% non-condensing
Dimension:	106 x 54 x 120mm (4.17 x 2.13 x 4.72") (H x L x W)
Protection:	IP54
Weight:	500g (1.1 lb)



Want to make this meter wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Part code	Description
MW-MD	Heat Meter Integrator (build unit with following options)
Output Module (add type to above code)	
-P	Pulsed output
-M	M-Bus
Pockets & PT500 Temp. Sensor (add type to above code)*	
-A	45mm (1.77") pocket sensor pair – 1.5m cable (4.92 ft)
-B	105mm (4.13") pocket sensor pair – 3m cable (9.84 ft)
-C	105mm (4.13") pocket sensor pair – 10m cable (32.8 ft)
-D	140mm (5.51") pocket sensor pair – 3m cable (9.84 ft)
-E	140mm (5.51") pocket sensor pair – 10m cable (32.81 ft)
System Type (add type to above code)	
-4	Heating system
-5	Cooling system
-6	Heat/cooling system
Accessory	
MW-BATTERY	Optional 11 year battery (only available when purchasing MW-MD, not available as a separate item)
Replacement Items	
MW-PKT-1	45mm (1.77") stainless steel pockets (pair)
MW-PKT-2	105mm (4.13") stainless steel pockets (pair)
MW-PKT-3	140mm (5.51") stainless steel pockets (pair)

Data sheet: [MW-MD.pdf](#)

*NOTE: When selecting the pocket & sensor lengths you should ensure that the sensor/pocket tip must be located in the centre of the pipe diameter.

The default location of the flow sensor is in the return. If the meter is to be fitted in the flow please advise at time of order.

MW-Q

Ultrasonic Flow Sensors Complete with Calculator



Ultrasonic heating and cooling energy meters are designed to measure heating & cooling and to record data in two separate registers. They have no moving parts which makes them almost wear free and noiseless.

They are fully RHI Compliant and MID Class 2 approved. This allows users to measure the energy they are generating and reclaim financial backing under the Renewable Heat Incentive scheme (RHI).

SPECIFICATION

Nominal flow rate:	Qp 0.6 to QP 60m³/h
Maximum static pressure:	16 bar
Temperature differential:	2 to 120K
Temperature limits:	
	Screwed ≤ 2.5m³/h 5 to 130°C
	Screwed ≥ 3.5m³/h 10 to 130°C
	Flanged 0 to 180°C
Supply:	Battery or 230Vac options
Battery life:	Not less than 10 years
Display:	8-Digit + characters LCD
Pulsed output:	100 m/s 50Vdc @ 20mA
Conformity:	MID (Annex B & Annex D)
Measuring accuracy:	Class 2 (MID Annex MI-004)
Ambient:	
	Temperature 5 to 55°C
	RH 0 to 95% RH. non-condensing
Protection:	IP65
Weight:	22.5 kg max.



Want to make this meter wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

FEATURES

- Simple operation
- Long life ultrasonic flow meter
- Flow meter can be mounted in any position
- Pulsed or M-Bus output options
- Battery and 230V supply modules

Part code	Description
MW-Q	Heat Meter Integrator & Ultrasonic Flow Sensor for heating system (build unit with following options)
	Output Module (add type to above code)
-P	Pulsed output
-M	M-Bus
	Flow Sensor (add type to above code)
-1	Qp 0.6m³/h, G¾". (R½") screwed
-2	Qp 1.5m³/h, G¾". (R½") screwed
-3	Qp 2.5m³/h, G1". (R¾") screwed
-4	Qp 3.5m³/h, G1¼". (R1") screwed
-5	Qp 10m³/h, G2". (R1½") screwed
-6	Qp 15m³/h, DN50 (2") flanged
-7	Qp 25m³/h, DN65 (2½") flanged *
-8	Qp 40m³/h, DN80 (3") flanged *
-9	Qp 60m³/h, DN100 (4") flanged *
	Supply Module (add type to above code)
-B	Battery
-S	230Vac
	System Type (add type to above code)
-C	Cooling system

Data sheet: [MW-Q-S.pdf](#). [MW-Q-F.pdf](#)

Typical order code: MW-Q-M-6-S – Heat meter integrator with M-bus output. DN50 flanged flow sensor Qp 15m³/h, 230Vac supply and the system type is heating.

The default location of the flow sensor is in the return. If the meter is to be fitted in the flow please advice at time of order.

Notes: * -230Vac Supply module only, these are not available with a battery supply

PM-CS

Current Switches



Sontay's range of current switches offer adjustable or fixed setpoint's and provides accurate, reliable and maintenance-free operation. Output switching options include 30Vac/dc @ 1A or 240Vac @ 1A. with current ratings of up to 150A. Both versions have a unique self-gripping feature which allows the switch to literally clip on to a cable without the need for a base mounting plate.

APPLICATIONS

- Detection of fan belt breakage
- Detection of motor failure
- Verifying lighting circuits
- Monitoring critical motors (compressors etc.)
- Process equipment status

ADJUSTABLE SETPOINT TYPES

Allow for easy detection of broken drive belts, drive belt slip or pump coupling shear. A typical HVAC motor that loses its load has a reduction of current draw of up to 50%.

Part code	Description	Volume Price Breaks
Adjustable Setpoint Types		
PM-CS-A-01	0.75 to 150A 30Vac/dc. split core	See Price List
PM-CS-A-02	0.5 to 150A 30Vac/dc. solid core	—
PM-CS-A-03	0.75 to 150A 240Vac. split core	—
Fixed Setpoint Types		
PM-CS-F-01	0.35 to 150A 30Vac/dc. split core	—
PM-CS-F-02	0.25 to 150A 30Vac/dc. solid core	—
PM-CS-F-03	0.50 to 150A 240Vac. split core	—

Data sheet: [PM-CS.pdf](#)

FEATURES

- Adjustable set-point
- More reliable and cost-effective than differential pressure switches
- 100% solid-state output, no moving parts to fail
- Output status LEDs for fast setup
- Self-powered

FIXED SETPOINT TYPES

Provide a cost-effective solution for monitoring the status of unit vents, exhaust fans, recirculation pumps and other fixed loads where belt loss is not a concern.

FEATURES

- More reliable for status than relays across auxiliary contacts
- Ideal for lighting status
- Monitor status of fans, pumps, motors and other electrical loads

SPECIFICATION

Supply:	Self-powered from monitored line	
Insulation class:	600Vac	
Trip setpoint:	PM-CS-A01 - 0.75 to 150A	PM-CS-F01 - 0.35A or less
	PM-CS-A02 - 0.5 to 150A	PM-CS-F02 - 0.25A or less
	PM-CS-A03 - 0.75 to 150A	PM-CS-F03 - 0.5A or less
Sensor power:	Induced from monitored conductor	
Temperature range:	-35 to +60°C (-31 to +140°F)	
Humidity range:	0 to 95%, non-condensing	
Dimensions:	Split core types	65 x 50 x 30mm (2.56 x 1.97 x 1.18"
	Hole:	13 x 13mm (0.51 x 0.51"), self-gripping clamp
	Solid core types:	53 x 37 x 24mm (2.09 x 1.46 x 0.94")
Hole:	13mm (0.51") dia	
Conformity:	CE marked	
Weight:	100g (0.22lb) max.	



Want to make these switches wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

PM-CTR

Current Transducers



This series of current transducers provide accurate load trending information with a choice of 4-20mA, 0-10Vdc and 0-5Vdc output signals. They provide accurate, reliable and maintenance-free operation.

Solid and split-core versions are available with current ratings up to 100A. Current versions are supplied with pre-wired 400mm (15.75") tails and voltage versions have screw terminals.

Both versions have a unique self-gripping feature which allows the switch to literally clip on to a cable without the need for a base mounting plate.

APPLICATIONS

- Load trending
- Motor control

FEATURES

- Power the sensor and receive the signal with only two wires
- Split core versions for fast retrofit installation with no need to remove conductor
- Dip-switch selectable ranges on 0-10Vdc version

SPECIFICATION

Supply:	Current output	Loop powered
	Voltage output	Self powered
Maximum sense voltage:	600Vac	
Accuracy:	Current output	99% FS (25-100% span)
	Voltage output	96.8% FS
Temperature range:	-35 to +60°C (-31 to +140°F)	
Humidity range:	0 to 95%. non-condensing	
Dimensions:	Split core types	65 x 50 x 30mm (2.56 x 1.97 x 1.18") hole 13 x 13mm (0.51 x 0.51"). self-gripping clamp
	Solid core types	53 x 37 x 24mm (2.09 x 1.46 x 0.94") hole 13mm (0.51") dia.
Conformity:	CE marked	
Weight:	100g (0.22lb)	

Part code	Description
4-20mA Output	
PM-CTR-01	0 to 20A, split core Current Transducer
PM-CTR-02	0 to 50A, split core "
PM-CTR-03	0 to 100A, split core "
PM-CTR-04	0 to 20A, solid core "
PM-CTR-05	0 to 50A, solid core "
PM-CTR-06	0 to 100A, solid core "
0-5Vdc Output	
PM-CTR-07	0 to 10A, solid core Current Transducer
PM-CTR-08	0 to 20A, solid core "
PM-CTR-09	0 to 50A, solid core "
PM-CTR-10	0 to 100A, solid core "
0-10Vdc Output	
PM-CTR-11	20/50/100A. split core Current Transducer

Data sheet: [PM-CTR.pdf](#)



Want to make these transducers wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

PM-CT

Current Transformers



The Sontay range of current transformers are available in moulded, split core and ring types. They are all suitable for use with the PM-EM range of kWh meters.

The split core Current transformers are useful for retrofits, upgrades and temporary installations, as they can be fitted without any disruption to the existing installation.

FEATURES

- Ratings from 50 to 800A
- 5A secondary current

Part code	Description
Moulded Types	
PM-CT-M100	100A, 2.5VA Current Transformer
PM-CT-M150	150A, 2.5VA "
PM-CT-M200	200A, 5VA "
PM-CT-M250	250A, 5VA "
PM-CT-M300	300A, 5VA "
PM-CT-M400	400A, 5VA "
PM-CT-M500	500A, 10VA "
PM-CT-M600	600A, 10VA "
PM-CT-M800	800A, 10VA "
Split Core Types	
PM-CT-100SC	100A, 1VA Current Transformer
PM-CT-150SC	150A, 1.5VA "
PM-CT-200SC	200A, 2.5VA "

SPECIFICATION

Overload:	1.2 x rated current (continuous)
Frequency:	50/60Hz
Insulation level:	3kV (50Hz) for 1 minute (not PM-CT-M)
Connections:	PM-CT-M Screw terminals
	PM-CT-xSC 1m tails (3.28 ft)
	PM-CT-R M6 lug terminals
Conformity:	PM-CT-xSC IEC185, BS7626, BSEB 60044-1
	PM-CT-R IEC44-1, IEC185., BS7626
Ambient range:	Humidity up to 95% RH (non-condensing)
	Temperature -20 to +85°C (PM-CT-M) (-4 to +185°F)
	-30 to +85°C (others) (-22 to +185°F)
Weight:	750g max. (1.65 lb)

Part code	Description
Split Core Types	
PM-CT-250SC	250A, 2.5VA Current Transformer
PM-CT-300SC	300A, 2.5VA "
PM-CT-400SC	400A, 5VA "
PM-CT-500SC	500A, 5VA "
PM-CT-600SC	600A, 5VA "
PM-CT-800SC	800A, 5VA "
Ring Types	
PM-CT-R50	50A, 2.5VA Current Transformer
PM-CT-R100	100A, 10VA "
PM-CT-R150	150A, 15VA "
PM-CT-R250	250A, 15VA "
PM-CT-R300	300A, 15VA "
PM-CT-R400	400A, 15VA "
PM-CT-R500	500A, 15VA "
PM-CT-R800	800A, 15VA "

Data sheets: [PM-CT-M.pdf](#) · [PM-xSC.pdf](#) · [PM-CT-R.pdf](#)

PM-EM21

Energy Analyser (DIN-rail or panel mounted)



The PM-EM21 is a compact energy meter that has a removable front LCD display that allows it to be either DIN-rail or panel mounted.

The energy meter is designed for active and reactive energy metering. All operations, including programming and viewing up to seven display pages are performed using the two push buttons on the detachable display. It is possible to block the access to programming by means of a trimmer position on the rear of the display. Standard meters are non-MID. For billing use, add annex -B+D option. IF extra system information is required please contact Sontay Support.

FEATURES

- Pulsed or ModBus output options
- Self powered
- 5A CT secondary current
- Compact size
- Detachable display
- Multi-use housing for both DIN-rail and panel mounting applications

APPLICATIONS

- 3-Phase, 4-wire balanced & unbalanced load
- 3-Phase, 3-wire balanced & unbalanced load
- 2-Phase, 3-wire
- 1-Phase, 2-wire

CHARACTERISTICS

Measurements:	System	W, var, PF, Hz, Phase-sequence
	Single-phase	VLL, VLN, A, PF, kWh, kvarh

SPECIFICATION

Frequency:	45 to 65Hz
Display:	2 lines
Housing:	Nylon PA66, self-extinguishing UL 94 V-0
Mounting:	DIN-rail or panel
Output types:	Pulse Open collector
	ModBus RS485
RS 485:	Address Programmable, 1 to 247
	Baud-rate 9600 bit/s
Refresh time:	1/s
Ambient:	Humidity 0 to 90% (non-condensing)
	Temperature -25 to +55°C (-13 to +131°F)
Protection:	IP50 (front)
Dimensions:	72 x 72 x 65mm (2.83 x 2.83 x 2.56")
Weight:	260g (0.57 lb)

Part code	Description
PM-EM21-P	Energy Analyser – Pulsed Output
PM-EM21-M	Energy Analyser – ModBus Output
Option (add to part code above)	
-B+D	Annex B+D Certification

Data sheet: [PM-EM21.pdf](#)

PM-EM24

Energy Analyser (DIN-rail)



The PM-EM24 DIN-rail mounted energy analyser is designed for active and reactive energy metering. When using the optional RS-485 ModBus output it is possible to connect up to three additional pulse inputs from other metering equipment enabling all consumption data to be read from just one meter. PM-EM24 features eight user-selectable applications that are available to allow fast setup, with lockable programme selector, and joystick control of up to 31 LCD display pages. Standard meters are non-MID. For billing use, add annex -D option. If extra system information is required please contact Sontay Support.

FEATURES

- Gas and water measurements and multi-tariff management in one unit
- Easy variable scrolling by means of the front joystick
- Pulsed or ModBus output options
- 5A CT secondary current
- Two digital outputs (alarms or/and pulses) or RS485 communication port

APPLICATIONS

- 3-Phase, 3-wire balanced & unbalanced load
- 3-Phase, 4-wire balanced & unbalanced load
- 2-Phase, 3-wire
- 1-Phase, 2-wire

CHARACTERISTICS

Measurements:	System	VLL, VLN, Admd max, var, VA, W, Wdmd, Wdmd max, VAdmd, VAdmd max, PF, Hz
	Single-phase	VLL, VLN, A, W, var, VA, PF, Admd, kWh, kvarh, hour counter

SPECIFICATION

Frequency:	45 to 65Hz
Display:	3 lines (1 x 8 digit. 2 x 4 digit)
Housing:	Nylon PA66, self-extinguishing UL 94 V-0
Mounting:	DIN-rail or panel (optional PM-PMK)
Output types:	Pulse Open collector
	ModBus RS485
	Address Programmable, 1 to 247
	Baud-rate Programmable, 4800. 9600 bit/s
Sampling rate:	1600 samples /s @ 50Hz
	1900 samples /s @ 60Hz
Display refresh time:	750m/s
Ambient:	Humidity 0 to 90% (non-condensing)
	Temperature -25 to +55°C (-13 to +131°F)
Protection:	IP50 (front)
Dimensions:	90 x 71 x 65mm (3.54 x 2.80 x 2.56")
Weight:	360g (0.79 lb)

Part code	Description
PM-EM24-P	Energy Analyser – Pulsed Output
PM-EM24-M	Energy Analyser – ModBus Output
	Option (add to part code above)
-D	Annex -D Certification
	Accessory
PM-PMK	Panel door mounting kit

[Data sheet: PM-EM24.pdf](#)

PS

24Vdc Output Supplies



Sontay's range of 24Vdc power supplies offer advanced protection, self-diagnostics and self-test facilities to make installation and commissioning quicker and easier than ever before. 240Vac and 24Vac input versions are available, all featuring over-current and over-voltage protection, LED indication of a wide range of conditions, an optional alarm relay output for loss of input and on-PCB reset button.

The 24Vac input type is available in two versions:

1. PS-24-24DC-1A – the input 0V and the output 0V are NOT common.
2. PS-24-24DC-E – the input 0V and the output 0V are common on the PCB.

This allows the user a choice, depending on what type of field wiring is installed.

FEATURES

- Advanced LED indication of faults
- ON-PCB self-test function
- Polarity independent output

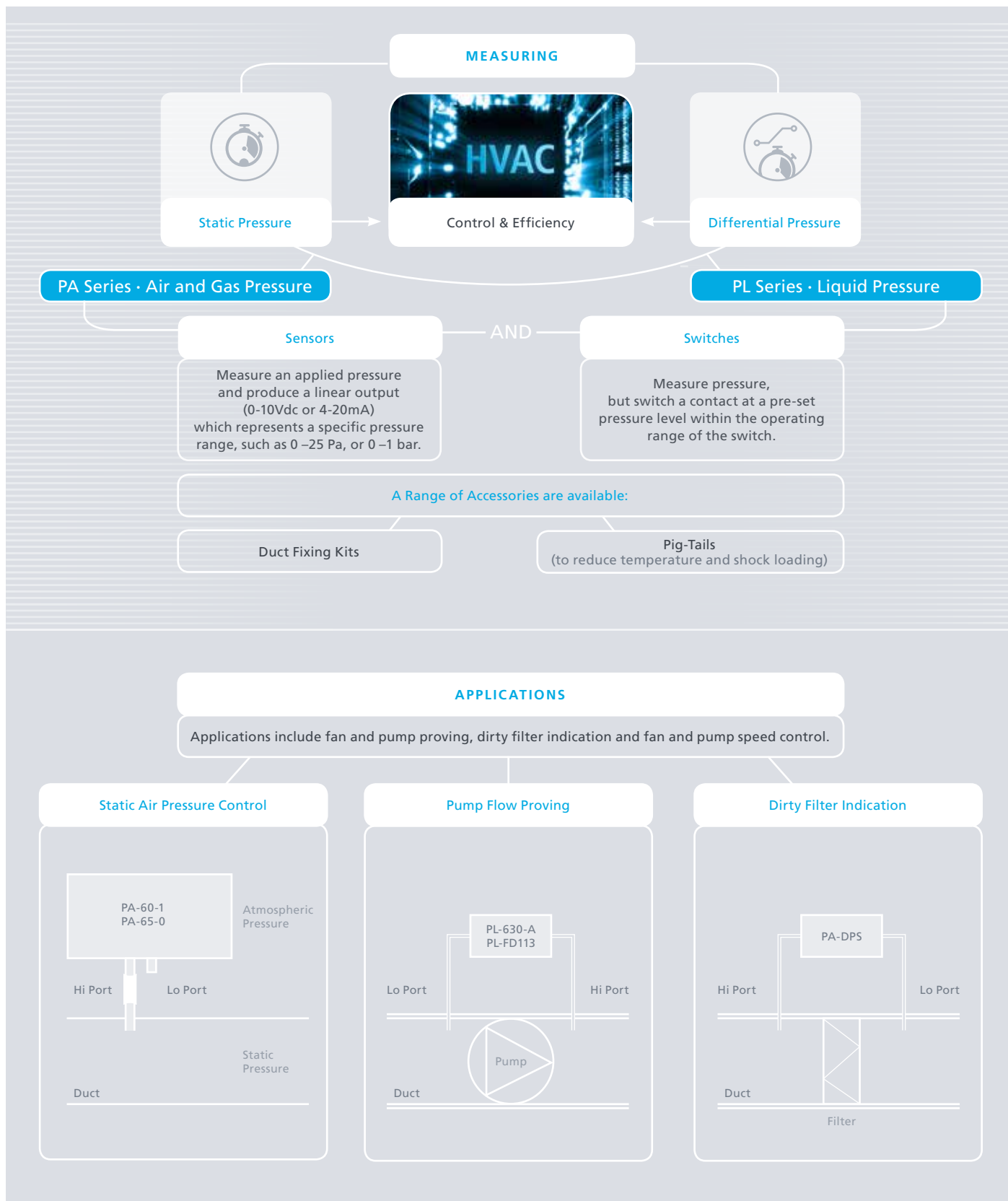
SPECIFICATION

Supply:	240Vac and 24Vac
Output:	24Vdc @ 1A
LED indication:	Power ON, low output voltage, high output voltage, output voltage within limits, reset button pressed, self-test in progress
Temperature range:	-10 to +50°C (14 to 122°F)
Humidity range:	0 to 95%, non-condensing
Dimensions:	PS-230-24DC-1A 104 x 118 x 88mm (4.09 x 4.65 x 3.46")
	PS-24-24DC-1A 104 x 74 x 65mm (4.09 x 2.91 x 2.56")
	PS-24-24DC-E 104 x 74 x 70mm (4.09 x 2.91 x 2.76")
Weights:	PS-230-24DC-1A 620g (1.37 lb)
	PS-24-24DC-1A 120g (0.26 lb)
	PS-24-24DC-E 120g (0.26 lb)

Part code	Description
PS-24-24DC-1A	24Vac-24Vdc, 1A floating Supply Module
PS-24-24DC-E	24Vac-24Vdc, grounded Supply Module
PS-230-24DC-1A	240Vac-24Vdc, 1A Supply Module

[Data sheet: PS-x.pdf](#)

Pressure



PA-DPS

Air DP Switches



These are highly sensitive air differential pressure switches. suitable for providing an indication of fan status and 'dirty filter' conditions. The switching setpoint is adjusted by means of a knob mounted under the main cover. Units are supplied complete with a duct fixing kit.

FEATURES

- Duct fixing kit included
- IP54 or IP65 housing option
- One screw needed for housing cover
- Scale in Pascal's

SPECIFICATION

Operating ranges:	Type:	Adjustment range:
	PA-DPS-88	20 to 300Pa (0.08 to 0.80" w/c)
	PA-DPS-83	50 to 500Pa (0.20 to 2" w/c)
	PA-DPS-85	200 to 1000Pa (0.8 to 4" w/c)
	PA-DPS-90W	20 to 300Pa (0.08 to 1.2" w/c)
	PA-DPS-91W	50 to 500Pa (0.2 to 2" w/c)
	PA-DPS-92W	100 to 1000Pa (0.4 to 4" w/c)
	PA-DPS-94W	500 to 2000Pa (2 to 8" w/c)
Max. operating pressure:	5000Pa (20" w/c)	
Pressure connections:	6mm i/d push-on tubing	
Electrical rating (IP54):	1.5A (0.4)/250Vac AgCdO contacts	
Electrical rating (IP65):	5A (0.8A) 230Vac or 2A@30Vdc	
Housing material:	Plastic moulding	
Dimensions:	IP54	85mm (3.35") dia. x 59mm (2.32")
	IP65	81mm (3.23") dia. x 58mm (2.28")
Protection:	IP54 or IP65	
Ambient range:	Temperature	-20 to +85°C (-4 to +185°F)
	RH	0 to 95% RH. non-condensing
Weight:	250g (0.55 lb)	

Part code	Description	Volume Price Breaks
IP54 Switch Housing		
PA-DPS-88	20 to 300Pa (0.08 to 0.80" w/c) Switch	See Price List
PA-DPS-83	50 to 500Pa (0.20 to 2" w/c) Switch	-
PA-DPS-85	200 to 1000Pa (0.8 to 4" w/c) Switch	-
Accessories		
PA-DPS-B	Right angled moiunt bracket	-
IP65 Switch Housing		
PA-DPS-90W	20 to 300Pa (0.08 to 1.2" w/c) Switch	-
PA-DPS-91W	50 to 500Pa (0.2 to 2" w/c) Switch	-
PA-DPS-92W	100 to 1000Pa (0.4 to 4" w/c) Switch	-
PA-DPS-94W	500 to 2000Pa (2 to 8" w/c) Switch	-
Accessories		
DFK	Duct fixing kit	-
TEE	Tee piece air pressure (pack of 10)	-
PA-TUBE-8MM	PVC tube 8mm o/d x 1.5mm wall. 30m reel	-

Data sheets: [PA-DPS-8x.pdf](#) [PA-DPS-9x.pdf](#)

Note: A duct fixing kit (DFK) is supplied with the switch, consisting of 2m (6.56 ft) 5mm (0.20") i/d plastic tubing, 2 x pitot tubes and 4 x fixing screws.



Want to make this switch wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

PA-60-x

Multi-Configurable Air DP Sensor



With new added pressure ranges the PA-60-x series of differential pressure transmitters are ideal for measuring filter conditions, as well as many other applications in ventilation/air conditioning systems in buildings, laboratory's and clean rooms (air and non-corrosive gases).

The PA-60-x series have four field-selectable pressure ranges and selectable output signal type, which are easily defined by user selection switches.

Also available are optional LCD displays and ModBus/BACnet outputs.

FEATURES

- User selectable measurement range and output type Re-zero
- Duct fixing kit included
- Snap-fit cover



SPECIFICATION

Power Supply:	Current Output: 24Vdc±10% (3-wire)
	Voltage Output: 24Vdc / dc ±10% (3-wire)
Measurement ranges:	Selectable
Overall accuracy:	PA-60-1 ±3.00% fs
	PA-60-2-3 & 4 ±2.00% fs
	PA-60-2-HA ±1.00% fs
Over Pressure:	0.1bar (10kPa)
Pressure Connections:	Push fit for 6mm (0.24") ID tubing
Housing:	Material ABS (Flame retardant VO)
	Dimensions 116 x 106 x 52mm (4.57 x 4.17 x 2.05")
Protection:	IP65
Ambient range:	Temperature 0 to 40°C (32 to 104°F)
	RH 0 to 85% RH. non-condensing
Weight:	240g (0.53lb)

Part code	Description
PA-60-1	0 to 25. 50. 150 & 250Pa Multi Range Selectable (0 to 0.1. 0.2. 0.6 & 1" w/c) 0-10Vdc or 4-20mA Selectable Output
PA-60-2	0 to 50. 100. 300 & 500Pa Multi Range Selectable (0 to 0.2. 0.4. 1.2 & 2" w/c) 0-10Vdc or 4-20mA Selectable Output
PA-60-2-HA	0 to 50. 100. 300 & 500Pa Multi Range Selectable (0 to 0.2. 0.4. 1.2 & 2" w/c) 0-10Vdc or 4-20mA Selectable Output High Accuracy
PA-60-3	0 to 125. 250. 750 & 1250Pa Multi Range Selectable (0 to 0.5. 1. 3 & 5" w/c) 0-10Vdc or 4-20mA Selectable Output
PA-60-4	0 to 250. 500. 1500 & 2500Pa Multi Range Selectable (0 to 1. 2. 6 & 10" w/c) 0-10Vdc or 4-20mA Selectable Output

Part code	Description
Suffix (add to above part code)	
-LCD	Integral LCD Display
-COM	ModBus/BACnet
Accessories	
DFK	Duct fixing kit
TEE	Tee piece air pressure (pack of 10)
PA-TUBE-8MM	PVC tube 8mm o/d x 1.5mm wall. 30m reel

Data sheets: [PA-60x.pdf](#) - [PA-60x-COM.pdf](#)

Note: A A duct fixing kit (DFK) is supplied with the sensor, consisting of 2m (6.56 ft) 5mm (0.20") i/d plastic tubing, 2 x pitot tubes and 4 x fixing screws.

PA-65x

Multi-Configurable Air DP Sensor



The PA-65x pressure transducers sense differential or gauge (static) pressure and convert this pressure difference to a proportional electrical output for either field selectable unidirectional or bidirectional pressure ranges. The PA-650 series is offered with field selectable ranges and analogue outputs of 0 to 5Vdc, 0 to 10Vdc, or 4 to 20mA.

FEATURES

- Field selectable multi-ranges
- Re-zero
- Integral LCD
- Snap-fit cover
- Duct fixing kit included



Part code	Description
PA-65-0	0-50. 0-100. 0-150. 0-200. bi-directional ± 50 . ± 100 . ± 150 . ± 200 Pa (0-0.2. 0-0.4. 0-0.6 & 0-0.8. bi-directional ± 0.2 . ± 0.4 . ± 0.6 & ± 0.8 "w/c)
PA-65-1	0-250. 0-500. 0-750. 0-1000. bi-directional ± 250 . ± 500 . ± 750 . ± 1000 Pa (0-1. 0-2. 0-3 & 0-4. bi-directional ± 1 . ± 2 . ± 3 & ± 4 "w/c)
PA-65-2	0-750. 0-1500. 0-2250. 0-3000. bi-directional ± 750 . ± 1500 . ± 2250 . ± 3000 Pa (0-3. 0-6. 0-9 & 0-12. bi-directional ± 3 . ± 6 . ± 9 & ± 12 "w/c)
	Suffix (add to above part code)
-S	Static pressure probe
	Accessories
DFK	Duct fixing kit
TEE	Tee piece air pressure (pack of 10)
PA-TUBE-8MM	PVC tube 8mm o/d x 1.5mm wall. 30m reel

Data sheet: [PA-65x.pdf](#)

Note: A duct fixing kit (DFK) is supplied with the sensor, consisting of 2m (6.56 ft) 5mm (0.20") i/d plastic tubing, 2 x pitot tubes and 4 x fixing screws.

PA-699

Multi-range Air DP Sensor



Sontay's range of field selectable multi-range differential pressure transmitters, incorporate a proven ceramic fulcrum lever technology for pressure measurement. The PA-699 has three field selectable ranges in one unit, providing versatility for a multitude of applications.

FEATURES

- Adjustable measurement range
- IP65 housing
- Duct fixing kit included
- Compact construction



Want to make this sensor wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Part code	Description
PA-699-01	Bi-directional. 30. 50 & 100Pa. (0.12. 0.20 & 0.40" w/c) 4-20mA Multi Range
PA-699-02	0 to 30. 50 & 100Pa. (0.12. 0.20 & 0.40" w/c) 4-20mA Multi Range
PA-699-04	0 to 100. 300 & 500Pa. (0.40. 1.20 & 2.01" w/c) 4-20mA Multi Range
PA-699-06	0 to 500. 1000 & 1600Pa. (2.01. 4.01 & 6.42" w/c) 4-20mA Multi Range
PA-699-08	0 to 1600. 2500 & 5000Pa. (6.42. 10.04 & 20.07" w/c) 4-20mA Multi Range

Notes: * This option must be specified at time of sensor order. They are built to order and not available ex-stock.

- A duct fixing kit (DFK) is supplied with the sensor, consisting of 2m (6.56 ft) 5mm (0.20") i/d plastic tubing, 2 x pitot tubes and 4 x fixing screws.

SPECIFICATION

Ranges:

PA-650	0-50, 0-100, 0-150, 0-200, bi-directional ± 50 , ± 100 , ± 150 , ± 200 Pa (0-0.2, 0-0.4, 0-0.6 & 0-0.8, bi-directional ± 0.2 , ± 0.4 , ± 0.6 & ± 0.8 "w/c)
PA-651	0-250, 0-500, 0-750, 0-1000, bi-directional ± 250 , ± 500 , ± 750 , ± 1000 Pa (0-1, 0-2, 0-3 & 0-4, bi-directional ± 1 , ± 2 , ± 3 & ± 4 "w/c)
PA-652	0-750, 0-1500, 0-2250, 0-3000, bi-directional ± 750 , ± 1500 , ± 2250 , ± 3000 Pa (0-3, 0-6, 0-9 & 0-12, bi-directional ± 3 , ± 6 , ± 9 & ± 12 "w/c)
Output:	Current 4-20mA, load: 100 to 800 Ω Voltage 0-5Vdc, 0-10Vdc (o/p impedance 300 Ω)
Power supply:	Current 24Vdc Voltage 18-24Vac or 13-30Vdc
Accuracy:	Overall $\pm 1.00\%$ fs Non-linearity $\pm 0.98\%$ fs Hysteresis 0.10% fs Non-repeatability 0.05% fs
Thermal effect:	Zero /Span Shift $\pm 0.03\%$ fs per $^{\circ}\text{C}$ (0.054 $^{\circ}\text{F}$)
Long term stability:	2.0% fs/yr
Over pressure:	68kPa
Pressure connections:	Push fit for 6mm (0.24") i/d tube
Diaphragm:	Stainless steel 304SS
Housing:	Material Flame retardant ABS Dimensions 116 x 106 x 52mm (4.57 x 4.17 x .05")
Optional static probe:	196 x 6mm dia. (7.72 x 0.25")
Protection:	IP65
Ambient range:	Temperature 0 to 50 $^{\circ}\text{C}$ (32 to 122 $^{\circ}\text{F}$) RH 0 to 85% RH, non-condensing
Weight:	240g (0.53lb)



The **PA-267 Air DP Sensor** is available at www.sontay.com
Scan the QR code to see this item.

SPECIFICATION

Accuracy, total of linearity.	PA-699-01 to 04 ±1.0 max.		
hysteresis & repeatability (% fs):	Others	±0.6	
Thermal effect (typical % fs/°C):		TC zero point	TC sensitivity
	PA-699-01	±0.02	±0.03
	PA-699-02	±0.02	±0.03
	PA-699-04	±0.01	±0.01
	Others	±0.01	±0.01
Rupture pressure:	2 x overload at ambient temp.		
Power supply:	Current output	8 to 33Vdc	
	Voltage	13.5 to 33Vdc or 24Vac ±15%	
Diaphragm:	Silicone		
Housing:	Polycarbonate PC		
Temperature:	Medium & ambient	0 to 70°C (32 to 158°F)	
Protection:	IP65		
Dimensions:	92 x 75 x 47.9mm (3.62 x 2.95 x 1.89")		
Weight:	92g (0.20 lb)		

Part code	Description
	Suffixes (add to above part code)
-V	0-10V voltage output
-LCD	Integral LCD option
	Accessories
DFK	Duct fixing kit
TEE	Tee piece air pressure (pack of 10)
PA-TUBE-8MM	PVC tube 8mm (0.31") o/d x 1.5mm (0.06") wall, 30m (98.5 ft) reel
PA-BRK	DIN-rail bracket
PA-699-CAL *	Calibration certificate

Data sheet: [PA-699.pdf](#)

PL-PSA

Liquid Pressure Switches



Adjustable pressure switches, suitable for the monitoring of flow failure and proving in pumps, chillers, valves etc. Units have an adjustable setpoint and differential.

FEATURES

- Adjustable pressure range
- Narrow adjustable differential

Part code	Description	Volume Price Breaks
PL-PSA1	-0.75 to +3 bar (-10.9 to +43.5 psi)	See Price List
PL-PSA2	-0.8 to +1.5 bar (-11.6 to +21.8 psi)	—
PL-PSA3	-0.5 to +7 bar (-7.3 to +101.5 psi)	—
Accessories		
PL-PIG	2m (6.56 ft) of 6mm (0.24") copper tubing + fitting	—
BRK	Bracket for PL-PSAx	—

Data sheet: [PL-PSA.pdf](#)

SPECIFICATION

Range:	PL-PSA1 -0.75 to +3 bar (-10.9 to +43.5 psi)
	PL-PSA2 -0.8 to +1.5 bar (-11.6 to +21.8 psi)
	PL-PSA3 -0.5 to +7 bar (-7.3 to +101.5 psi)
Differential:	PL-PSA1 0.25 to 1.5 bar (3.6 to 21.8 psi)
	PL-PSA2 0.2 to 1 bar (2.9 to 14.5 psi)
	PL-PSA3 0.5 to 5 bar (7.3 to 72.5 psi)
Pressure connections:	¼" BSP male
Ambient temperature:	-50 to +70°C (-58 to +158°F)
Liquid temperature:	-50 to +70°C (-58 to +158°F)
Switch rating:	230Vac @ 24(10)A
Protection:	IP44
Dimensions:	42 x 85 x 75mm (1.65 x 3.35 x 2.95")
Weight:	346g (0.76 lb)



Want to make this switch wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

PL-625

Static Pressure Switches



Features optimised polymer diaphragm technology to give long term stability and excellent repeatability of switching points and housed within a rugged industrial case.

FEATURES

- Suitable for liquids and gases
- High vibration resilience
- Adjustable switching differential
- Spade connectors and gland supplied

Part code	Description
PL-625-2.2	120 to 2200 mbar (0.12 to 2.2 bar / 1.7 to 31.9 psi) Switch
PL-625-6	1000 to 6000 mbar (1 to 6 bar / 14.5 to 87 psi) Switch

Data sheet: [PL-625.pdf](#)

SPECIFICATION

Max. test pressure:	10 bar (145 psi)
Max. operating pressure:	1½ x range
Pressure connection:	¼" BSP male
Media:	Water, air and steam (with pigtail siphon)
Electrical rating:	6A(3A) @ 250Vac
Contact system:	Changeover contact
Operating range:	-10 to +80°C (14 to 176°F)
Protection:	IP54
Dimensions:	98 x 65mm (3.86 x 2.56")
Weight:	260g (0.57 lb)



Want to make this switch wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

PL-FD113

Liquid DP Switch



Liquid differential pressure switch suitable for monitoring flow status across pumps, chillers, valves etc. The switch has an adjustable set point from 0.3 bar to 4.5 bar (4.4 to 65.3 psi) with a fixed differential of 0.2 bar (2.9 psi).

FEATURES

- SPDT switch
- Single unit covers a wide pressure range
- Simple to configure

Part code	Description	Volume Price Breaks
PL-FD113	0.3 to 4.5 bar (4.4 to 65.3 psi) Liquid DP Switch	See Price List

Data sheet: [PL-FD113.pdf](#)

SPECIFICATION

Range:	0.3 to 4.5 bar (4.4 to 65.3 psi)
Switching differential:	0.2 bar (2.9 psi)
Pipe connections:	¼" BSP female
Ambient temperature:	-10 to +70°C (14 to 158°F)
Liquid temperature:	70°C max. (158°F)
Switch rating:	3A @ 230Vac
Protection:	IP30
Dimensions:	128 x 175 x 48mm (5.04 x 6.89 x 1.89")
Weight:	800g (1.76 lb)

Note: A mounting bracket is supplied with the switch.



Want to make this switch wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

PL-630-A

Differential Pressure Switches



Ideal for flow monitoring and proving applications in heating, ventilating and air-conditioning systems.

FEATURES

- Over-pressure safety capability to 10 bar (145 psi) / 20 bar (290 psi)
- Mechanically isolated switching chamber for safety and reliability
- Medium temperatures to 80°C (176°F)
- Rugged construction
- Adjustable setting and differential

Part code	Description
PL-630-A-0.02	6 to 20 mbar (0.1 to 0.3 psi) Diff. Pressure Switch
PL-630-A-0.06	15 to 60 mbar (0.2 to 0.9 psi) "
PL-630-A-0.2	40 to 200 mbar (0.6 to 2.9 psi) "
PL-630-A-1	0.15 to 1 bar (2.2 to 14.5 psi) Diff. Pressure Switch
PL-630-A-3	1 to 3 bar (14.5 to 43.5 psi) "
PL-630-A-5.5	2 to 5.5 bar (29 to 79.8 psi) "

SPECIFICATION

Max. operating pressure and overload on one side (P1>P2):	With range ≤ 200 mbar (2.9 psi) = 10 bar (145 psi) With range 150 to 5000 mbar (2.2 to 72.5 psi) = 20 bar (290 psi)
Lowest turn-on pressure:	15 mbar (0.2 psi)
Pressure connection:	1/8" BSP female
Media:	Water, air and steam (with pigtail siphon)
Electrical rating:	1A(0.5A) @ 250Vac
Contact system:	Changeover contact
Operating range:	-10 to +80°C (14 to 176°F)
Protection:	IP65
Dimensions:	110 x 65mm (4.33 x 2.56")
Weight:	1.08 kg (2.38 lb)

Part code	Description
Accessories	
PL-630-FIT	Pair of 1/4" to 6mm compression fittings

Data sheet: [PL-630-A.pdf](#)

Note: A mounting bracket is supplied with the switch.



Want to make this switch wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

PL-528

Static Pressure Transmitter



The PL-528 range of static pressure transmitters are suitable for use with a large range of liquids and gases compatible with the FPM (Viton) seal. The pressure transmitter is based on proven ceramic technology for exceptional performance speed and reliability.

FEATURES

- Compact rugged construction
- Negligible temperature influence on accuracy
- IP65 protection
- Electrical terminals and gland to DIN EN175 301-803-A
- Supply short circuit & polarity reversal protection

SPECIFICATION

Supply voltage:	PL-528-x	7Vdc to 33Vdc
	PL-528-x-V	12Vdc to 33Vdc or 24Vac ±15%
Output:	PL-528-x	4-20mA
	PL-528-x-V	0-10Vdc
Response time:		<2ms. 1ms typical
Overload/rupture pressure:		0 to 4 bar (58 psi) 3 x measuring range full scale 6 to 40 bar (87 to 580 psi) 2.5 x measuring range full scale
Materials:	Pressure connection	S/S 1.4305 / AISI 303
	Sensor	Ceramic Al2O3 (96%)
	Sealing material	FPM (Viton)
Pressure connection:		1/2" BSP male manometer combi
Temperature:	Media	-15 to +125°C (5 to 257°F)
	Ambient	-30 to +85°C (-22 to +185°F)
Protection:		IP65
Dimensions:		105 x 65mm (4.13 x 2.56")
Weight:		105g (1.5 lb)



Want to make this sensor wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Part code	Description
4-20mA Output (2-wire loop powered)	
PL-528-1	0 to 1 bar (0 to 14.5 psi) Static Pressure Sensor
PL-528-1.6	0 to 1.6 bar (0 to 23.2 psi) "
PL-528-2.5	0 to 2.5 bar (0 to 36.3 psi) "
PL-528-4	0 to 4 bar (0 to 58 psi) "
PL-528-6	0 to 6 bar (0 to 87 psi) "
PL-528-10	0 to 10 bar (0 to 145 psi) "
PL-528-16	0 to 16 bar (0 to 232 psi) "
PL-528-25	0 to 25 bar (0 to 362.6 psi) "
PL-528-40	0 to 40 bar (0 to 580 psi) "
0-10Vdc Output	
PL-528-1-V	0 to 1 bar (0 to 14.5 psi) Static Pressure Sensor
PL-528-1.6-V	0 to 1.6 bar (0 to 23.2 psi) "
PL-528-2.5-V	0 to 2.5 bar (0 to 36.3 psi) "
PL-528-4-V	0 to 4 bar (0 to 58 psi) "

Part code	Description
PL-528-6-V	0 to 6 bar (0 to 87 psi) Static Pressure Sensor
PL-528-10-V	0 to 10 bar (0 to 145 psi) "
PL-528-16-V	0 to 16 bar (0 to 232 psi) "
PL-528-25-V	0 to 25 bar (0 to 362.6 psi) "
PL-528-40-V	0 to 40 bar (0 to 580 psi) "
Accessories	
PL-HS	Pressure Transmitter Heat Sink
PL-528-CAL *	Calibration certificate

Data sheets: [PL-528.pdf](#) · [PL-HS.pdf](#)

Notes:

1. Heat Sink PL-HS can be used where media has a higher temperature than the sensor allows.
2. * This option must be specified at the time of sensor order. It is built to order and not available ex-stock.

PL-691

Low Range Static Pressure Sensor



The speed and accuracy of the PL-691 range, made possible by the ceramic sensing technology, make them particularly suitable to level sensing and other applications where close control is required.

FEATURES

- Current and voltage output models
- Easy installation and wiring
- Complete with 1.5m (4.92 ft) cable, ready connected
- Solid state sensing technology
- High over-pressure resilience

Part code	Description
4-20mA Output (2-wire loop powered)	
PL-691-0.1	0 to 100 mbar (0 to 1.5 psi) Static Pressure Sensor
PL-691-0.2	0 to 200 mbar (0 to 2.9 psi) "
PL-691-0.3	0 to 300 mbar (0 to 4.4 psi) "
PL-691-0.6	0 to 600 mbar (0 to 8.7 psi) "
0-10Vdc Output	
PL-691-0.1-V	0 to 100 mbar (0 to 1.5 psi) Static Pressure Sensor
PL-691-0.2-V	0 to 200 mbar (0 to 2.9 psi) "
PL-691-0.3-V	0 to 300 mbar (0 to 4.4 psi) "
PL-691-0.6-V	0 to 600 mbar (0 to 8.7 psi) "

Data sheets: [PL-691.pdf](#) · [PL-HS.pdf](#)

SPECIFICATION

Supply voltage:	4-20mA	11 to 33Vdc
	0-10Vdc	18 to 33Vdc or 24Vac ±15%
Response time:	<5ms	
Overload:	2 x measuring range (rupture 3 x)	
Pressure connection:	½" BSP male	
Media:	Water, air and steam (with PL-HS)	
Temperature:	Ambient & media -15 to +80°C (5 to 176°F)	
Protection:	IP65	
Dimensions:	132 x 40mm (5.20 x 1.57")	
Weight:	260g (0.57 lb)	



Want to make this sensor wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Part code	Description
Accessories	
PL-HS	Pressure Transmitter Heat Sink
PL-691-CAL *	Calibration certificate

Notes:

Heat Sink PL-HS can be used where media has a higher temperature than the sensor allows.

* This option must be specified at the time of sensor order. It is built to order and not available ex-stock.

PL-652

Low Range Differential Pressure Sensors



A sensor for liquids and gases which uses the 'Hall Effect' sensing technology. The high over pressure resilience and rugged mechanical construction make this product suitable for a wide range of HVAC applications.

FEATURES

- Output signal in current or voltage
- High over pressure safety margin
- High linearity, accuracy and repeatability
- Rugged IP65 case construction
- Suitable for mildly aggressive liquids & gases

Part code	Description
4-20mA Output (3-wire)	
PL-652-0.05	0 to 50 mbar (0 to 0.7 psi) Diff. Pressure Sensor
0-10Vdc Output	
PL-652-0.05-V	0 to 50 mbar (0 to 0.7 psi) Diff. Pressure Sensor
Accessory	
PL-652-CAL *	Calibration certificate

Data sheet: [PL-652.pdf](#)

Notes:

1. A mounting bracket is supplied with the sensor.
2. * This option must be specified at the time of sensor order. It is built to order and not available ex-stock.

SPECIFICATION

Supply voltage:	20-30Vdc
Max. operating pressure and overload on one side (P1>P2):	10 bar (145 psi)
Pressure connection:	⅛" BSP female
Media:	Water, air and steam (with pigtail siphon)
Operating range:	-10 to +80°C (14 to 176°F)
Protection:	IP65
Dimensions:	110 x 65mm (4.33 x 2.56")
Weight:	940g (2.07 lb)



Want to make this sensor wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

PL-692

Differential Pressure Sensors



For high accuracy and close control applications, the PL-692 features ceramic sensing technology for exceptional accuracy and reliability. The amplified sensing technologies allow high temperature stability and no creepage associated with mechanical systems.

FEATURES

- Current and voltage output models
- Supplied with 6mm o/d fittings
- Easy installation and wiring
- Complete with 1.5m (4.92 ft) cable, ready connected
- High temperature stability

SPECIFICATION

Supply voltage:	4-20mA	11 to 33Vdc
	0-10Vdc	18 to 33Vdc or 24Vac ±15%
Response time:	<5ms	
Pressure connection:	6mm compression	
Media:	Water, air and steam (with pigtail siphon)	
Temperature:	Ambient & media -15 to +80°C (5 to 176°F)	
Protection:	IP65	
Dimensions:	130 x 40mm (5.12 x 1.57")	
Weight:	640g (1.41 lb)	



Want to make this sensor wireless – check out our RF-IOM wireless IO module in the SonNet section on page 44.

Part code	Description
4-20mA Output (2-wire loop powered)	
PL-692-0.1	0 to 100 mbar (0 to 1.5 psi) Diff. Pressure Sensor
PL-692-0.2	0 to 200 mbar (0 to 2.9 psi) "
PL-692-0.4	0 to 400 mbar (0 to 5.8 psi) "
PL-692-1	0 to 1 bar (0 to 14.5 psi) "
PL-692-2.5	0 to 2.5 bar (0 to 36.3 psi) "
PL-692-4	0 to 4 bar (0 to 58 psi) "
PL-692-6	0 to 6 bar (0 to 87 psi) "
PL-692-10	0 to 10 bar (0 to 145 psi) "
PL-692-16	0 to 16 bar (0 to 232 psi) "
0-10Vdc Output	
PL-692-0.1-V	0 to 100 mbar (0 to 1.5 psi) Diff. Pressure Sensor
PL-692-0.2-V	0 to 200 mbar (0 to 2.9 psi) "
PL-692-0.4-V	0 to 400 mbar (0 to 5.8 psi) "
PL-692-1-V	0 to 1 bar (0 to 14.5 psi) "
PL-692-2.5-V	0 to 2.5 bar (0 to 36.3 psi) "
PL-692-4-V	0 to 4 bar (0 to 58 psi) "
PL-692-6-V	0 to 6 bar (0 to 87 psi) "
PL-692-10-V	0 to 10 bar (0 to 145 psi) "
PL-692-16-V	0 to 16 bar (0 to 232 psi) "
Accessory	
PL-692-CAL *	Calibration certificate

Data sheet: [PL-692.pdf](#)

Notes:

A mounting bracket is supplied with the sensor.

* This option must be specified at the time of sensor order. It is built to order and not available ex-stock.



Smart Communication

How to make a SonNet Installation in 3 easy Steps



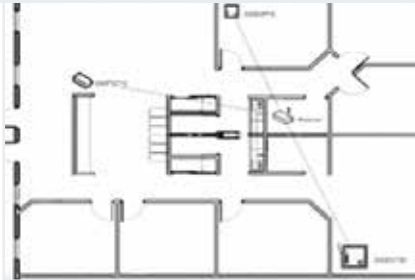
1 Make a Site Survey of your building using the RF-SSK Site Survey Kit.



RF-SSK Site Survey Kit

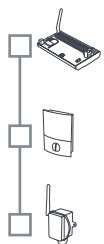


Checking signal strengths with hand held tool.
Boost any poor signals with the router



Map your system on a floor plan using SonNet CMS software

2 Order the Kit required and make your final installation.



- RF-RXS-Receiver
- RF-RS-Sensor
- RF-RR-Router
- RF-IOM-IO-Module

List of sensors and routers selected on site survey

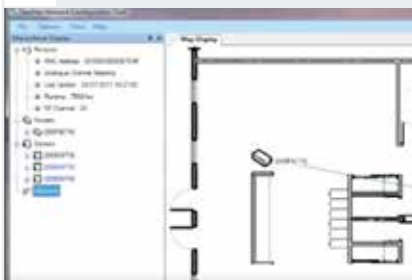


Your selected products should work straight out of the box



Place equipment around the building as outlined in the site survey

3 Commission your system using your chosen system or interface.



Through SonNet CMS software provided: Auto-commissioning mode instantly discovers all devices



Directly into Niagara AX framework using RF-RXS receiver or option card



Through Trend or BACnet systems using SonNet powered by SIP

How SonNet works

SonNet employs the 802.15.4 wireless standard, and uses the 2.4GHz ISM band which features a choice of 16 channels and direct sequence spread spectrum techniques to reduce the effects of interference. To ensure a robust network, a self-healing tree topology is used, which eliminates concerns with reception and reliability often associated with existing 'point-to-point' wireless systems. If a sensor detects a problem with the signal, it will automatically re-route to find the strongest available alternative path to the receiver.

To access all our training videos visit our website www.sontay.com or use the QR code.



RF-SSK

Site Survey Kit (SSK)



THE SITE SURVEY KIT

It is comprised of a receiver RF-RXSS which is used in conjunction with the Sontay RF-PS-500 site survey routers, RF-HHT hand-held monitor and RF-TS-900 nodes. Routers are used to route signals from battery powered nodes and other routers to the receiver module, where the signal strength of a direct path is not sufficient for reliable communications.

DATA TRANSMISSION

Data is transmitted back to the receiver at configurable time intervals, or on a configurable change in measured value. Each sensor retains these configurations if the battery becomes discharged or requires replacement.

RF-SSK-HIRE

Hire of the RF-SSK SonNet Site Survey Kit for six working days. See page 99 for full hire terms and conditions.

THE SSK RECEIVER

Automatically selects which of the 16 transmission channels available gives the best radio network performance, taking into account both signal strength and interference levels from adjacent channels and equipment (such as Wi-Fi etc.) The SSK hand-held monitor, nodes and routers automatically find the best path back to the receiver, which may be directly to the receiver or via "parent" routers.

Part code	Description
	Site Survey Kit
RF-SSK	Site Survey Kit (SSK) - containing: 4 sensor nodes, 2 routers, receiver, hand-held monitor and power chargers for the rechargeable batteries
	(Individual units)
RF-TS-900	Sensor End Device (rechargeable)
RF-PS-500	Plant Router (rechargeable)
RF-HHT	Hand-held Tool
RF-RXSS	Site Survey Receiver

Data sheet: [RF-SSK-Ind.pdf](#)

RF-RS

Battery Powered Sensors (EDs)



SonNet PARTS

Battery Powered Sensors (EDs)

Sensor nodes are used in conjunction with the Sontay RF-RX-20, RF-RX-40 or RF-RXS receiver units, and if required (depending on installation topography), Sontay RF-RR series of routers.

Data is transmitted back to the receiver at configurable time intervals, or on a configurable change in measured value.

Each sensor retains these configurations if the battery becomes discharged or requires replacement.

The sensors automatically find the best path back to the receiver, which may be directly to the receiver or via 'parent' routers.

SPECIFICATION

Radio Output:	Frequency	2.4GHz. 16 channels. direct-sequence spread spectrum
	Compliance	IEEE 802.15.4-2006
Aerial Characteristics:	Space	Gain 1.2dBi, VSWR 1.5:1
	Plant	Gain 2.0dBi, VSWR 2:1
Data Encryption:	AES	128
Power Output:	0dBm	
Accuracy:	Temperature	±0.3°C
	RH	±3% RH
	CO ₂	±75ppm
Battery Type:	Space	3.6V AA 2.4Ah Li-SOCl ₂ . non-rechargeable
	Plant	3.6V 2.1Ah 2/3 A Li-SOCl ₂ . non-rechargeable
Battery Life:	>3 years	(depending on configuration)
Input:	VFC	

Part code	Description
	Temperature
RF-RS-T-1000	Space Temperature Sensor *
RF-RS-T-322	Duct Sensor - 150mm probe
RF-RS-T-341	Immersion Sensor - 150mm probe
RF-RS-T-351	Clamp-on Sensor
RF-RS-T-331	Outside Air Sensor
RF-RS-T-332	Outside Air Sensor c/w rad. shield
RF-RS-T-555-2	Flying Lead Sensor - 2m
RF-RS-T-555-5	Flying Lead Sensor - 5m
	Humidity & Temperature
RF-RS-R-1000	Space Humidity & temp. Sensor *
RF-RS-R-622	Duct Humidity & temp. Sensor
RF-RS-R-631	Wall Humidity & temp. Sensor
RF-RS-R-632	Outside Humidity & temp. Sensor
	* Sensor Options for -1000 only (add to part code)
-MS	Momentary switch interface
-SP	Set-point adjuster interface
-VFC	VFC Input
	CO₂. Humidity & Temperature
RF-RS-CO2-1000	Space CO ₂ Sensor **
RF-RS-CO2-RH-1000	Space CO ₂ RH & temp. Sensor **
RF-RS-CO2-622	Duct CO ₂ Sensor
RF-RS-CO2-RH-622	Duct CO ₂ RH & temp. Sensor
RF-RS-CO2-T-1000	Space CO ₂ Temp Sensor
RF-RS-CO2-T-622	Duct CO ₂ Temp Sensor
	Accessories
RF-RS	Battery for space sensors
RF-RP	Battery for plant sensors

** Options not available

Data sheets: [RF-RS-R.pdf](#) • [RF-RS-T.pdf](#) • [RF-RS.C.pdf](#)

RF-RR

Powered Routers



SonNet PARTS

Powered Routers

These routers are used in conjunction with the Sontay RF-RX-20, RF-RX-40 or RF-RXS receiver units, and RF-RS series of battery powered radio sensors, and are used to route signals from battery powered nodes and other routers to the receiver module, where the signal strength of a direct path is not sufficient for reliable communications.



Note: Each router can support a maximum of 16 'children', which can consist of a maximum of 8 battery powered nodes and 8 routers, or up to 16 routers if there are no battery powered nodes. Consideration should be given to network planning for redundancy in case of router failure or damage.

Routers automatically find the best path back to the receiver, which may be directly to the receiver or via other 'parent' routers.

SPECIFICATION

Radio Output:	Frequency	2.4GHz. 16 channels. direct-sequence spread spectrum
	Compliance	IEEE 802.15.4-2006
Aerial Characteristics:	Space	Gain 1.2dBi, VSWR 1.5:1
	Plant	Gain 2.0dBi, VSWR 2:1
Data Encryption:	AES 128	
Power Output:	+10dBm	
Accuracy:	Temperature	±0.3°C (0.54°F)
	RH	±3% RH
	CO ₂	±75ppm
Power Supply:	24Vac/dc or 230Vac	
Input:	VFC	



Part code	Description
	Routers
RF-RR-1000	24V Space Router
RF-RR-600-230	230V Plant Router
RF-RR-600	24V plant Router
	Router Sensors
RF-RR-T-1000	Space Temp. Sensor/Router *
RF-RR-T-622	Duct Sensor/Router - 150mm probe
RF-RR-T-641	Router Immersion Sensor - 150mm probe
RF-RR-T-651	Router Clamp-on Sensor
RF-RR-T-631	Router Outside Air Sensor
RF-RR-T-632	Router Outside Air Sensor c/w Rad Shield
RF-RR-T-555-2	Router Flying Lead Sensor - 2m
RF-RR-T-555-5	Router Flying Lead Sensor - 5m
RF-RR-R-1000	Router Space Humidity & Temp. Sensor *
RF-RR-R-622	Router Duct Humidity & Temp. Sensor
RF-RR-R-631	Router Wall Humidity & Temp. Sensor
RF-RR-R-632	Router Outside Humidity & Temp. Sensor
	CO₂, Humidity & Temperature
RF-RR-CO2-1000	Space CO ₂ Sensor / Router **
RF-RR-CO2-RH-1000	Space CO ₂ , RH&T Sensor / Router **
RF-RR-CO2-622	Duct CO ₂ Sensor / Router
RF-RR-CO2-RH-622	Duct CO ₂ , RH&T Sensor / Router
RF-RR-CO2-T-1000	Space CO ₂ & Temp Sensor
RF-RR-CO2-T-622	Duct & Temp Sensor
	* Sensor/Router Options for -1000 only (add to part code)
-MS	Momentary switch interface
-SP	Set-point adjuster interface
-VFC	VFC Input

** Options not available

Data sheets: [RF-RR.pdf](#) · [RF-RR-R.pdf](#) · [RF-RR-T.pdf](#) · [RF-RR-C.pdf](#)

RF-RX

System Receiver



SonNet PARTS

System Receiver

The Sontay RF-RX-20 or RF-RX-40 receiver collects data from all other devices on the radio network, including measurements from sensors, link quality for all links formed in the network, battery levels for all battery powered devices, hours run for all devices and the current status of all devices.

Note: Each receiver can support a maximum of 16 'children', which can consist of a maximum of 12 battery powered nodes and 4 routers, or up to 16 routers if there are no battery powered nodes.

A USB socket is provided for connection to a PC or laptop running the Sontay SonNet CMS software.

For a live demonstration of the SonNet Wireless Monitoring System please contact the Sontay Sales Team at sonnet@sontay.com.

Part code	Description
	Receiver Modules
RF-RX-20	Receiver with 20 x 0-10Vdc outputs
RF-RX-40	Receiver with 40 x 0-10Vdc outputs

SPECIFICATION

Radio Output:	Frequency	2.4GHz. 16 channels. direct-sequence spread spectrum
	Compliance	IEEE 802.15.4-2006
Aerial Characteristics:	Gain:	2.0dBi
	VSWR:	2:1
Data Encryption:	AES 128	
Power Output:	+10dBm	
Analogue Outputs:	RF-RX-20	20 x 0-10Vdc analogue outputs @10mA max. each
	RF-RX-40	40 x 0-10Vdc analogue outputs @10mA max. each
Output ranges:	Temp.	-10 to +70°C (14 to 158°F)
	RH	0 to 100%
	Setpoint	0 to 100%
	Switch	0Vdc = OFF, 10Vdc = ON
Power Supply:	24Vac/dc	
Housing:	DIN-rail. 203 x 104 x 38mm (W.H.D) (7.99 x 4.09 x 1.5") – excluding aerial	

Part code	Description
	RF-Accessories
RF-AERIAL-PM2	Aerial extension c/w bulk head fitting - 2m (6.56 ft)
RF-AERIAL-PM5	Aerial extension c/w bulk head fitting - 5m (16.40 ft)

Data sheets: [RF-RX.pdf](#)

RF-RXS

Network Radio Receiver. Niagara Ax™ Option Card



The RF-RXS receivers allow quick and seamless integration with Tridium's range of JACE controllers, with all supported BMS protocols, such as BACnet, LonTalk and ModBus.

The integral web interface allows an engineer to not only gather measurement data from SonNet wireless devices but perform radio network management services such as auto-commissioning of SonNet wireless devices and setting device configuration parameters.

A serial cable is supplied for connecting the RF-RXS to the BMS controller.



2 Versions of the receiver are available

- RF-RXS DIN rail mounted housing with serial connection to COM1 or COM2 of a JACE
- RF-RXS-N internally mounting JACE option card

SPECIFICATION:

Radio Output:	Frequency	2.4GHz 16 channels.
		automatically selected
		Direct-sequence spread spectrum
		Compliance IEEE 802.15.4-2006
Aerial Characteristics:	Gain	3.0dBi
	VSWR	<2:1
Data Encryption:	AES	128
Power Output:		+10dBm
Power Supply:	24Vdc	±15%
	24Vac	±15%. 50/60 Hz
Serial communications:	USB	2.0
(RF-RXS only)	Serial	9-pin RS-232
Environmental:	Operating Temp.	-10 to +50°C (14 to 122°F)
	RH	0 to 90%. non-condensing
	Storage Temp.	-10 to +80°C (14 to 176°F)
	RH	0 to 90%. non-condensing
Dimensions:		100mm x 70mm x 58mm (3.94 x 2.76 x 2.28")

Part code	Description
RF-RXS	DIN-rail Mounted Network Radio Receiver
RF-RXS-N	Internally Mounted Network Radio Receiver
RF-AERIAL-PM2	Aerial extension c/w bulk head fitting - 2m (6.56 ft)
RF-AERIAL-PM5	Aerial extension c/w bulk head fitting - 5m (16.40 ft)
Accessory	
RF-SERIAL	Serial cable 1.8m (6 ft)

Data sheets: [RF-RXS.pdf](#) · [RF-RXS-N.pdf](#)

RF-IOM-4A-4U

Radio Input/Output Module



The RF-IOM-4A-4U Input/Output Module widens the appeal and broadens the spectrum of applications that SonNet can be used in. This intelligent device is used in conjunction with SonNet sensors and routers to act as local I/O with connectivity to typical HVAC equipment such as fan coil units and variable volume boxes.

It can take any 0-10Vdc, 4-20mA, resistive or VFC signal from wired devices in the field and transmit them to a SonNet RF-RXS receiver which in turn can be read by a JACE controller through Niagara framework or other controllers where a driver is available.

The strategy within the controller will then use this information to calculate control values which are then passed back through the I/O module to change things like damper positions and other output connections in the field.

The RF-IOM also acts as a router and has the same functionality and power output that a standard router does as well as I/O functionality.

SPECIFICATION:

Radio Output:	Frequency	2.4GHz 16 channels.
		automatically selected
		Direct-sequence spread spectrum
		Compliance IEEE 802.15.4-2006
Aerial Characteristics:	Gain	3.0dBi
	VSWR	<2:1
Data Encryption:	AES	128
Power Output:		+10dBm (10mW@50Ω)
Power Supply:	24Vdc/dc	±15%
Fuse:		20mm 250V 500mA Anti-surge
Inputs (4 x universal):	4-20mA	loop or ext. powered 750Ω max.
	0-10Vdc	4k7Ω min. impedance
	Resistive	1.5kΩ min. to 60kΩ max.
	Digital	VFC
Outputs:		4 x 0-10Vdc @ 20mA each
LED indication:	Network	
	Data	
	Digital input	
Ambient:	Temperature	10 to +50°C (14 to 122°F)
	RH	0 to 90%. non-condensing
Dimensions (H x W x D)		86 x 58 x 104mm (3.39 x 2.28 x 4.09")

Part code	Description
RF-IOM-4A-4U	Radio Input/Output Module
Accessory	
RF-AERIAL-PM2	Coaxial extension cable for externally mounted aerial - 2m length
RF-AERIAL-PM5	Coaxial extension cable for externally mounted aerial - 5m length

Data sheet: [RF-IOM.pdf](#)



Smart Communication – Protocols

ASHRAE **BACnet**

Modbus

M-Bus

Communication Through Smart Protocols

Communication through smart protocols is rapidly increasing in popularity. The enhanced Smart Communication range from Sontay, offers a wide range of products that can communicate through BACnet, Modbus or Mbus protocols.

“Smart” communicating products differ from conventional HVAC products in that they transfer measurement values as data, rather than as analogue signals.



SB/SM – Smart Communication



SB/SM

Smart Communication Sensors offer the ability to sense and transmit data from up to 9 variables in one sensor over a simple 2-wire data bus.

Saving on installation and controller I/O.

SC-FS – A Range Of Gateways



SC-FS

A range of gateways to convert and transmit data to your desired protocol.

SC-IO – Smart I/O Module



SC-IO

Smart I/O Module can take inputs from standard field devices and transmit them over BACnet or Modbus protocols.

ST-TOUCH – Touchscreen Thermostat



ST-TOUCH

A touchscreen thermostat for hotel, office or smart home applications with Modbus output.

RF-RXS-SIP – SonNet powered by SIP



RF-RXS-SIP

SonNet powered by SIP BACnet interface for the award winning SonNet wireless sensing system.

RF-RXS-SIP

SIP Interface



The SonNet powered by SIP interface offers the facility to seamlessly integrate a SonNet wireless sensing network with Trend or BACnet systems.

The package comes with everything you need to integrate your network including the RF-RXS SonNet receiver. All you need to add is the sensors and routers.

FEATURES:

- SIP
- SIP Power supply
- Ethernet cable
- Serial cable (for connection between the SIP and the RF-RXS)
- Quick start guide
- DIN rail clip
- RF-RXS receiver



This product, when connected to a single SonNet RF-RXS wireless receiver, exposes information from wireless sensors and routers by retrieving and transferring selected types of data, e.g. Amps, Voltage, Temperature, RH & CO₂. It operates as a BACnet server providing pre-determined BACnet 'object type', 'object name' and 'Unit' information for each selected 'End device' point as requested by a BACnet client on the BACnet/IP based control system or it can present the data as Trend VIQ pages.

SPECIFICATION

VIQs	25 or 50
Power supply	24Vdc \pm 15Vdc regulated
Output ranges:	
Current	300mA @ 12Vdc. 150mA @ 24Vdc (NB only a DC supply may be used)
Ports:	1 x RJ45 serial. 1 x 10/100Mb Ethernet. 2 x USB
Indication:	
	LEDs for:
	Power
	Ready
	LAN traffic
Ambient:	
	Storage -20°C to 80°C. 0 to 90% RH
	Operating 0°C to 70°C. 0 to 90%
Protection:	IP30
Dimensions	108 x 102 x 32mm
Weight:	330g

Part code	Description
RF-RXS-SIP-B-25	SIP Interface (BACnet) 25 pts
RF-RXS-SIP-B-50	SIP Interface (BACnet) 50 pts
RF-RXS-SIP-T-25	SIP Interface (Trend) 25 ViQs
RF-RXS-SIP-T-50	SIP Interface (Trend) 50 ViQs

Data sheets: [RF-RXS-SIP-B_Full.pdf](#) · [RF-RXS-SIP-T_Full.pdf](#)

SB/SM

Smart Communication Sensor



Save time and cost on installation through smart connectivity. The SB/SM offers total environmental sensing in one single space or plant housing. Installation of all sensors is over one twisted pair cable and configuration is simple.

Each sensor has been selected to suit particular applications. All option outputs are available via BACnet MS/TP or ModBus RTU.



OUTPUTS	INPUTS	USER INTERFACE
Temperature - T	1x 0-10Vdc analogue	Setpoint. configurable
Relative Humidity - RH	1x VFC digital	Override button. configurable
Carbon dioxide - CO ₂		Fan speed switch
Carbon monoxide - CO		LCD Display
Indoor Air Quality - IAQ		Traffic light LED for CO ₂ Level
Light Level - LL		
Occupancy - OC		

Part code	Part code	Description
BACnet	ModBus	Space Sensors
SB-1001	SM-1001	Smart Sensor c/w Temp and RH
SB-1002	SM-1002	Smart Sensor c/w Temp and RH, CO ₂ & 3 colour LED
SB-1003	SM-1003	Smart Sensor c/w Temp, CO ₂ and 3 colour LED
SB-1004	SM-1004	Smart Sensor c/w Temp, LCD, Fan Speed and Setpoint
SB-1005	SM-1005	Smart Sensor c/w Temp and RH, CO ₂ , LL, OC, SP and 3 colour LED
SB-1006	SM-1006	Smart Sensor c/w Temp, CO ₂ , LL, OC, SP and 3 Colour LED
SB-1007	SM-1007	Smart Sensor c/w Temp, CO ₂ , RH, AQ, CO, LCD, SP, FS, MS
BACnet	ModBus	Plant Sensors
SB-622	SM-622	Duct Temp & RH
SB-631	SM-631	Wall Temp & RH
SB-632	SM-632	Outside Temp & RH
SB-602	SM-602	Duct Temp, RH & AQ
SB-603	SM-603	Duct Temp, RH, AQ & CO ₂
SB-604	SM-604	Wall Temp, OC & LL

Data sheet: [SB.pdf](#) · [SM.pdf](#)

SPECIFICATION

BACnet MS/TP	9k6 to 78k8bps or auto baud rate detection
ModBus RTU	9k6 to 57k6bps. selectable parity and stop bit configuration
Supply voltage	24Vac/dc \pm 10%
Output measurement ranges	
Temperature:	-10 to +110 units (°C or °F selectable). \pm 0.4units
RH:	0 to 100%, \pm 2%
CO ₂ :	0 to 2.000ppm or 0 to 5.000ppm, \pm 70ppm
CO:	0 to 100ppm
IAQ:	0 to 10 indices values
LL:	0 to 10.000lux
OC:	Detection, off delay 10-900 seconds
	user configurable

Auxiliary Inputs

Analogue:	1x 0-10Vdc linear or any Sontay 10K3A1 thermistor
Digital:	1x Volt Free Contact

User Interfaces

Setpoint wheel SP:	User configurable: Min. max. °C or °F selectable
Override button MS:	User configurable
Fan speed switch FS:	Configurable 3, 4 or 5 stages (Off, Auto, 1, 2, 3)
LCD Display:	Indication of measured values. fan speed status, configurable (e.g. occupancy status)
Traffic light LED:	Green, amber, red LED indication for CO ₂ level, configurable

Housing:

Space:	
Material	ABS (flame retardant)
Protection	IP3
Colour	Polished white finish
Dimensions	115 x 85 x 28mm
Weight	up to 145g
Plant:	
Material	ABS (flame retardant)
Protection	IP65 (when screws applied)
Colour	Light grey finish
Dimensions	116 x 106 x 52mm
Weight	up to 265g

Ambient

Temperature	0 to +50°C
RH	0 to 95% non-condensing

Note: The CO and AQ element has a 5 year life and can be replaced on site when needed.

SC-FS-EZX-KNX-BAC EZ Gateway. KNX to BACnet



The EZ Gateway KNX to BACnet is an easy-to-use, high-performance protocol gateway for integrators to interface KNX certified products to BACnet management systems in commercial buildings and industrial facilities.

The EZ Gateway KNX to BACnet integrates KNX-based devices and systems to both flavors of BACnet-based management systems over BACnet/IP or MS/TP protocols.

FEATURES:

- KNX, BACnet MS/TP and BACnet IP supported.
- **KNX Interoperability:** Connect with virtually any KNX-certified device out of the box.
- **ETS Support:** Seamlessly import KNX Group addresses from ETS to lower commissioning time.
- **BACnet COV:** Reduce the amount of BACnet data overhead to allow network traffic to be less congested by transmitting data only when detecting a KNX device status change.
- **BACnet BBMD:** Connect to remote BACnet networks and different subnets for easy configuration.
- **DeviceProxy™:** Minimize management and operational costs with granular visibility and control over each KNX device from a BACnet management station.

SPECIFICATION

Power	9-30Vdc or 12-24Vac, 240mA at 12V
Ambient	Temperature -40 - 75°C (-40 - 167°F)
	Relative Humidity 5 - 90% non condensing
Communication	Baud rate 9k6
	Start Bit: 8; Stop Bit: 1; Parity: Odd
	Ethernet: 10/100 BaseT MDIX
Installation	Table, wall or DIN rail mount
Dimension	H115 x W74 x D41mm
Weight	200g

Part code	Description
SC-FS-EZ1-KNX-BAC	Fieldserver EZ Gateway KNX to BACnet (250 points)
SC-FS-EZ2-KNX-BAC	Fieldserver EZ Gateway KNX to BACnet (500 points)
SC-FS-8915-35-QS	Din Rail Mounting Assembly

[Data sheet: SC-FS-EZX-KNX-BAC.pdf](#)



SC-FS-QS-1X50-1219 QuickServer M-BUS Gateway



The QuickServer M-BUS Gateway easily enables data access between M-BUS devices to BACnet and Modbus networks for bi-directional communication. It is configurable to act as both a Master and Slave M-BUS devices.

When configured as an M-BUS Master the device has the ability to change each slave to a desired standard M-BUS baud rate automatically. The QuickServer configured as an M-BUS device has the ability to change its own baud to a desired standard M-BUS baud rate if requested by the Master.

FEATURES:

- A single gateway powers and connects directly the Meter Bus network. No level converter needed.
- Embedded Web-GUI interface select the connected meter models from drop down list. No software needed.
- BTL certification, Rev. 12 on all FieldServer BACnet interfaces.
- Embedded diagnostics for data monitoring and control.
- Web Based GUI configuration. No software is required.
- MDIX to use any Ethernet cable for commissioning & installation.

SPECIFICATION

Power	9-30Vdc or 12-24Vac.
Ambient	Temperature -40 - 75°C (-40 - 167°F)
	Relative Humidity 5 - 90% non condensing
Communication	Baud rate 4k8, 9k6, 19k2, 38k4, 57k6, 115k2
	Start Bit: 7, 8; Stop Bit: 1, 2; Parity: Even, Odd, None
Installation	Table, wall or DIN rail mount
Dimension	H115 x W74 x D41mm
Weight	200g

Part code	Description
SC-FS-QS-1A50-1219	FieldServer QuickServer. M-bus to BACnet IP/MSTP or Modbus RTU/TCP (16 devices)
SC-FS-QS-1B50-1219	FieldServer QuickServer. M-bus to BACnet IP/MSTP or Modbus RTU/TCP (32 devices)
SC-FS-QS-1C50-1219	FieldServer QuickServer. M-bus to BACnet IP/MSTP or Modbus RTU/TCP (64 devices)
SC-FS-8915-35-QS	Din Rail Mounting Assembly

[Data sheet: SC-FS-QS-1X50-1219.pdf](#)



SC-FS-EZX-MOD-BAC EZ Gateway. Modbus to BACnet

The FieldServer EZ Gateway Modbus to BACnet is an easy-to-use, high-performance protocol gateway for integrators to interface Modbus devices to BACnet networks.

Supporting up to 500 data points, the EZ Gateway is the quick and easy solution to an integrator's Modbus to BACnet integration needs.

FEATURES:

- **Modbus Features and Interoperability:** Connect with virtually any Modbus device out of the box
- **Modbus to BACnet EZ Profiles:** Lower commissioning time by uploading preconfigured verified Modbus-BACnet EZ Profiles.
- **DeviceProxy™:** Minimize management and operational costs with granular visibility and control over each Modbus device from a BACnet management station.
- **Dual RS-485 Ports:** Improve response time by connecting fewer devices per port or support more devices per gateway.
- **BTL Certification. Rev. 12:** Most compliant and highest quality BACnet stack enables interoperability and reduces troubleshooting time

SPECIFICATION

Power	9-30Vdc or 12-24Vac, 240mA at 12V
Ambient	Temperature -40 - 75°C (-40 - 167°F)
	Relative Humidity 5 - 90% non condensing
Communication	Baud rate 4k8, 9k6, 19k2, 38k4, 57k6, 115k2
	Start Bit: 7, 8 ; Stop Bit: 1, 2 ; Parity: Even, Odd, None
	Ethernet: 10/100 BaseT MDIX
Installation	Table, wall or DIN rail mount
Dimension	H115 x W74 x D41mm
Weight	200g

Part code	Description
SC-FS-EZ1-MOD-BAC	FieldServer EZ Gateway. Modbus to BACnet (250 points)
SC-FS-EZ2-MOD-BAC	FieldServer EZ Gateway. Modbus to BACnet (500 points)
SC-FS-8915-35-QS	Din Rail Mounting Assembly

Data sheet: [SC-FS-EZX-MOD-BAC.pdf](#)

**SC-FS-ROUTER-BAC** BACnet Router – BACnet/IP. BACnet Ethernet. and BACnet MS/TP networks

The FieldServer BACnet Router product offers a complete BACnet internetworking solution for BACnet/IP, BACnet Ethernet, and BACnet MS/TP networks. Coming in two models, the dual-port and single-port version, the BACnet Router is the only BTL-certified low cost and comprehensive BACnet internet working router.

FEATURES:

- **DeviceFind™:** Minimize commissioning time by automatically discovering all BACnet devices connected to the router with a push of a button
- **BTL Certification. Rev. 12:** Most compliant and highest quality BACnet stack enables interoperability and reduces troubleshooting time
- **Dual RS-485 Port Option:** Results in lowest cost per connected device or highest performance (response time) per connected device.
- **Easy Web-Based Configuration with Discovery:** One page set and forget configuration along with unique network discover capability minimizes the integrator's installation time.
- **BACnet Broadcast Management Device (BBMD):** Allow connection between different subnets.
- **NAT support with secondary BACnet/IP connection:** For routing between public and private IP networks.
- **Foreign Device Registration (FDR):** Expose device details on different subnets.
- **MDIX:** Use any Ethernet cable for commissioning and installation.
- **DHCP:** Automatically obtain IP settings from the network.

SPECIFICATION

Power	9-30Vdc or 12-24Vac, 240mA at 12V
Ambient	Temperature -40 - 75°C (-40 - 167°F)
	Relative Humidity 5 - 90% non condensing
Communication	Serial RS-485, galvanic isolation
	Baud rate 4k8, 9k6, 19k2, 38k4, 57k6, 115k2
	Ethernet: 10/100BaseT, MDIX. DHCP
	Ethernet: 10/100 BaseT MDIX
Installation	Table, wall or DIN rail mount
Dimension	H115 x W74 x D41mm
Weight	200g

Part code	Description
SC-FS-ROUTER-BAC	FieldServer BACnet Router (Dual Port)
SC-FS-ROUTER-BAC1	FieldServer BACnet Router (Single Port)
SC-FS-8915-35-QS	Din Rail Mounting Assembly

Data sheet: [SC-FS-BAC-ROUTER.pdf](#)



SC-IO Smart I/O Module



The Sontay Smart communication I/O-Module extends your system when your application requires additional inputs and outputs on a physical controller. Integrating the 20 IO points with your BMS provides a simple and cost effective expansion of a new or existing controller

Communication:

- Selectable MAC address via DIP switches or via network
- Selectable communication protocol (BACnet or ModBus) via DIP switch
- BACnet MS/TP at 9k6, 19k2, 38k4 or 76k8 bps
- ModBus RTU at 9k6, 19k2, 38k4 or 57k6 bps
- Automatic baud rate detection (BACnet)
- Automatic device instance configuration (BACnet)
- Copy & broadcast configuration to other Sontay I/O-Modules (BACnet)
- Configurable parity and stop bits (ModBus)

Inputs and Outputs:

- Inputs: 8 universal inputs and 2 digital inputs
- Outputs: 2 universal outputs, 2 analogue outputs and 6 digital outputs (all supervised)

Installation:

- 10 override switches to manually control each output (On/Off/Auto)
- Analogue outputs - 0Vdc/0mA, 10Vdc/20mA auto
- Digital outputs - Off, On, auto
- Jumper selectable 120Ω EOL terminating resistor
- Digital inputs/outputs - LED On/Off
- Analogue inputs/outputs - LED intensity corresponds to the input/output value

Part code	Description
SC-IO-24	Smart Communication IO Module BACnet / ModBus

Data Sheet: SC-IO.pdf

SPECIFICATION

Supply voltage:	24Vac/dc ±10%
Supply current:	8VA (331mA @ 24Vac)
Inputs:	8 x Universal (12-bit resolution)
	0-10Vdc
	Thermistor. type B (10K4A1)
	On/off (VFC)
	4-20mA
	2 x Digital
	Normally open/closed or direct/reverse
Outputs:	2 x Universal (12-bit resolution)
	0-10Vdc
	Pulsed signal (20mA drive)
	On/off
	4-20mA
	2 x Analogue (12-bit resolution)
	0-10Vdc
	6 x Digital
	Normally open/closed,
	independent common per relay, 5A resistive
BACnet	BACnet MS/TP: 9k6, 19k2, 38k4 or 76k8 bps (BAS-C).
	or auto baud rate detection
ModBus	Modbus RTU Slave @ 9k6, 19k2, 38k4 or 57k6
	Delectable parity and stop bit conf
	No parity, 2 stop bit
	Even parity, 1 stop bit
	Odd parity, 1 stop bit
Ambient:	Temperature 0 to 50°C
	RH 5 to 95% RH. non-condensing
Housing:	Material ABS
	Dimensions 160 x 126 x 57mm
Protection:	IP30
Weight:	400g



ST-TOUCH Touchscreen Thermostat



The ST-TOUCH range of touch screen thermostats, offers intuitive ambient temperature control with a modern design to maximize energy efficiency.

Whether flush or surface mounted its slim cell-phone like design and full touch screen operation definitely has its finger on the pulse.

FEATURES

- Auto fan speed with auto-off function (-HC only)
- Calendar/time programmable (-P only)
- Sleeping mode (-HC only)
- Adjustable Switching Differential (deadband. -P only)
- On/off memory function
- Anti-frost protection mode
- Lock-function
- Modbus RS-485 communication as standard



SPECIFICATION

Operation:	-HC	Heating/cooling/fan
	-P	Heating programmable
Set point range:	-HC	10-30°C / 1°C per step
	-P	5-35°C / 0.5°C per step
Accuracy		±1°C
Output contacts:	-HC	Heating/cooling: 3A resistive
		Fan speed: 5A resistive
	-P	Heating: 20A resistive
Supply:	-HC	220Vac ±10% 50/60Hz
	-P	85 to 240Vac 50/60Hz <2W
Wiring:	-HC	≤ 1.5mm ²
	-P	≤ 2.5mm ²
Dimensions		110 x 86 x 13mm (when flush mounted)
Ambient:	Temperature	0 to 50°C
	RH	<90% non-condensing
Protection	IP30	
Communication:	ModBus via RS-485	
Weight:	180g	

MODELS

-HC	-P
Hotels & Offices	Smart Homes
Heating & Cooling	Programmable
3-Speed Fan Control	Boilers/Underfloor
White Touch Screen	External Sensor Option
	Blue Touch Screen

Part code	Description
ST-TOUCH-HC	Heating/cooling Touch Screen Thermostat
ST-TOUCH-P	Programmable Touch Screen Thermostat
	Accessories
ST-TOUCH-555	External temperature sensor, for -P version only
ST-TOUCH-BOX	Optional back box

Data sheet: ST-TOUCH.pdf

PA-60-x

Multi-Configurable Air DP Sensor



With added pressure ranges the PA-60-x series of differential pressure transmitters are ideal for measuring filter conditions, as well as many other applications in ventilation/air conditioning systems in buildings, laboratory's and clean rooms (air and non-corrosive gases).

The PA-60-x series have four field-selectable pressure ranges and selectable ModBus/BACnet outputs, which are easily defined by user selection switches.

An optional LCD displays is ModBus/BACnet outputs.

FEATURES

- User selectable measurement range and output type Re-zero
- Duct fixing kit included
- Snap-fit cover



Part code	Description
PA-60-1-COM	0 to 25. 50. 150 & 250Pa Multi Range Selectable (0 to 0.1. 0.2. 0.6 & 1" w/c) 0-10Vdc or 4-20mA Selectable Output ModBus/BACnet
PA-60-2-COM	0 to 50. 100. 300 & 500Pa Multi Range Selectable (0 to 0.2. 0.4. 1.2 & 2" w/c) 0-10Vdc or 4-20mA Selectable Output ModBus/BACnet
PA-60-2-HA-COM	0 to 50. 100. 300 & 500Pa Multi Range Selectable (0 to 0.2. 0.4. 1.2 & 2" w/c) 0-10Vdc or 4-20mA Selectable Output High Accuracy ModBus/BACnet
PA-60-3-COM	0 to 125. 250. 750 & 1250Pa Multi Range Selectable (0 to 0.5. 1. 3 & 5" w/c) 0-10Vdc or 4-20mA Selectable Output ModBus/BACnet
PA-60-4-COM	0 to 250. 500. 1500 & 2500Pa Multi Range Selectable (0 to 1. 2. 6 & 10" w/c) 0-10Vdc or 4-20mA Selectable Output ModBus/BACnet
	Suffix (add to above part code)
-LCD	Integral LCD Display

SPECIFICATION

Power Supply:	24Vdc / dc $\pm 10\%$
Measurement ranges:	Selectable
Overall accuracy:	PA-60-1 $\pm 3.00\%$ fs
	PA-60-2, -3 & 4 $\pm 2.00\%$ fs
	PA-60-2-HA $\pm 1.00\%$ fs
Over Pressure:	0.1bar (10kPa)
Pressure Connections:	Push fit for 6mm (0.24")ID tubing
Housing:	Material ABS (Flame retardant VO)
	Dimensions 116 x 106 x 52mm (4.57 x 4.17 x 2.05")
Protection:	IP65
Ambient range:	Temperature 0 to 40°C (32 to 104°F)
	RH 0 to 85% RH. non-condensing
Weight:	240g (0.53lb)

Part code	Description
	Accessories
DFK	Duct fixing kit
TEE	Tee piece air pressure (pack of 10)
PA-TUBE-8MM	PVC tube 8mm o/d x 1.5mm wall, 30m reel

[Data sheet: PA-60x-COM.pdf](#)

Note: A duct fixing kit (DFK) is supplied with the sensor, consisting of 2m (6.56 ft) 5mm (0.20") i/d plastic tubing, 2 x pitot tubes and 4 x fixing screws.



Relative Humidity & Temperature Sensors

Of all the sensors available on the market, probably the most diverse are those for temperature. Relative Humidity is also a key control parameter in buildings, for comfort, fabric protection and energy efficiency.

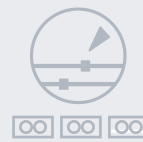


RH&T Measurements

Basic psychrometry allows other key control values to be calculated, such as enthalpy in kg/kJ (an increasingly popular method of energy efficient close control), dewpoint in °C and absolute humidity in g/m³.

Sontay's RH&T sensors offer options to calculate and output these optional values.

INPUT



OUTPUT



BASIC TYPES

SPACE MOUNT

DUCT MOUNT

WALL MOUNT

OUTSIDE AIR

An LCD display is available with temperature and dew point shown in either °C or °F, and a range of passive options include setpoint, override switch and fan speed switch, with a third active output for either indoor air quality or CO₂ (0-2000ppm or 0-5000ppm).

Custom temperature output ranges can be specified at the time of order, and there is an additional option for a direct, passive thermistor output too.

Many variations of sensors are available to suit applications such as space, outside air, duct & immersion.

RH & T Sensors



Each sensor can be user-configured for 4-20mA output (2-wire loop-powered or 3-wire externally powered). 0-5Vdc or 0-10Vdc. An advanced ASIC design gives excellent accuracy, essential for good control and reliable data recording.

Sensors can be printed with customer logo.



Passive options such as setpoint, override switch and fan speed switch are available.

RH-1000**Space RH & T Sensor**

Using the latest high accuracy RH & T element, the RH-1000 is available with active temperature and RH outputs, as well as a directly connected passive resistive temperature output along with other passive outputs. A multi-line backlit LCD display is also available.

The -UN has a single output which automatically determines whether to run in current or voltage mode, no more jumpers or switches to worry about.

FEATURES

- High stability and reliability
- Selectable 0-10Vdc, 0-5Vdc or 4-20mA output
- Self-detecting output (-UN types)
- Direct thermistor options available
- Fully configurable LCD display option

INTERFACE RESTRICTIONS

- SP only
- MS only
- SP-MS only
- SP-FS only



Part code	Description	Volume Price Breaks
RH-1000-AH	RH & T High Accuracy Transmitter ($\pm 2\%$)	See Price List
RH-1000	RH & T Transmitter ($\pm 3\%$)	—
RH-1000-EN	Enthalpy & Dewpoint Transmitter	—
RH-1000-UN	Space RH Transmitter Single analogue output	—
Suffixes (add to part code)		
-T	Direct resistive temperature output	—
-SP	2-wire. 11-1k Ω /0-10k Ω setpoint	—
-MS	Momentary switch	—
-FS3	3-speed fan switch (1. 2. 3)	—
-FS4	4-speed fan switch (off. 1. 2. 3)	—
-FS5	5-speed fan switch (off. 1. 2. 3. auto)	—
Suffixes (add to part code)		
-LCD	Integral LCD display for RH and temp.	—
-TR	Custom temperature output range*	—
Accessories		
DECOR	Decorators trim plate	—
GASKET	Insulating gasket (pack of 10)	—

Data sheets: [RH-1000.pdf](#) & [RH-1000-UN.pdf](#)

SPECIFICATION

Active Outputs:		
	Voltage	0-10Vdc or 0-5Vdc
	Current	4-20mA (3-wire)
	-UN Types	Self-detecting 0-10Vdc or 4-20mA (not loop powered)
Optional Passive Outputs (space types only):		
	Setpoint	2-wire 11-1kΩ/0-10kΩ. linear
	Override	VFC
	Fan Speed	Resistive
Other Options:		
	PTC/NTC Element	Any Sontay resistive type*
Power Supply:		12 - 26Vac or 16 - 26Vdc
	-UN types	24Vac/dc
Output Ranges:		
	RH	0 to 100%
	Temperature*	0 to 40°C (32 to 104°F) as standard (others available on request: Range of -20 to +50°C (-4 to +122°F)
	Enthalpy*	-20 to +250 kJ/kg (-8.59 to 107.48 Btu/lb)
	Dewpoint*	-50 to +50°C (-58 to +122°F)
Accuracy:		
	-AH	±2% (20 to 80% RH)
	Others	±3% (20 to 80% RH)
	Temperature	±0.3°C (0.54°F) (20 to 40°C / 68 to 104°F)
Ambient:		
	Temperature	0 to 50°C (32 to 122°F)
	RH	0 to 95% RH, non-condensing
Dimensions:		115 x 85 x 28mm (4.53 x 3.35 x 1.10")
Material:		ABS (Flame retardant) RAL9003
Protection:		IP30
Weight:		180g (0.40 lb)

Notes:

- *-T version uses a thermistor element for direct measurement of temperature. Please specify thermistor type when ordering.
- When using the -T option, they are not compensated for internal heating.
- Please see pages 82-85 for Thermistor Types and Compatibility Chart.
- RH-1000-EN outputs only enthalpy and dewpoint values.

* Not available on -UN versions

	WIRELESS TECHNOLOGY	Did you know we also sell wireless RH sensors in our SonNet range? Go to page 44 for more details.

RH-600

Duct, Wall & Outside Mount RH & T Sensors



Using the latest high accuracy RH & T element, the RH-600 range are available with active temperature and RH outputs, as well as a directly connected passive resistive temperature output. A multi-line backlit LCD display is also available.

The -UN has a single output which automatically determines whether to run in current or voltage mode, no more jumpers or switches to worry about.



FEATURES

- High stability and reliability
 - Snap-fit cover
 - Fully configurable LCD display option.
- Please contact the Sales Support Team for more information

Part code	Description
	Duct
RH-622-AH	RH & T Transmitter (±2%)
RH-622	RH & T Transmitter (±3%)
RH-622-EN	Enthalpy & Dewpoint Transmitter*
RH-622-UN	RH Transmitter, Single Analogue Output
	Wall
RH-631-AH	RH & T Transmitter (±2%)
RH-631	RH & T Transmitter (±3%)
RH-631-EN	Enthalpy & Dewpoint Transmitter*
RH-631-UN	RH Transmitter, Single Analogue Output
	Outside
RH-632-AH	RH & T Transmitter (±2%)
RH-632	RH & T Transmitter (±3%)
RH-632-EN	Enthalpy & Dewpoint Transmitter*
RH-632-UN	RH Transmitter, Single Analogue Output
	Suffixes (add to part code)
-T *	Direct resistive temperature output
-TR	Custom temperature output range
-LCD	Integral LCD display

Notes:

1. *-T version uses a thermistor element for direct measurement of temperature. Please specify thermistor type when ordering.
2. Please see pages 82-85 for Thermistor Types and Compatibility Chart.
3. RH-6xx-EN versions only output enthalpy and dewpoint values.
4. * Not available on -UN versions

SPECIFICATION

Active Outputs:	Voltage	0-10Vdc or 0-5Vdc
	Current	4-20mA (3-wire)
	-UN Types	Self-detecting 0-10Vdc or 4-20mA (not loop powered)
Optional Passive Outputs:		
	PTC/NTC Element	Any Sontay resistive type*
Power Supply:	12 - 26Vac or 16 - 26Vdc	
	-UN types	24Vac/dc
Output Ranges:	RH	0 to 100%
	Temperature*	-20 to 50°C (-4 to 122°F) as standard
		others available on request: Range of -20 to +50°C (-4 to +122°F)
	Enthalphy*	-20 to +250 kJ/kg (-8.59 to 107.48 Btu/lb)
	Dewpoint*	-50 to +50°C (-58 to +122°F)
Accuracy:		
	RH	-AH ±2% (20 to 80% RH)
		Others ±3% (20 to 80% RH)
	Temperature	±0.3°C (0.54°F) (20 to 40°C / 68 to 104°F)
Ambient:		
	Temperature	-30 to 70°C (22 to 158°F)
	RH	0 to 95% RH, non-condensing
Material:	ABS (Flame retardant)	
Housing dimensions:	116 x 106 x 52mm (4.57 x 4.17 x 2.05")	
Probe dimensions:	Duct	210 x 19mm dia (8.27 x .075" dia.)
	Wall	90 x 19mm dia. (3.54 x 0.75" dia.)
Shield dimensions (RH-632)		200 x 118mm dia.
Protection:	Duct & Outside	IP65
	Wall	IP54
Weights:	Duct	240g (0.53 lb)
	Wall	220g (0.49 lb)
	Outside	1.16kg (2.56 lb)

WIRELESS TECHNOLOGY

Did you know we also sell wireless RH sensors in our SonNet range? Go to page 44 for more details.

Part code	Description
	Accessory
DPA	Duct probe adjustment flange (for RH-622 only)

[Data sheet: RH-600.pdf](#)

Volume Price Breaks are applicable	
RH-622-AH	Please see price list
RH-622	

RH-CAL

Calibration



In house calibration is available for Sontay's RH range of sensors using our state of the art environmental chamber, which is tested to UKAS standards.

Sontay can provide test certificates for 3-point calibration, with additional points if required.

Part code	Description
RH-CAL	3-Point calibration at 30, 50 & 75% RH at 20°C
RH-CAL-ADP	Additional calibration point, select between 20 & 80%RH

RH-SH**Humidistats**

RH-SH humidistats are designed for the on/off control of humidification and dehumidification equipment, or the initiation of alarms or override controls.

High quality sensing elements ensure accurate measurement and switching differential.

Case construction:	ABS
Operating range:	30-100% RH
Differential (per stage):	4% RH
Stage differential:	2 to 15% RH
Switch rating:	Duct 15(8)A @ 240Vac Room 5(0.2)A @ 250Vac
Cable entry:	20mm gland PG11 thread (not supplied)
Protection:	RH-SH-xR IP20 RH-SH-xD IP65 RH-SH-1DE IP20
Dimensions:	RH-SH-xR Housing 115 x 35 x 70mm (4.53 x 1.38 x 2.76") RH-SH-xD Housing 108 x 72 x 72mm (4.25 x 2.83 x 2.83") Probe 19mm (0.75") dia. x 225mm (8.86") long
Weight:	300g (0.66 lb)

SPECIFICATION

Part code	Description
Room Humidistats	
RH-SH-1R	Single-stage, concealed setpoint adjust.
RH-SH-1RE	Single-stage, exposed setpoint adjust.
Duct Humidistats	
RH-SH-1D	Single-stage, concealed setpoint adjust.
RH-SH-1DE	Single-stage, exposed setpoint adjust.

[Data sheet: RH-SH.pdf](#)

ST**General Purpose Thermostats**

Sontay's range of thermostats are well suited for a number of applications of temperature control or safety cut-out in pipe work systems, calorifiers, duct work systems, green houses and many other installations. They all have the set-point adjustment under the cover to prevent unauthorised tampering.

THEY ARE AVAILABLE IN TWO TYPES**Control thermostats (auto reset)**

With an adjustable set point, adjustable differential and auto reset, 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.

FEATURES

- Robust housing
- Immersion sensors supplied with pocket
- Ideal for many applications
- Volt free contacts
- Concealed adjustment

SPECIFICATION

Switch rating:	24 to 250Vac @ 16(4)A
Sensing element:	Liquid filled copper element
Housing:	Material ABS UL94 V0 (flame retardant) Dimensions: ST-S-01A 86.5 x 38 x 53 (3.41 x 1.50 x 2.09") Others 108 x 70 x 72mm (4.25 x 2.76 x 2.83")
Ambient:	Temperature -35 to 65°C (-31 to 149°F) RH 0 to 95% RH, non-condensing
Capillary length (ST-C):	1.5m (4.92ft)
Duct probe (ST-D):	280mm (11.02") x 16mm (0.63") dia.
Immersion pocket (ST-I):	Dimensions 130mm (5.12"), thread ½" BSPT Material Stainless Steel
Conformity:	CE marked
Protection:	ST-D-01A IP54 ST-S-01A IP30 Others IP65 (auto reset types) IP43 (manual reset types)
Weights:	Capillary 340g (0.75lb) Duct 700g (1.54lb) Immersion 580g (1.28lb) Wall 480g (1.06lb) Strap-on 250g (0.55lb)

Part code	Description
Capillary	
ST-C-01M	50 to 140°C (122 to 284°F) Manual Reset
Duct	
ST-D-01A	-35 to +35°C (-31 to 95°F) Auto Reset
ST-D-02A	0 to 90°C (32 to 194°F) Auto Reset
ST-D-03A	-30 to +30°C (-22 to 86°F) Auto Reset
ST-D-04M	0 to +90°C (-32 to 194°F) Manual Reset
Immersion	
ST-I-01A	0 to 120°C (32 to 248°F) Auto Reset
ST-I-02M	0 to 110°C (32 to 230°F) Manual Reset
ST-I-03M	20 to 90°C (68 to 194°F) Manual Reset
Wall	
ST-W-01A	-30 to +30°C (-22 to 86°F) Auto Reset
Strap-on	
ST-S-01A	0 to 90°C (32 to 194°F) Auto Reset
Accessory	
ST-IMM-PKT	Replacement stainless steel pocket (ST-I range only)

[Data sheet: ST-x.pdf](#)

ST-FRE

Capillary Frost Thermostats



The ST-FRE range of frost thermostats provide a switch output based on the average temperature detected along a two (6.56 ft) or six metre (19.69 ft) capillary sensor.

A common application is for frost protection on fresh air intakes or airconditioning 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
- IP65 option

SPECIFICATION

Control range:	-30 to +10°C (-22 to +50°F)	
Differential:	ST-FRE-1 & 3	2 to 16°C (3.6 to 28.8°F)
	ST-FRE-2 & 4	2.5°C (4.5°F) – fixed
Switch rating:	230Vac @ 24(10)A	
	24Vdc @ 3A	
Manual reset:	On low temperature (ST-FRE2 & ST-FRE4)	
Housing material:	ABS	
Housing dimensions:	86 x 75 x 44mm (3.39 x 2.95 x 1.73")	
Capillary:	Material	Copper
	Charge	Vapour
	Max. temp.	150°C (302°F)
Dimensions:	2m (6.56 ft) or 6m (19.69 ft) x 1.8mm (0.07") dia.	
Protection:	IP44 or IP65	
Weight:	476g (1.05 lb)	

Part code	Description
ST-FRE-1	Auto reset, 6m (19.69 ft) capillary. Frost Thermostat
ST-FRE-2	Manual reset, 6m (19.69 ft) capillary. Frost Thermostat
ST-FRE-3	Auto reset, 2m (6.56 ft) capillary. Frost Thermostat
ST-FRE-4	Manual reset, 2m (6.56 ft) capillary. Frost Thermostat

Volume Price Breaks are applicable

ST-FRE-1	Please see price list
ST-FRE-2	

Part code	Description
	IP65 Housing and Thermostat
ST-FRE-1-IP65	Auto reset, 6m (19.69 ft) capillary. Frost Thermostat
ST-FRE-2-IP65	Manual reset, 6m (19.69 ft) capillary. Frost Thermostat
ST-FRE-3-IP65	Auto reset, 2m (6.56 ft) capillary. Frost Thermostat
ST-FRE-4-IP65	Manual reset, 2m (6.56 ft) capillary. Frost Thermostat
	Accessories
ST-DFK	Pack of six additional capillary fixing clips
BRK	Mounting bracket for ST-FREx

Data sheet: [ST-FRE.pdf](#)

Note: All these thermostats include six capillary fixing clips as standard.

ST-TY

Space Thermostats



The ST-TY series of wall mounting space thermostats are suitable for heating and/or cooling and frost protection applications.

FEATURES

- Tamperproof option
- Bi-metallic switch mechanism for reliability

HEATING STAT SPECIFICATION – ST-TY92-C1

Contact configuration:	SPST open-on-rise
Temperature range:	5 to 35°C (41 to 95°F)
Switching current:	250Vac @ 10(2)A

FROST STAT SPECIFICATION – ST-TY92-C1F

Contact configuration:	SPST open-on-rise
Temperature range:	-5 to +15°C (23 to 59°F)
Switching current:	250Vac @ 10(2)A

HEATING OR COOLING STAT SPECIFICATION – ST-TY92-C3T & ST-TY92-C3

Contact configuration:	SPDT
Temperature range:	5 to 35°C (41 to 95°F)
Switching current:	250Vac @ 3(1)A

Part code	Description	Range
ST-TY92-C1	Heating Thermostat	5 to 35°C (41 to 95°F)
ST-TY92-C1F	Frost Thermostat	-5 to +15°C (23 to 59°F)
ST-TY92-C3	Heating or Cooling Thermostat	5 to 35°C (41 to 95°F)
ST-TY92-C3T	Heating or Cooling Tamperproof	5 to 35°C (41 to 95°F)

Data sheet: [ST-TY.pdf](#)

COMMON SPECIFICATION

Operating voltage:	220/240Vac @ 50/60Hz
Switching differential:	<1°K
Sensor system:	Bi-metal
Housing material:	ABS V0
Ambient range:	50°C (122°F) max.
Protection:	IP20
Dimensions:	ST-TY92-C3T 78 x 78 x 36mm (3.07 x 3.07 x 1.42") max.
	Others 82 x 82 x 32mm (3.23 x 3.23 x 1.26") max.
Weights:	ST-TY92-C3T 120g (0.26 lb)
	Others 220g (0.49 lb)



ST-TOUCH Touchscreen Thermostat

A touchscreen thermostat for hotel, office or smart home applications **see page 51** for more information.

TT-512

Low Profile Temperature Sensors



The TT-512 range of low profile button temperature sensors are used for measuring air temperature in indoor space where style or a robust solution is required. Their discreet appearance offers reliable temperature monitoring without being obtrusive.

These sensors are particularly effective in applications where anti-ligature sensors are required for the safety of the building occupants. Due to the robust design and materials, the sensors are also tamperproof.

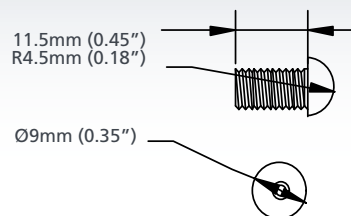
They are available in either white plastic or stainless steel finishes and contain either a high quality Thermistor, Platinum or Nickel sensing element. Sensor types compatible with most controls manufacturers' equipment are available.

SPECIFICATION

Output types:	Resistive
Material:	White plastic or stainless steel
Cable length:	2m (6.56ft) or 5m (16.4ft)
Mounting:	M6, Nut supplied
Ambient range:	-10 to +60°C (14 to 140°F)
Protection:	IP20
Weight:	8g (0.18lb)

Part code		Description
Stainless Steel		White Plastic
TT-512-SS-A	TT-512-WP-A	10K3A1, Trend, Cylon, Distech, Heatmiser
TT-512-SS-B	TT-512-WP-B	10K4A1, Andover
TT-512-SS-C	TT-512-WP-C	20K6A1, Honeywell
TT-512-SS-D	TT-512-WP-D	PT100A, Serck
TT-512-SS-E	TT-512-WP-E	PT1000A, Cylon
TT-512-SS-F	TT-512-WP-F	Ni1000A, Sauter
TT-512-SS-G	TT-512-WP-G	Ni1000A/TCR (LAN1), Siemens
TT-512-SS-L	TT-512-WP-L	TAC1, TAC
TT-512-SS-M	TT-512-WP-M	2.2K3A1, Johnson Controls
TT-512-SS-N	TT-512-WP-N	3K3A1, Alerton
TT-512-SS-P	TT-512-WP-P	30K6A1, Drayton
TT-512-SS-Q	TT-512-WP-Q	50K6A1, Ambiflex
TT-512-SS-Z	TT-512-WP-Z	10K NTC, Carel
TT-512-SS-DC	TT-512-WP-DC	Delta Controls
Suffix (add to part code)		
-5M		5m (16.40 ft) probe length

Data sheet: [TT-512.pdf](#)



TT-515

Low Profile Plate Sensors



The TT-515 range of low profile button temperature sensors are for direct mounting onto a standard UK back box and used for measuring air temperature in indoor spaces.

These sensors are particularly effective in applications where anti-ligature sensors are required for the safety of the building occupants. Due to the robust design and materials, the sensors are also tamperproof.

They are available in either white plastic or stainless steel finishes and contain either a high quality Thermistor, Platinum or Nickel sensing element. Sensor types compatible with most controls manufacturers' equipment are available.

SPECIFICATION

Output types:	Resistive
Housing:	Material: White plastic or stainless steel
	Dimensions: 85 x 85mm (3.35 x 3.35 inch)
Mounting:	Flush, to standard UK wall box
Ambient range:	-10 to +60°C (14 to 140°F)
Protection:	IP20
Weight:	220g (0.49 lb)

Part code		Description
Stainless Steel		White Plastic
TT-515-SS-A	TT-515-WP-A	10K3A1, Trend, Cylon, Distech, Heatmiser
TT-515-SS-B	TT-515-WP-B	10K4A1, Andover
TT-515-SS-C	TT-515-WP-C	20K6A1, Honeywell
TT-515-SS-D	TT-515-WP-D	PT100A, Serck
TT-515-SS-E	TT-515-WP-E	PT1000A, Cylon
TT-515-SS-F	TT-515-WP-F	Ni1000A, Sauter
TT-515-SS-G	TT-515-WP-G	Ni1000A/TCR (LAN1), Siemens
TT-515-SS-H	TT-325-WP-H	SAT1, Satchwell
TT-515-SS-K	TT-325-WP-K	STA1, Landis & Staefa
TT-515-SS-L	TT-325-WP-L	TAC1, TAC
TT-515-SS-M	TT-325-WP-M	2.2K3A1, Johnson Controls
TT-515-SS-N	TT-325-WP-N	3K3A1, Alerton
TT-515-SS-P	TT-325-WP-P	30K6A1, Drayton
TT-515-SS-Q	TT-325-WP-Q	50K6A1, Ambiflex
TT-515-SS-R	TT-325-WP-R	100K6A1, York >40°C
TT-515-SS-S	TT-325-WP-S	SAT2, Satchwell
TT-515-SS-T	TT-325-WP-T	SAT3, Satchwell
TT-515-SS-W	TT-325-WP-W	SIE1, Siebe
TT-515-SS-Y	TT-325-WP-Y	STA2, Landis & Staefa
TT-515-SS-Z	TT-325-WP-Z	10K NTC, Carel
TT-515-SS-DC	TT-325-WP-DC	Delta Controls

Data sheet: [TT-515.pdf](#)

TT-518
Thimble Sensors


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.

FEATURE

- Plastic, brass, stainless steel or aluminium thimble options

SPECIFICATION

Output types:	Thermistor Resistive
Current	4 to 20mA
Voltage	0 to 10Vdc
Thread:	Plastic M16 x 1.5 x 25mm
	All others M16 x 1.5 x 12mm
Connections:	2m (6.56 ft) flying lead, screened
Ambient range:	-10 to +60°C (14 to 140°F)
Protection:	IP30
Dimensions:	Plastic 45mm overall x 22mm dia. (1.77 x 0.87")
	Metal 30mm overall x 19mm dia. (1.18 x 0.75")
Weight:	80g (0.18 lb)

Part code	Description
	Suffixes (add to part code)
-AL	Aluminium thimble
-SS	Stainless steel thimble
-BR	Brass thimble
-BW	Brilliant white thimble
-5M	5m (16,40 ft) cable length

Part code	Description
	Passive Output
TT-518-A	10K3A1, Trend, Cylon, Distech, Heatmiser
TT-518-B	10K4A1, Andover
TT-518-C	20K6A1, Honeywell
TT-518-D	PT100A, Serck
TT-518-E	PT1000A, Cylon
TT-518-F	Ni1000A, Sauter
TT-518-G	Ni1000A/TCR (LAN1), Siemens
TT-518-H	SAT1, Satchwell
TT-518-K	STA1, Landis & Staefa
TT-518-L	TAC1, TAC
TT-518-M	2.2K3A1, Johnson Controls
TT-518-N	3K3A1, Alerton
TT-518-P	30K6A1, Drayton
TT-518-Q	50K6A1, Ambiflex
TT-518-S	SAT2, Satchwell
TT-518-T	SAT3, Satchwell
TT-518-W	SIE1, Siebe
TT-518-Y	STA2, Landis & Staefa
TT-518-Z	10K NTC, Carel
TT-518-DC	Delta Controls
	Active Output
TT-518-CVO	4-20mA/0-10Vdc selectable output * Output ranges: -10 to +40°C (14 to 104°F) or -10 to +110°C (14 to 230°F) (selectable)
TT-518-CVO-C	4-20mA/0-10Vdc selectable output (custom temp, scaling) *, Scaled to customer specification in the range of -10 to +60°C (14 to 140°F)

Data sheets: [TT-518.pdf](#) • [TT-CVO.pdf](#)

Notes:

A calibration certificate is available on CVO Types see page 67.

If no colour is specified, standard off-white thimble will be supplied.

* These units are supplied with the transmitter in the plant housing.



**WIRELESS
TECHNOLOGY**

Did you know we also sell wireless Temperature sensors in our SonNet range? Go to page 44 for more details.

TT-322

Duct Sensors



The TT-322 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 stainless steel probe. A flange plate is available for adjustment of penetration depth (order as TT-DFP).

SPECIFICATION

Output types:	Thermistor	Resistive
	Current	4 to 20mA
	Voltage	0 to 10Vdc
Probe:	Material	Stainless steel 304
	Dimensions	65mm (2.56"), 150mm (5.91") or 250mm (9.84") x 6mm dia. (0.24")
Housing:	Material	ABS (flame retardant)
	Dimensions	74 x 70 x 50mm (2.91 x 2.76 x 1.97")
Ambient range:	-30 to +70°C (-22 to 158°F)	
Protection:	IP65	
Weight:	160g (0.35 lb)	



Part code	Description
	Active Output
TT-322-CVO	4-20mA/0-10Vdc selectable output, Output ranges: -10 to +40°C (14 to 104°F) or -10 to +110°C (14 to 230°F) (selectable)
TT-322-CVO-C	4-20mA/0-10Vdc selectable output (custom temp. scaling), Scaled to customer specification in the range of -30 to +70°C (-22 to 158°F)
	Suffixes (add to part code)
-250	250mm probe length
-65	65mm probe length
	Accessory
TT-DFP	Duct flange plate

Data sheets: [TT-322.pdf](#) · [TT-CVO.pdf](#)

Note: A calibration certificate is available on CVO Types see page 67.

Part code	Description
	Passive Output
TT-322-A	10K3A1, Trend, Cylon, Distech
TT-322-B	10K4A1, Andover,
TT-322-C	20K6A1, Honeywell
TT-322-D	PT100A, Serck
TT-322-E	PT1000A, Cylon
TT-322-F	Ni1000A, Sauter
TT-322-G	Ni1000A/TCR (LAN1), Siemens
TT-322-H	SAT1, Satchwell
TT-322-K	STA1, Landis & Staefa
TT-322-L	TAC1, TAC
TT-322-M	2.2K3A1, Johnson Controls
TT-322-N	3K3A1, Alerton
TT-322-P	30K6A1, Drayton
TT-322-Q	50K6A1, Ambiflex
TT-322-R	100K6A1, York >40°C
TT-322-S	SAT2, Satchwell
TT-322-T	SAT3, Satchwell
TT-322-W	SIE1, Siebe
TT-322-Y	STA2, Landis & Staefa
TT-322-Z	10K NTC, Carel
TT-322-DC	Delta Controls

Volume Price Breaks are applicable

TT-322-A	10K3A1	Please see price list
TT-322-B	10K4A1	
TT-322-C	20K6A1	
TT-322-E	PT1000A	
TT-322-G	Ni1000A/TCR	
TT-322-H	SAT1	
TT-322-K	STA1	
TT-322-L	TAC1	

TT-325

Duct Averaging Sensors



The TT-325 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 a 'Nylon 12' tube, spaced at 0.5m (1.64 ft) intervals along the standard 2.2m (7.22 ft) length.

SPECIFICATION

Output types:	Thermistor	Resistive
	Current	4 to 20mA
	Voltage	0 to 10Vdc
Probe:	Material	Nylon 12
	Dimensions	2.2m x 8mm dia. (7.22 ft x 0.31")
Housing:	Material	ABS (flame retardant)
	Dimensions	74 x 70 x 50mm (2.91 x 2.76 x 1.97")
Ambient range:	-30 to +70°C (-22 to 158°F)	
Protection:	IP65	
Weight:	220g (0.49 lb)	



Part code	Description
	Active Output
TT-325-CVO	4-20mA/0-10Vdc selectable output, Output ranges: -10 to +40°C (14 to 104°F) or -10 to +110°C (14 to 230°F) – selectable
TT-325-CVO-C	4-20mA/0-10Vdc selectable output (custom temp. scaling), Scaled to customer specification in the range of -30 to +70°C (-22 to 158°F)
	Suffix (add to part code)
-5M	5m (16.40 ft) probe length

Part code	Description
	Passive Output
TT-325-A	10K3A1, Trend, Cylon, Distech
TT-325-B	10K4A1, Andover
TT-325-C	20K6A1, Honeywell
TT-325-D	PT100A, Serck
TT-325-E	PT1000A, Cylon
TT-325-F	Ni1000A, Sauter
TT-325-G	Ni1000A/TCR (LAN1), Siemens
TT-325-H	SAT1, Satchwell
TT-325-K	STA1, Landis & Staefa
TT-325-L	TAC1, TAC
TT-325-M	2.2K3A1, Johnson Controls
TT-325-N	3K3A1, Alerton
TT-325-P	30K6A1, Drayton
TT-325-Q	50K6A1, Ambiflex
TT-325-R	100K6A1, York >40°C
TT-325-S	SAT2, Satchwell
TT-325-T	SAT3, Satchwell
TT-325-W	SIE1, Siebe
TT-325-Y	STA2, Landis & Staefa
TT-325-Z	10K NTC, Carel
TT-325-DC	Delta Controls

Data sheets: [TT-325.pdf](#) · [TT-CVO.pdf](#)

Note: A calibration certificate is available on CVO Types see page 67.

TT-626

True Duct Averaging Sensors



Sontay's true duct averaging sensor contains a PT100B element, which measures at point along the full length of the copper tube.



SPECIFICATION

Output types:	PT100B	Resistive
	Current	4 to 20mA
	Voltage	0 to 10Vdc
Probe:	Material	Copper
	Dimensions	2050mm (6.73 ft) (includes 50mm (1.97") collar) x 1/4" dia.
Housing:	Material	ABS (flame retardant)
	Dimensions	116 x 106 x 52mm (4.57 x 4.17 x 2.05")
Ambient range:	-30 to +70°C (-22 to 158°F)	
Protection:	IP65	
Weight:	420g (0.93 lb)	

Part code	Description
	Passive Output
TT-626-PT100B	PT100B Thermistor Output
	Active Output
TT-626-CVO	4-20mA/0-10Vdc selectable output Output ranges: -10 to +40°C (14 to 104°F) or -10 to +110°C (14 to 230°F) (selectable)
TT-626-CVO-C	4-20mA/0-10Vdc selectable output (custom temp. scaling), Scaled to customer specification in the range of -30 to +70°C (-22 to 158°F)

Data sheets: [TT-626.pdf](#) • [TT-CVO.pdf](#)

Note: A calibration certificate is available on CVO Types see page 67.



WIRELESS TECHNOLOGY

Did you know we also sell wireless Temperature sensors in our SonNet range? Go to page 44 for more details.

TT-331

Outside Air Sensors



The TT-331 range are 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-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.

SPECIFICATION

Output types:	Thermistor	Resistive
	Current	4 to 20mA
	Voltage	0 to 10Vdc
Housing material:	ABS (flame retardant)	
Dimensions:	74 x 70 x 50mm (2.91 x 2.76 x 1.97")	
Ambient range:	-30 to +70°C (-22 to 158°F)	
Protection:	IP65	
Weight:	160g (0.35 lb)	




Volume Price Breaks are applicable

TT-331-A	10K3A1	Please see price list
TT-331-B	10K4A1	
TT-331-C	20K6A1	
TT-331-D	PT100A	
TT-331-E	PT1000A	
TT-331-G	Ni1000A/TCR	
TT-331-H	SAT1	
TT-331-K	STA1	
TT-331-L	TAC1	

Part code	Description
	Passive Output
TT-331-A	10K3A1, Trend, Cylon, Distech
TT-331-B	10K4A1, Andover
TT-331-C	20K6A1, Honeywell
TT-331-D	PT100A, Serck
TT-331-E	PT1000A, Cylon
TT-331-F	Ni1000A, Sauter
TT-331-G	Ni1000A/TCR (LAN1), Siemens
TT-331-H	SAT1, Satchwell
TT-331-K	STA1, Landis & Staefa
TT-331-L	TAC1, TAC
TT-331-M	2.2K3A1, Johnson Controls
TT-331-N	3K3A1, Alerton
TT-331-P	30K6A1, Drayton
TT-331-Q	50K6A1, Ambiflex
TT-331-R	100K6A1, York >40°C
TT-331-S	SAT2, Satchwell
TT-331-T	SAT3, Satchwell
TT-331-V	SAT4, Satchwell
TT-331-W	SIE1, Siebe
TT-331-Y	STA2, Landis & Staefa
TT-331-Z	10K NTC, Carel
TT-331-DC	Delta Controls
	Active Output
TT-331-CVO	4-20mA/0-10Vdc selectable output Output ranges: -10 to +40°C (14 to 104°F) or -10 to +110°C (14 to 230°F) – selectable
TT-331-CVO-C	4-20mA/0-10Vdc selectable output (custom temp. scaling), Scaled to customer specification in the range of -30 to +70°C (-22 to 158°F)

Data sheet: [TT-331.pdf](#)

Note: A calibration certificate is available on CVO Types see page 67.



WIRELESS TECHNOLOGY

Did you know we also sell wireless Temperature sensors in our SonNet range? Go to page 44 for more details.

TT-332 Outside Air Sensors with Radiation Shield


For measuring outside air temperature the TT-332 contains 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.

SPECIFICATION

Output types:	Thermistor	Resistive
	Current	4 to 20mA
	Voltage	0 to 10Vdc
Housing material:	ABS (flame retardant)	
Dimensions:	74 x 70 x 50mm (2.91 x 2.76 x 1.97")	
Ambient range:	-30 to +70°C (-22 to 158°F)	
Protection:	IP65	
Weight:	160g (0.35 lb)	



Part code	Description
	Active Output
TT-332-CVO	4-20mA/0-10Vdc selectable output
	Output ranges: -10 to +40°C (14 to 104°F) or -10 to +110°C (14 to 230°F) – selectable
TT-332-CVO-C	4-20mA/0-10Vdc selectable output (custom temp. scaling), Scaled to customer specification in the range of -30 to +70°C (-22 to 158°F)


WIRELESS TECHNOLOGY

Did you know we also sell wireless Temperature sensors in our SonNet range? Go to page 44 for more details.

Part code	Description
	Passive Output
TT-332-A	10K3A1, Trend, Cylon, Distech
TT-332-B	10K4A1, Andover
TT-332-C	20K6A1, Honeywell
TT-332-D	PT100A, Serck
TT-332-E	PT1000A, Cylon
TT-332-F	Ni1000A, Sauter
TT-332-G	Ni1000A/TCR (LAN1), Siemens
TT-332-H	SAT1, Satchwell
TT-332-K	STA1, Landis & Staefa
TT-332-L	TAC1, TAC
TT-332-M	2.2K3A1, Johnson Controls
TT-332-N	3K3A1, Alerton
TT-332-P	30K6A1, Drayton
TT-332-Q	50K6A1, Ambiflex
TT-332-R	100K6A1, York >40°C
TT-332-S	SAT2, Satchwell
TT-332-T	SAT3, Satchwell
TT-332-V	SAT4, Satchwell
TT-332-W	SIE1, Siebe
TT-332-Y	STA2, Landis & Staefa
TT-332-Z	10K NTC, Carel
TT-332-DC	Delta Controls

Data sheets: [TT-332.pdf](#) · [TT-CVO.pdf](#)

Note: A calibration certificate is available on CVO Types see page 67.

TT-341 Immersion Sensors


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 stainless steel probe fitted to an IP65 rated enclosure, for direct mounting into TT-PO521 or TT-PO-HP range of stainless steel pockets (page 68).

SPECIFICATION

Output types:	Thermistor	Resistive
	Current	4 to 20mA
	Voltage	0 to 10Vdc
Housing material:	ABS (flame retardant)	
Dimensions:	74 x 70 x 50mm (2.91 x 2.76 x 1.97")	
Probe:	Material	Stainless steel 304
	Dimensions	65mm (2.56"), 150mm (5.91") or 250mm (9.84") x 6mm dia. (0.24")
Ambient range:	-30 to +70°C (-22 to 158°F)	
Protection:	IP65	
Weight:	160g (0.35 lb)	

Volume Price Breaks are applicable

TT-341-A	10K3A1	Please see price list
TT-341-B	10K4A1	
TT-341-C	20K6A1	
TT-341-D	PT100A	
TT-341-E	PT1000A	
TT-341-G	Ni1000A/TCR	
TT-341-H	SAT1	
TT-341-L	TAC1	


WIRELESS TECHNOLOGY

Did you know we also sell wireless Temperature sensors in our SonNet range? Go to page 44 for more details.

Part code	Description
	Passive Output
TT-341-A	10K3A1, Trend, Cylon, Distech
TT-341-B	10K4A1, Andover
TT-341-C	20K6A1, Honeywell
TT-341-D	PT100A, Serck
TT-341-E	PT1000A, Cylon
TT-341-F	Ni1000A, Sauter
TT-341-G	Ni1000A/TCR (LAN1), Siemens
TT-341-H	SAT1, Satchwell
TT-341-L	TAC1, TAC
TT-341-M	2.2K3A1, Johnson Controls
TT-341-N	3K3A1, Alerton
TT-341-P	30K6A1, Drayton
TT-341-Q	50K6A1, Ambiflex
TT-341-R	100K6A1, York >40°C
TT-341-S	SAT2, Satchwell
TT-341-T	SAT3, Satchwell
TT-341-W	SIE1, Siebe
TT-341-Y	STA2, Landis & Staefa
TT-341-Z	10K NTC, Carel
TT-341-DC	Delta Controls
	Active Output
TT-341-CVO	4-20mA/0-10Vdc selectable output Output ranges: -10 to +40°C (14 to 104°F) or -10 to +110°C (14 to 230°F) – selectable
TT-341-CVO-C	4-20mA/0-10Vdc selectable output (custom temp. scaling), Scaled to customer specification in the range of -30 to +70°C (-22 to 158°F)
	Suffixes (add to part code)
-65	65mm (2.56") probe length
-250	250mm (9.84") probe length

Data sheets: [TT-341.pdf](#) · [TT-CVO.pdf](#)

Note: A calibration certificate is available on CVO Types see page 67.

TT-342

High Temperature Immersion Sensors



The TT-342 is for use in high temperature applications up to 400°C (752°F).

The sensor consists of a stainless steel probe fitted to an aluminium head, and connected by a 1m (3.28 ft) cable to a plant housing where terminations and transmitters are located.

The TT-342 is available in two standard probe lengths of 150mm (5.91") or 250mm (9.84"), for direct mounting into the TT-PO521 or TT-PO-HP range of stainless steel pockets (page 68).

SPECIFICATION

Output types:	RTD	Resistive
	Current	4 to 20mA
	Voltage	0 to 10Vdc
Housing material:	ABS (flame retardant)	
Dimensions:	74 x 70 x 50mm (2.91 x 2.76 x 1.97")	
Probe:	Material	Stainless steel
	Dimensions	150mm (5.91") or 250mm (9.84") x 6mm dia. (0.24")
Ambient range:	Housing	-30 to +70°C (-22 to 158°F)
	Probe	-10 to +400°C (14 to 752°F)
Protection:	IP65	
Weight:	340g (0.75 lb)	

Part code	Description
	Passive Output (150mm (5.91") Probe)
TT-342-D	PT100A Sensor
TT-342-E	PT1000A Sensor
	Active Output (150mm (5.91") Probe)
TT-342-CVO	4-20mA/0-10Vdc selectable output Output ranges: -10 to +40°C (14 to 104°F), -10 to +110°C (14 to 230°F). -10 to +160°C (14 to 320°F) or 0 to 400°C (32 to 752°F) – selectable

Part code	Description
TT-342-CVO-C	4-20mA/0-10Vdc selectable output (custom temp. scaling), Scaled to customer specification in the range of -10 to +400°C (14 to 752°F)
	Suffix (add to part code)
-250	250mm (9.84") probe length
	Accessory
TT-DFP	Duct flange plate

Data sheets: [TT-342.pdf](#) · [TT-CVO.pdf](#)

Note: A calibration certificate is available on CVO Types see page 67.

TT-351

Clamp-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 (1.97") long probe with two metres (6.56 ft) of PTFE 2-core cable as standard connecting the probe to an IP65 housing for termination.

SPECIFICATION

Output types:	Thermistor	Resistive
	Current	4 to 20mA
	Voltage	0 to 10Vdc
Housing material:	ABS (flame retardant)	
Dimensions:	74 x 70 x 50mm (2.91 x 2.76 x 1.97")	
Cable length:	2 metre (6.56 ft) – standard	
Ambient range:	-30 to +70°C (-22 to 158°F)	
Protection:	IP65	
Weight:	200g (0.44 lb)	



Volume Price Breaks are applicable		
TT-351-A	10K3A1	Please see price list
TT-351-B	10K4A1	
TT-351-C	20K6A1	
TT-351-D	PT100A	
TT-351-E	PT1000A	
TT-351-G	Ni1000A/TCR	
TT-351-H	SAT1	
TT-351-L	TAC1	

Part code	Description
	Passive Output
TT-351-A	10K3A1, Trend, Cylon, Distech
TT-351-B	10K4A1, Andover
TT-351-C	20K6A1, Honeywell
TT-351-D	PT100A, Serck
TT-351-E	PT1000A, Cylon
TT-351-F	Ni1000A, Sauter
TT-351-G	Ni1000A/TCR (LAN1), Siemens
TT-351-H	SAT1, Satchwell
TT-351-L	TAC1, TAC
TT-351-M	2.2K3A1, Johnson Controls
TT-351-N	3K3A1, Alerton
TT-351-P	30K6A1, Drayton
TT-351-Q	50K6A1, Ambiflex
TT-351-R	100K6A1, York >40°C
TT-351-S	SAT2, Satchwell
TT-351-T	SAT3, Satchwell
TT-351-W	SIE1, Siebe
TT-351-Y	STA2, Landis & Staefa, Distech
TT-351-Z	10K NTC, Carel
TT-351-DC	Delta Controls
	Active Output
TT-351-CVO	4-20mA/0-10Vdc selectable output Output ranges: -10 to +40°C (14 to 104°F) or -10 to +110°C (14 to 230°F) (selectable)
TT-351-CVO-C	4-20mA/0-10Vdc selectable output (custom temp. scaling), Scaled to customer specification in the range of -30 to +70°C (-22 to 158°F)
	Suffix (add to part code)
-5M	5m (16,40 ft) cable length

Data sheets: [TT-351.pdf](#) · [TT-CVO.pdf](#)

Note: A calibration certificate is available on CVO Types see page 67.

SonNet®

WIRELESS
TECHNOLOGY

Did you know we also sell wireless Temperature sensors in our SonNet range? Go to page 44 for more details.

TT-554

Remote Probe Sensors



This range of remote probe sensor is perfect for tight locations, hard to access areas or for applications where the usual duct (TT-322) or immersion (TT-341) sensor do not fit. 150mm probe is used with either the TT-PO range of immersion sensor pockets or the TT-DFP duct flange plate.

SPECIFICATION

Output types:	Thermistor	Resistive
	Current	4-20mA
	Voltage	0 to 10Vdc
Probe:	Material	Stainless steel
	Dimensions	150 x 6mm (5.91 x 0.24")
	Lead length:	2 meters (6.56ft)
Protection:	IP65	
Weight:	125g (0.53 lb)	

Part code	Description
	Accessories
TT-DFP	Duct flange plate
TT-PO-521	Stainless steel immersion pocket

Note: Custom lengths available.

- * These units are supplied with the transmitter in the plant housing.
- A calibration certificate is available on CVO Types see page 67.

Part code	Description
	Passive Output
TT-554-A	10K3A1, Trend, Cylon, Distech
TT-554-B	10K4A1, Andover
TT-554-C	20K6A1, Honeywell
TT-554-D	PT100A, Serck
TT-554-E	PT1000A, Cylon
TT-554-F	Ni1000A, Sauter
TT-554-G	Ni1000A/TCR (LAN1), Siemens
TT-554-L	TAC1, TAC
TT-554-M	2.2K3A1, Johnson Controls
TT-554-P	30K6A1, Drayton
TT-554-Z	10K NTC, Carel
TT-554-DC	Delta Controls
TT-554-CVO	4-20mA/0-10Vdc selectable output Output ranges: -10 to +40°C (14 to 104°F) or -10 to +110°C (14 to 230°F) (selectable)
TT-554-CVO-C	4-20mA/0-10Vdc selectable output (custom temp. scaling) *, Scaled to customer specification in the range of -10 to +60°C (14 to 140°F)
	Suffix (add to part code)
-5M	5 meter (16.4ft) cable length

Data sheets: [TT-554.pdf](#) · [TT-CVO.pdf](#)

TT-555

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. The standard cable length is two metres (6.56 ft) of 2-core screened cable. Longer lengths can be made to order.

SPECIFICATION

Output types:	Thermistor	Resistive
	Current	4 to 20mA
	Voltage	0 to 10Vdc
Probe material:	Stainless steel 304	
Probe dimensions:	25 x 6mm (0.98 x 0.24") dia.	
Ambient range:	-10 to +60°C (14 to 140°F)	
Protection:	IP40 (with -R option IP67)	
Weight:	80g (0.18 lb)	

Part code	Description
	Suffixes (add to part code)
-5M **	5m (16.40 ft) cable length
-R	Cap potted (waterproof)

Note: Custom lengths available.

* These units are supplied with the transmitter in the plant housing.

** Volume price breaks available on application.

1. A calibration certificate is available on CVO Types see page 67.

Volume Price Breaks are applicable

TT-555-A	10K3A1	Please see price list
TT-555-B	10K4A1	
TT-555-C	20K6A1	
TT-555-E	PT1000A	
TT-555-G	Ni1000A/TCR	
TT-555-H	SAT1	
TT-555-L	TAC1	

Part code	Description
	Passive Output
TT-555-A	10K3A1, Trend, Cylon, Distech
TT-555-B	10K4A1, Andover
TT-555-C	20K6A1, Honeywell
TT-555-D	PT100A, Serck
TT-555-E	PT1000A, Cylon
TT-555-F	Ni1000A, Sauter
TT-555-G	Ni1000A/TCR (LAN1), Siemens
TT-555-H	SAT1, Satchwell
TT-555-K	STA1, Landis & Staefa
TT-555-L	TAC1, TAC
TT-555-M	2.2K3A1, Johnson Controls
TT-555-N	3K3A1, Alerton
TT-555-P	30K6A1, Drayton
TT-555-Q	50K6A1, Ambiflex
TT-555-R	100K6A1, York >40°C
TT-555-S	SAT2, Satchwell
TT-555-T	SAT3, Satchwell
TT-555-W	SIE1, Siebe
TT-555-Y	STA2, Landis & Staefa
TT-555-Z	10K NTC, Carel
TT-555-DC	Delta Controls
	Active Output
TT-555-CVO	4-20mA/0-10Vdc selectable output * Output ranges: -10 to +40°C (14 to 104°F) or -10 to +110°C (14 to 230°F) (selectable)
TT-555-CVO-C	4-20mA/0-10Vdc selectable output (custom temp. scaling) *, Calibration to customer specification in the range of -10 to +60°C (14 to 140°F)

Data sheets: [TT-555.pdf](#) · [TT-CVO.pdf](#)



WIRELESS
TECHNOLOGY

Did you know we also sell
wireless Temperature sensors in
our SonNet range? Go to page
44 for more details.

TT-359
Direct Clamp-on Sensors


The TT-359 clamp-on sensor is used for direct connection to measure pipe temperature. The sensing element is enclosed in a moulded nickel contact bar on the underside of the main housing. Units are available with a large range of sensing elements, using high quality thermistor, nickel or platinum elements.

SPECIFICATION

Output types:	Thermistor	Resistive
	Current	4 to 20mA
	Voltage	0 to 10Vdc
Housing material:	ABS Flame retardant	
Housing dimensions:	74 x 70 x 30mm (2.91 x 2.76 x 1.97") dia.	
Ambient range:	-30 to +70°C (-22 to 158°F)	
Protection:	IP65	
Weight:	180g (0.40 lb)	



Volume Price Breaks are applicable		
TT-359-A	10K3A1	Please see price list
TT-359-B	10K4A1	
TT-359-C	20K6A1	
TT-359-D	PT100A	
TT-359-E	PT1000A	
TT-359-G	Ni1000A/TCR	
TT-359-H	SAT1	
TT-359-L	TAC1	

Data sheets: [TT-359.pdf](#) · [TT-CVO.pdf](#)



WIRELESS TECHNOLOGY

Did you know we also sell wireless Temperature sensors in our SonNet range? Go to page 44 for more details.

TT-635
External Black Bulb Sensors



The TT-635 sensor is used for radiant heat in outdoor spaces. Black bulb temperature sensors are used to calculate comfort temperature which is specified as the average of the conductive temperature and the radiant temperature. Units contain either a high quality thermistor, platinum or nickel sensing element.

$$T_{\text{comfort}} = \frac{(T_{\text{radiant}} + T_{\text{conductive}})}{2}$$

SPECIFICATION

Output type:	Thermistor	Resistive
Ambient range:	-30 to +70°C (-22 to 158°F)	
Material:	Housing	ABS (flame retardant)
	Black bulb	Anodised aluminium
Dimensions:	Housing	116 x 106 x 52mm (4.57 x 4.17 x 2.05")
	Black bulb	17.5 x 37mm (0.69 x 1.46") dia.
Protection:	IP65	
Weight:	160g (0.35 lb)	





WIRELESS TECHNOLOGY

Did you know we also sell wireless Temperature sensors in our SonNet range? Go to page 44 for more details.

Part code	Description
Passive Output	
TT-359-A	10K3A1, Trend, Cylon, Distech
TT-359-B	10K4A1, Andover
TT-359-C	20K6A1, Honeywell
TT-359-D	PT100A, Serck
TT-359-E	PT1000A, Cylon
TT-359-F	Ni1000A, Sauter
TT-359-G	Ni1000A/TCR (LAN1), Siemens
TT-359-H	SAT1, Satchwell
TT-359-L	TAC1, TAC
TT-359-M	2.2K3A1, Johnson Controls
TT-359-N	3K3A1, Alerton
TT-359-P	30K6A1, Drayton
TT-359-Q	50K6A1, Ambiflex
TT-359-R	100K6A1, York >40°C
TT-359-S	SAT2, Satchwell
TT-359-T	SAT3, Satchwell
TT-359-W	SIE1, Siebe
TT-359-Y	STA2, Landis & Staefa
TT-359-Z	10K NTC, Carel
TT-359-DC	Delta Controls
Active Output	
TT-359-CVO	4-20mA/0-10Vdc selectable output Output ranges: -10 to +40°C (14 to 104°F) or -10 to +110°C (14 to 230°F) (selectable)
TT-359-CVO-C	4-20mA/0-10Vdc selectable output (custom temp. scaling), Calibration to customer specification in the range of -30 to +70°C (-22 to 158°F)

Note:

1. A calibration certificate is available on CVO Types see page 67.

Part code	Description
Passive Output	
TT-635-A	10K3A1, Trend, Cylon, Distech
TT-635-B	10K4A1, Andover
TT-635-C	20K6A1, Honeywell
TT-635-D	PT100A, Serck
TT-635-E	PT1000A, Cylon
TT-635-F	Ni1000A, Sauter
TT-635-G	Ni1000A/TCR (LAN1), Siemens
TT-635-H	SAT1, Satchwell
TT-635-K	STA1, Landis & Staefa
TT-635-L	TAC1, TAC
TT-635-M	2.2K3A1, Johnson Controls
TT-635-N	3K3A1, Alerton
TT-635-P	30K6A1, Drayton
TT-635-Q	50K6A1, Ambiflex
TT-635-S	SAT2, Satchwell
TT-635-T	SAT3, Satchwell
TT-635-W	SIE1, Siebe
TT-635-Y	STA2, Landis & Staefa
TT-635-Z	10K NTC, Carel
TT-635-DC	Delta Controls

Data sheets: [TT-635.pdf](#) · [TT-CVO.pdf](#)

Note:

1. A calibration certificate is available on CVO Types see page 67.

TT-1000

Space Sensors



A NEW ERA IN SPACE TEMPERATURE SENSOR DESIGN

This range of innovative space sensors is designed to meet the exacting standards of today's architects, specifiers and building owners. Its unique low profile, curved style allows it to blend seamlessly into the architecture of modern and older buildings alike.

As with its predecessor the TT-1000 range can be supplied with a wide range of user interface options such as set-point adjustment, fan speed and momentary switches etc. to give the customer additional functionality. Sontay also offers a complete range of customised user interfaces for every requirement.

See page 69 for details on Sontay's UI-500 series or call our Sales Support Team for more information.

INTERFACE OPTIONS



SP

Set temperature to desired point
Setpoint



FS 3/4/5

Fan Speed Switch
Select fan speed



MS

Momentary Switch
Override the programme for a period of time

INTERFACE RESTRICTIONS

- SP only
- MS only
- SP-MS only
- SP-FSx only

SPECIFICATION

Output types:	Thermistor	Resistive
	Current	4 to 20mA
	Voltage	0 to 10Vdc or 0 to 5Vdc
Set-point:	2-wire 11-kΩ/0-10Ω linear	
Fan speed:	Resistive	
Momentary switch:	N/O push button	
Housing:	Material	ABS (flame retardant)
	Colour	Polished white finish RAL 9003
Ambient range:	-10 to +60°C (14 to 140°F)	
Protection:	IP30	
Dimensions:	115 x 85 x 28mm (4.53 x 3.35 x 1.10")	
Weight:	120g (0.26 lb)	



WIRELESS
TECHNOLOGY

Did you know we also sell
wireless Temperature sensors in
our SonNet range? Go to page
44 for more details.

FEATURES

- Designed to be aesthetically pleasing
- Blends into the fabric of any building
- Meets exacting standards of today's specifiers
- LCD display options on -ACT models

Part code	Description
Passive Output	
TT-1000-A	10K3A1, Trend, Cylon, Distech
TT-1000-B	10K4A1, Andover
TT-1000-C	20K6A1, Honeywell
TT-1000-D	PT100A, Serck
TT-1000-E	PT1000A, Cylon
TT-1000-F	Ni1000A, Sauter
TT-1000-G	Ni1000A/TCR (LAN1), Siemens
TT-1000-H	SAT1, Satchwell
TT-1000-K	STA1, Landis & Staefa
TT-1000-L	TAC1, TAC
TT-1000-M	2.2K3A1, Johnson Controls
TT-1000-N	3K3A1, Alerton
TT-1000-P	30K6A1, Drayton
TT-1000-Q	50K6A1, Ambiflex
TT-1000-S	SAT2, Satchwell
TT-1000-T	SAT3, Satchwell
TT-1000-W	SIE1, Siebe
TT-1000-Y	STA2, Landis & Staefa
TT-1000-Z	10K NTC, Carel
TT-1000-DC	Delta Controls
Active Output	
TT-1000-ACT	4-20mA/0-10Vdc/0-5Vdc selectable output, output range -0 to +40°C (32 to 104°F)
TT-1000-ACT-TR	4-20mA/0-10Vdc/0-5Vdc selectable output, custom temp. scaling between -20 to +50°C (14 to 122°F)

Volume Price Breaks are applicable

TT-1000-A	10K3A1	Please see price list
TT-1000-B	10K4A1	
TT-1000-C	20K6A1	
TT-1000-E	PT1000A	
TT-1000-G	Ni1000A/TCR	
TT-1000-H	SAT1	
TT-1000-K	STA1	
TT-1000-L	TAC1	

Part code	Description
Interface Options *	
-SP	2-wire, 11-kΩ/0-10Ω setpoint
-FS3	3-speed fan switch (1, 2, 3)
-FS4	4-speed fan switch (off, 1, 2, 3)
-FS5	5-speed fan switch (off, 1, 2, 3, auto)
-MS	Momentary switch
-LCD**	Integral display
-LEDG***	24V Green LED
Accessories	
DECOR	Decorators trim plate
GASKET	Insulating gasket (pack of 10)

Data sheets: [TT-1000.pdf](#) · [TT-1000-ACT.pdf](#)

Note:

- * Interface options are not applicable to 'Volume Price Breaks'.
 - ** Only available on -ACT types
 - *** Not available on ACT types
1. A calibration certificate is available on CVO Types see page 67.

TT-1015

Black Bulb Sensors



Comfort temperature measurement can be best achieved by taking into account the radiant effect of surfaces within the controlled space. The comfort temperature is specified as the average of the conductive temperature and the radiant temperature.

$$T_{\text{comfort}} = \frac{T_{\text{radiant}} + T_{\text{conductive}}}{2}$$



The TT-1015 Temperature Sensor used to measure radiant heat in indoor spaces. Units contain either a high quality thermistor, Platinum or Nickel element.

SPECIFICATION

Output type:	Thermistor Resistive
Ambient range:	-10 to +60°C (14 to 140°F)
Protection:	IP30
Housing:	Material ABS (flame retardant) RAL 9003
	Colour Polished white finish
Black bulb:	Anodised aluminium
Dimensions:	Housing 115 x 85 x 28mm (4.53 x 3.35 x 1.10")
	Bulb 17.5 x 37mm (0.69 x 1.46") dia.
Weight:	120g (0.26 lb)

Volume Price Breaks are applicable		
TT-1015-A	10K3A1	Please see price list
TT-1015-B	10K4A1	
TT-1015-C	20K6A1	
TT-1015-E	PT1000A	
TT-1015-G	Ni1000A/TCR	
TT-1015-H	SAT1	
TT-1015-L	TAC1	

Part code	Description
Passive Output	
TT-1015-A	10K3A1, Trend, Cylon, Distech
TT-1015-B	10K4A1, Andover
TT-1015-C	20K6A1, Honeywell
TT-1015-D	PT100A, Serck
TT-1015-E	PT1000A, Cylon
TT-1015-F	Ni1000A, Sauter
TT-1015-G	Ni1000A/TCR (LAN1), Siemens
TT-1015-H	SAT1, Satchwell
TT-1015-K	STA1, Landis & Staefa
TT-1015-L	TAC1, TAC
TT-1015-M	2.2K3A1, Johnson Controls
TT-1015-N	3K3A1, Alerton
TT-1015-P	30K6A1, Drayton
TT-1015-Q	50K6A1, Ambiflex
TT-1015-S	SAT2, Satchwell
TT-1015-T	SAT3, Satchwell
TT-1015-W	SIE1, Siebe
TT-1015-Y	STA2, Landis & Staefa
TT-1015-Z	10K NTC, Carel
TT-1015-DC	Delta Controls
Interface Options	
-SP	2-wire, 11-1kΩ/0-10Ω setpoint
-FS3	3-speed fan switch (1, 2, 3)
-FS4	4-speed fan switch (off, 1, 2, 3)
-FS5	5-speed fan switch (off, 1, 2, 3, auto)
-MS	Momentary switch
-LEDG	24V Green LED
Accessory	
DECOR	Decorators trim plate
GASKET	Insulating gasket (pack of 10)

Data sheet: [TT-1015.pdf](#)

Note: A Sensor Guard (TT-GD) is available – see below.



WIRELESS
TECHNOLOGY

Did you know we also sell
wireless Temperature sensors in
our SonNet range? Go to page
44 for more details.

TT-GD

Space Sensor Guard



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

FEATURES

- Robust construction
- Easy fixing

SPECIFICATION

Material:	Powder coated mild steel
Dimensions:	122 x 130 x 55mm (4.80 x 5.51 x 2.17")
Weight:	180g (0.40 lb)

Part code	Description
TT-GD	Space Sensor Guard

Data sheet: [TT-GD.pdf](#)

TT-CAL

Calibration



In house calibration is available for Sontays active output temperature sensors using our state of the art environmental chamber, which is tested to UKAS standards.

Sontay can provide test certificates for 3-point calibration, with additional points if required COV types only.

Part code	Description
TT-CAL	3-Point calibration at 15, 25 & 35°C
TT-CAL-ADP	Additional calibration point, select between 0 & 70°C

Immersion Sensor Pockets

Industry requirements, recently introduced, are for pockets that can withstand higher pressures and flow rates.

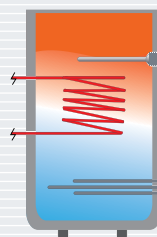
To ensure these standards are met we have worked hard to supply a robust stainless steel pocket at a similar price to the brass version.

Our new range of stainless steel pockets offer the robustness and reliability you would expect, with an exceptionally competitive price.

High performance Pocket



Fast Flowing Water Pipes



High Pressure Tanks

Our customers asked us for a 65mm version which we now supply in our standard range.

A high performance version is available for those projects that require that extra strength, such as for fast flowing water.

TT-PO

Immersion Sensor Pockets



TT-PO - 250mm Pockets



TT-PO - 150mm Pockets



TT-PO - 65mm Pockets

TT-PO521 and TT-PO-HP range of stainless steel pockets are for use with immersion sensors TT-341 and TT-342. The two part welded TT-PO521 pockets are intended for low flow applications.

They may be used in applications such as sumps or storage tanks or low flowing water in pipes. For applications requiring installation in high flowing water, the TT-PO-HP should be used.

Pockets are designed to accept either a 65mm (2.56"), 150mm (5.91") or 250mm (9.84") x 6mm (0.24") dia. probes, which are locked in position by a grub screw.

These pockets can be installed in any system that is constructed from compatible materials whose operating pressures and flow rates are within the specified ranges.

SPECIFICATION

Material:	S/S 316
Temperature ranges:	-20 to +400°C (-4 to +752°F)
Maximum pressure (out to in):	16 bar (232 psi)
Water velocity max. (0 to 100°C):	TT-PO521 3.7 m/s (728 ft/min)
	TT-PO521-65 18 m/s (3543 ft/min)
	TT-PO521-250 1.7 m/s (335 ft/min)
	TT-PO-HP 17.0 m/s (3340 ft/min)
	TT-521-HP-250 6.5 m/s (1280 ft/min)
Weights:	TT-PO521 140g (0.31 lb)
	TT-PO-HP 220g (0.49 lb)

Part code	Description
	65mm (2.56") Pockets
TT-PO521-65	Stainless Steel Immersion Pocket
	150mm (5.91") Pockets
TT-PO521	Stainless Steel Immersion Pocket
TT-PO-HP	High Performance Stainless Steel Immersion Pocket
	250mm (9.84") Pockets
TT-PO521-250	Stainless Steel Immersion Pocket
TT-PO-HP-250	High Performance Stainless Steel Immersion Pocket

Volume Price Breaks are applicable

Unit Price (10-19 and 20+)

TT-PO521	Please see price list
TT-PO-HP	

Data sheet: TT-PO.pdf

UI-500

Interface Options

INDIVIDUAL SOLUTIONS

In addition to our standard range of sensors we are able to manufacture user interface equipment to your specifications. Typically this would be a single or twin gang plate styled to match other equipment on a project. We can fit a large range of devices to UI-500 products including sensors, setpoint adjustments and LCDs.

The examples on this page are just a few of the types, designs and options we can supply. Please contact the Sales Support Team for more information or to discuss your requirements.



CUSTOMISED INTERFACE SOLUTIONS

All of our user interface products are designed and built to your exact requirements. From custom engraving to LCD displays, switches and setpoints, we can supply a solution that fits your needs.

If you have a requirement, please call our technical support on 01732 861218 or email support@sontay.com.



UI-AA

Alarm Annunciators

The UI-AA series are used in conjunction with one or two analogue or VFC signals to provide low cost local audible and visual alarm facilities. The units can accept voltage, current and VFC switched inputs.

Adjustment of alarm threshold and the time delay before an alarm is standard on all models.

A mute button silences the audible alarm, whilst the visual alarm will not reset until the monitored parameter returns to within its desired range.

FEATURES

- 1 or 2-channels
- LEDs for OK/alarm indication
- Audible alarm mute button
- Alarm output relay

SPECIFICATION

Input signals:	UI-AA-1-F	0-10Vdc, 4-20mA. relay or 24Vac
	UI-AA-2-F	0-10Vdc, 4-20mA or relay
Alarm delay time (sec):	5 to 45 secs	
Relay output:	SPCO. 6A @ 240Vac	
Buzzer output:	85dB @ 1 metre	
LED indication:	Green = OK, flashing red = alarm	
Power supply:	24Vac/dc $\pm 15\%$	
Housing:	UI-AA-1-F	Panel mounting or UK standard single gang box
	UI-AA-2-F	For panel mounting only or deep UK standard double gang box
Ambient range:	-10 to +40°C (14 to 104°F)	
Protection:	IP32	
Dimensions:	UI-AA-1-F	85 x 85 x 37mm (3.35 x 3.35 x 1.46")
	UI-AA-2-F	145 x 85 x 35mm (5.71 x 3.35 x 1.38")
Weight:	UI-AA-1-F	140g (0.31 lb)
	UI-AA-2-F	200g (0.44 lb)

Part code	Description
UI-AA-1-F	1-channel Interface Panel
UI-AA-2-F	2-channel

[Data sheet: UI-AAx-F.pdf](#)

Valves & Actuators

Valves and Actuators are "first fix" devices, and it is vital to select the correct types and sizes.

Sizing should not be based on physical pipe size, flow co-efficient data must be used to select the correct valve.



ROTARY SHOE
VR-RANGE



ZONE
VZ-RANGE



PLANT/PLUG & SEAT
VE-RANGE



TERMINAL
VT RANGE

Suitable actuators are available in various power (24V and 230V supply) and control (modulating. ON/OFF and Raise/lower) types.

VA RANGE



DAMPER ACTUATORS

VA RANGE are also available, with auxiliary end switches and fail-safe types, in torque ratings from 5Nm to 30Nm.

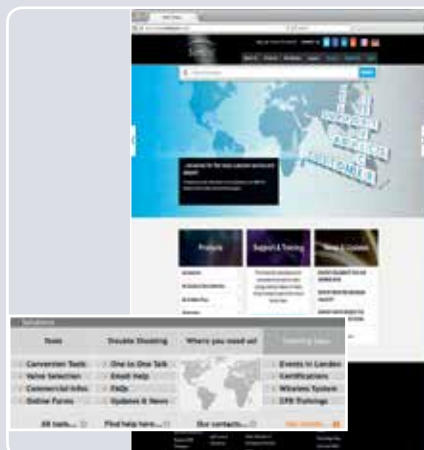
VS RANGE



GAS SAFETY VALVES

VS RANGE are important plant items, and can be combined with the GL range of gas leak detection systems for complete gas safety protection.

GL RANGE



A comprehensive valve sizing service is available, based on design flow rates and control circuit pressure drops, to make the selection process quick and easy.

Contact support@sontay.com or use our valve sizing tool at www.sontay.com/support to ensure you are selecting the correct valve for your application.



5Nm Types

Sontay's range of damper actuators are suitable for many applications including motorised control of dampers in ventilation systems.

They are available with either on/off, floating (raise/lower) or modulating control signal input and various torque ratings. A failsafe damper actuator is also available in a 20Nm (177 in/lb) torque rating.

All units can have optional auxiliary switch(es) fitted and the direction of rotation can be reversed and the angle of mechanical travel can be limited.

FEATURES

- Position indication
- Maintenance-free
- Mechanical set rotation limits
- Reversible rotation



8Nm & 15Nm Types



20Nm & 30Nm & Fail Safe Types

SPECIFICATION

Power supply:	24Vac @ 50/60Hz or 24Vdc ±20%
	80 to 265Vac @ 50/60Hz
Drive times (seconds):	5 & 8Nm - 60 to 120 (44 - 70 in/lb)
	15Nm (132 in/lb) - <150
	20Nm (177 in/lb) - 150
	30Nm (265 in/lb) - 150
	FS 20Nm (177 in/lb) - 75 (spring-return <20)
Control signals:	On/off, raise/lower and modulating
Aux. switch rating:	250V @ 5(2.5)A
Angle of rotation:	Max. 59° (mechanically limitable)
Ambient:	Temperature -20 to +50°C (-4 to +122°F)
	Humidity 5 to 95% RH
Protection:	5Nm (44 in/lb) IP42
	Others IP54 (cable downwards)
Dimensions	VA-05 145 x 65 x 61mm (5.71 x 2.56 x 2.40")
(L x W x H):	VA-08 & 15 115 x 65 x 61mm (4.53 x 2.56 x 2.40")
	VA-20, 30 & F 193 x 96 x 60 (7.60 x 3.78 x 2.36")
Weights:	VA-05 0.5kg (1.10 lb)
	VA-08 & 15 0.53kg (1.17 lb)
	VA-20 & 30 1.7kg (3.75 lb)
	VA-F 2.5kg (5.51 lb)

General Note for Torque Requirement

For air dampers the following rule of thumb can be used in the absence of damper manufacturers' guidelines.

Torque	Duct area
5Nm (44 in/lb)	Up to 1m ² (3.28 ft ²)
8Nm (70 in/lb)	Up to 1.6m ² (5.25 ft ²)
15Nm (132 in/lb)	Up to 3m ² (9.84 ft ²)
20Nm (177 in/lb)	Up to 4m ² (13.12 ft ²)
30Nm (265 in/lb)	Up to 6m ² (19.69 ft ²)

Part code	Description
	5Nm (44 in/lb) Actuators
VA-05A-24	24V On/off, raise/lower
VA-05A-24S	24V On/off, raise/lower with auxiliary switches
VA-05A-230	230V On/off, raise/lower
VA-05A-230S	230V On/off, raise/lower with auxiliary switches
VA-05M-24	24V Modulating
	8Nm (70 in/lb) Actuators
VA-08A-24	24V On/off, raise/lower
VA-08A-24S	24V On/off, raise/lower with auxiliary switch
VA-08A-230	230V On/off, raise/lower
VA-08A-230S	230V On/off, raise/lower with auxiliary switch
VA-08M-24	24V Modulating
VA-08M-24S	24V Modulating with auxiliary switch
	15Nm (132 in/lb) Actuators
VA-15A-24	24V On/off, raise/lower
VA-15A-24S	24V On/off, raise/lower with auxiliary switch
VA-15A-230	230V On/off, raise/lower
VA-15A-230S	230V On/off, raise/lower with auxiliary switch
VA-15M-24	24V Modulating
VA-15M-24S	24V Modulating with auxiliary switch

Part code	Description
	20Nm (177 in/lb) Actuators
VA-20A-24S	24V On/off, raise/lower with auxiliary switches
VA-20A-230S	230V On/off, raise/lower with auxiliary switches
VA-20M-24S	24V Modulating with auxiliary switches
	30Nm (265 in/lb) Actuators
VA-30A-24	24V On/off, raise/lower
VA-30A-24S	24V On/off, raise/lower with auxiliary switches
VA-30A-230S	230V On/off, raise/lower with auxiliary switches
VA-30M-24S	24V Modulating with auxiliary switches
	Failsafe Actuators (20Nm / 177 in/lb)
VA-FA-24-N	24V On/off
VA-FA-24S-N	24V On/off with auxiliary switches
VA-FA-230-N	230V On/off
VA-FA-230S-N	230V On/off with auxiliary switches
VA-FM-24-N	24V Modulating
VA-FM-24S-N	24V Modulating with auxiliary switches

Data sheets: [VA-05.pdf](#) · [VA-08.pdf](#) · [VA-15.pdf](#) · [VA-20.pdf](#) · [VA-30.pdf](#) · [VA-FA-N.pdf](#)


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Use our RF-IOM output to control damper actuators wirelessly!

VE-x

Plug & Seat Valve Assemblies



Sontay's range of plug & seat valve assemblies are complete with actuators, linkage assembly and valve body. They are suitable for use in heating and chilled applications and with a static pressure rating suitable up to PN25 (screwed) and PN16 (flanged). An optional blanking plug is available to convert the universal 3-way valve body into a 2-way valve. Actuators are available for raise/lower (3-point) and 0-10Vdc modulating control. They are also fitted with manual override and position indicators.

FEATURES

- Suitable for water or glycol mix
- Better than 50:1 turndown ratio
- Life time Warranty on valve castings
- 5 year Warranty on cartridges
- Maintenance free
- High and low Kvs of each size
- All metal movement. no plastic

SPECIFICATION

Valves

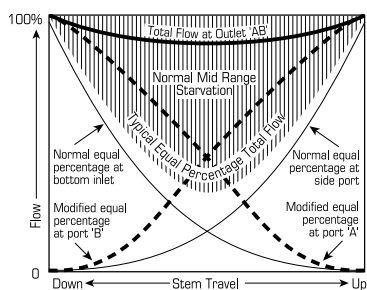
Nominal pressure:	Screwed	PN25
	Flanged	PN16
Characteristics:	eq% ends – linear centre	
Connections:	Screwed	BSPT
	Flanged	DIN 100mm (3")
Medium temperature:	0 to 130°C (32 to 266°F)	
Materials:	Screwed bodies	Bronze
	Flanged bodies	Cast iron
	Packing	Multiple U-cup EPDM rings
	Scrubbing rings	Viton
	Stem	Mirror finish 303 Stainless steel
	Disk	Bronze
Leakage:	Class III 0.1% seat leakage	

Actuators

Power supply:	24Vac @ 50/60Hz
Power consumption:	Raise/lower 2.3VA
	Modulating 3.3VA
Ambient:	Temperature 5 to 55°C (41 to 131°F)
	Humidity 0 to 95% non-condensing
Protection:	IP54 (optional weatherproof cover)
Weight:	49kg (108 lb) max. (valve, linkage & actuator)

BENEFITS OF THE VE-X UNIVERSAL 2-WAY AND 3-WAY VALVE DESIGN.

Modified equal % linear flow characteristics allows for precise control in 2-way valves and no mid-range starvation in 3-way valves.



These specially designed plug shapes incorporate the best features of equal percentage and linear characterisation to provide a valve excellent for modulating well at low flow, while adapting to provide linear characterization in the later stages of valve opening. This feature, along with the variable ratio linkage kit, provides better mixing yet no mid-range starvation, (common with most 3-way equal percentage valves). This allows for improved throttling action in 2-way duty.

Part code	Description	Close-off Bar/PSI	Fitting
3-Port. Plug & Seat Valve Assemblies			
VE-25-5-I	25mm, 5 Kvs (6 Cv) Valve	6.8 / 100	Screwed
VE-25-9-I	25mm, 9.2 Kvs (11 Cv) "	6.8 / 100	"
VE-40-13-I	40mm, 13.3 Kvs (16 Cv) "	4.6 / 66	"
VE-40-20-I	40mm, 20 Kvs (24 Cv) "	4.6 / 66	"
VE-50-29-I	50mm, 29.2 Kvs (35 Cv) "	2.6 / 37	"
VE-50-37-H	50mm, 37.5 Kvs (45 Cv) "	1.7 / 25	"

Actuators to suit above valves (only)

VE-5120	24V Raise/Lower, 5Nm (44 in/lb) Actuator		
VE-5320	24V Modulating, 5Nm (44 in/lb) "		
VE-40-13-I	40mm, 13.3 Kvs (16 Cv) Valve	6.8 / 100	Screwed
VE-40-20-I	40mm, 20 Kvs (24 Cv) "	6.8 / 100	"
VE-50-29-I	50mm, 29.2 Kvs (35 Cv) "	4.7 / 70	"
VE-50-37-H	50mm, 37.5 Kvs (45 Cv) "	3 / 45	"
VE-80-54-I	80mm, 54.2 Kvs (65 Cv) "	2.04 / 30	Flanged
VE-80-62-H	80mm, 62.4 Kvs (75 Cv) "	1.02 / 15	"

Actuators to suit above valves (only)

VE-5130	24V Raise/Lower, 10Nm (88 in/lb) Actuator		
VE-5330	24V Modulating, 10Nm (88 in/lb) "		
VE-50-29-I	50mm, 29.2 Kvs (35 Cv) Valve	6.8 / 100	Screwed
VE-50-37-H	50mm, 37.5 Kvs (45 Cv) "	4.76 / 70	"
VE-80-54-I	80mm, 54.2 Kvs (65 Cv) "	3.74 / 55	Flanged
VE-80-62-H	80mm, 62.4 Kvs (75 Cv) "	2.04 / 30	"
VE-80-95-K	80mm, 95 Kvs (110 Cv) "	1.7 / 25	"

Actuators to suit above valves (only)

VE-5140	24V Raise/Lower, 15Nm (132 in/lb) Actuator		
VE-5340	24V Modulating, 15Nm (132 in/lb) "		
VE-80-54-I	80mm, 54.2 Kvs (65 Cv) Valve	6.12 / 90	Flanged
VE-80-62-H	80mm, 62.4 Kvs (75 Cv) "	3.74 / 55	"
VE-80-95-K	80mm, 95 Kvs (110 Cv) "	2.72 / 40	"

Actuators to suit above valves (only)

VE-5140L	24V Raise/Lower, 20Nm (221 in/lb) Actuator		
VE-5340L	24V Modulating, 20Nm (221 in/lb) "		
VE-80-62-Q	80mm, 62.4 Kvs (75 Cv) Valve	5.78 / 85	Flanged
VE-80-95-Q	80mm, 95 Kvs (110 Cv) "	4.42 / 65	"
VE-100-163-T	100mm, 163Kvs (190Cv) "	2.72 / 40	"

Actuators to suit above valves (only)

VE-5150	24V Raise/Lower, 35Nm (310 in/lb) Actuator		
VE-5350	24V Modulating, 35Nm (310 in/lb) "		

VE-100-163-T	100mm, 163Kvs (190Cv)	3.4 / 50	Flanged
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Actuator to suit above valves (only)

VE-5350-ON	24V Raise/Lower & Modulating, 40Nm (360in/lb)		
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Accessories

VE-P1	25mm (1") plug to convert to 2-way valve		
VE-P2	40mm (1½") plug	"	"
VE-P3	50mm (2") plug	"	"
VE-P4	80mm (3") plug	"	"
VE-PC-1	Weatherproof cover		
VE-PC-2	Weatherproof cover for 80mm. 95 Kvs valves only		

Data sheet: [VE-x.pdf](#)

Note: Spring return actuators are available on request.



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Use our RF-IOM output to control
damper actuators wirelessly!

VR-F

3-port Flanged Iron Rotary Shoe Valves



These cast iron rotary shoe valves are used in heating systems for mixing or diverting applications. Valves sizes from 50 to 150mm (2" to 6") and PN6.

Note: These are not tight shut-off valves.

Actuator Selection

Valve Body	24V R/L On/Off	230V R/L On/Off	24V Mod.	Linkage
VR-F-P3-F50	VA-05A-24x	VA-05A-230x	VA-05M-24	VR-LKN-2
Others	VA-15A-24x	VA-15A-230x	VA-15M-24x	VR-LKN-2

SPECIFICATION

Flow type:	Mixing or diverting	
Fluid temperature:	-10 to +110°C (14 to 230°F)	
Rangeability:	100:1	
Max. pressure drop:	DN50 (2")	50kPa (7.3 psi)
	DN65 to DN150 (2½ to 6")	30kPa (4.4 psi)
Materials:	Body & cover	Cast iron
	Spindle, slipper	Brass
	O-rings	EPDM
Pressure class:	PN6	
Required motor torque:	50mm (2")	5Nm (44 in/lb)
	65 to 100mm (2½ to 4")	10Nm (88 in/lb)
	125 to 150mm (5 to 6")	15Nm (132 in/lb)
Weight:	37kg max. (81.57 lb)	

Part code	Description
3-port, Flanged Valves	
VR-F-P3-F50-K60	50mm (2"), 60 Kvs (70 Cv) Valve
VR-F-P3-F65-K90	65mm (2½"), 90 Kvs (105 Cv) "
VR-F-P3-F80-K150	80mm (3"), 150 Kvs (174 Cv) "
VR-F-P3-F100-K225	100mm (4"), 225 Kvs (262 Cv) "
VR-F-P3-F125-K280	125mm (5"), 280 Kvs (326 Cv) "
VR-F-P3-F150-K400	150mm (6"), 400 Kvs (465 Cv) "
Linkage Kits	
VR-LKN-2	For VA Actuators from 5 to 15Nm (44 to 132 in/lb)

Data sheet: [VR-F.pdf](#)

Note: Please refer to page 71 for VA actuators.

VR-G

3-port Screwed Brass Rotary Shoe Valves



These brass rotary shoe valves are made of a special brass alloy (DZR) allowing use in heating and cooling systems, for both mixing and diverting applications.

Valves are available from ½" to 2" sizes with internal threads.

Note: These are not tight shut-off valves.

FEATURES

- PN10
- DN15 to 50
- Internal threaded connections
- Compact size

VR-G-LKN-1

SPECIFICATION

Valves only		
Flow type:	Mixing or diverting	
Fluid temperature:	-10 to +110°C (14 to 230°F)	
Rangeability:	100:1	
Leak rate:	Mixing	<0.05% of flow
	Diverting	<0.02% of flow
Nominal pressure:	PN10	
Max. diff. pressure:	100kPa (14.5 psi)	
Materials:	Body	Brass DZR. CW 602N
	Shaft & bushing	PPS
	O-rings	EPDM
Weight:	2.05kg (4.52 lb) max. (valve only)	

Actuator Selection

Valve Body	24V R/L On/Off	230V R/L On/Off	24V Mod.	Linkage
All VR-G	VA-05A-24	VA-05A-230x	VA-05M-24	VR-G-LKN-1

Part code	Description
VR-G-10	1" BSP, 6.3 Kvs (7.32 Cv) Valve
VR-G-11	1" BSP, 10 Kvs (11.63 Cv) "
VR-G-12	1¼" BSP, 16 Kvs (18.60 Cv) "
VR-G-13	1½" BSP, 25 Kvs (29 Cv) "
VR-G-14	2" BSP, 40 Kvs (46.5 Cv) "
Linkage Kit	
VR-G-LKN-1	For VA 5Nm actuators

Data sheets: [VR-G.pdf](#) • [VR-G-LKN-1.pdf](#)

Note: Please refer to page 71 for VA actuators.

Part code	Description
3-port, Screwed Valves	
VR-G-01	½" BSP, 0.4 Kvs (0.47 Cv) Valve
VR-G-02	½" BSP, 0.63 Kvs (0.73 Cv) "
VR-G-03	½" BSP, 1.00 Kvs (1.16 Cv) "
VR-G-04	½" BSP, 1.63 Kvs (1.90 Cv) "
VR-G-05	½" BSP, 2.5 Kvs (2.90 Cv) "
VR-G-06	½" BSP, 4.0 Kvs (4.65 Cv) "
VR-G-07	¾" BSP, 2.5 Kvs (2.90 Cv) "
VR-G-08	¾" BSP, 4.0 Kvs (4.65 Cv) "
VR-G-09	¾" BSP, 6.3 Kvs (7.32 Cv) "

VS-VMR

Automatic Reset Gas Valves



This range of normally closed gas solenoid valves when powered on, the gas valve will open without manual intervention. On power loss the valve will automatically close. The valve can be fitted with an optional closed position indicator switch.

FEATURES

- Spring shut-off action
- Automatic reset upon restart
- Flow rate adjustment

SPECIFICATION

Connections:	Screwed	F/F ISO 7-1
	Flanged	PN16 – ISO 7005
Power supply:	230Vac & 24Vac options	
Closing & Opening time:	<1 Second	
Approval:	Class A EN161 Group 2	
Protection:	IP54	
Ambient temperature:	-15 to +60°C (5 to 140°F)	
Weight:	60kg (132 lb) max.	

Part code	Connection
Screwed Valves (24Vac)	
VS-VMR-01-LV	½" BSP Auto Reset Gas Valve
VS-VMR-02-LV	¾" BSP "
VS-VMR-03-LV	1" BSP "
VS-VMR-04-LV	1¼" BSP "
VS-VMR-05-LV	1½" BSP "
VS-VMR-06-LV	2" BSP "
Screwed Valves (230Vac)	
VS-VMR-01	½" BSP Auto Reset Gas Valve
VS-VMR-02	¾" BSP "
VS-VMR-03	1" BSP "
VS-VMR-04	1¼" BSP "
VS-VMR-05	1½" BSP "
VS-VMR-06	2" BSP "

* This option cannot be retro-fitted. it must be ordered at the same time as the VS-VMR gas valve.

Part code	Connection
Flanged Valves (230Vac)	
VS-VMR-07	65mm (2½") Auto Reset Gas Valve
VS-VMR-08	80mm (3") "
VS-VMR-09	100mm (4") "
VS-VMR-10	125mm (5") "
VS-VMR-12	150mm (6") "
Accessories (Closed Position Indicator Switch) *	
VS-PCS	To suit 65 to 150mm (2 ½ to 6") valves

Data sheet: [VS-VMR.pdf](#)

VS-EVMR

Manual Reset Gas Valves



Our new range of manual reset gas safety valves are suitable for locking the gas line when connected to gas leakage detectors, safety thermostats or any other type of alarm signal. On power loss the valve will automatically close, and will not open until the manual reset facility has been activated.

An incorporated fine mesh filter is fitted to protect the valve as well as downstream components. Flanged valves are fitted as standard with a G1/8" connection for the optional closed position indicator.

Screwed valves are available with this option upon request.

FEATURES

- Spring shut off action
- Manual reset upon restart

SPECIFICATION

Connections:	Screwed	F/F ISO 7-1
	Flanged	PN16 – ISO 7005
Power supply:	230Vac & 24Vac options	
Closing time:	<1 Second	
Approval:	EN161 Group 2	
Protection:	DN15 to 80	IP65
	DN100 to DN300	IP54
Ambient temperature:	-15 to +60°C (5 to 140°F)	
Weight:	99kg (218 lb) max.	

Part code	Connection
Screwed Valves (24Vac)	
VS-EVMR-01-LV	½" BSP Manual Reset Gas Valve
VS-EVMR-02-LV	¾" BSP "
VS-EVMR-03-LV	1" BSP "
VS-EVMR-04-LV	1¼" BSP "
VS-EVMR-05-LV	1½" BSP "
VS-EVMR-06-LV	2" BSP "
Screwed Valves (230Vac)	
VS-EVMR-01	½" BSP Manual Reset Gas Valve
VS-EVMR-02	¾" BSP "
VS-EVMR-03	1" BSP "
VS-EVMR-04	1¼" BSP "
VS-EVMR-05	1½" BSP "
VS-EVMR-06	2" BSP "

* This option cannot be retro-fitted. it must be ordered at the same time as the VS-EVMR gas valve.

Part code	Connection
Flanged Valves (230Vac)	
VS-EVMR-07	65mm (2½") Manual Reset Gas Valve
VS-EVMR-08	80mm (3") "
VS-EVMR-09	100mm (4") "
VS-EVMR-10	125mm (5") "
VS-EVMR-11	150mm (6") "
VS-EVMR-12	200mm (8") "
VS-EVMR-13	250mm (10") "
VS-EVMR-14	300mm (12") "
Accessories (Flanged Vales only) Closed Position Indicator Switch *	
VS-PCS	To suit 65 to 200mm (2 ½ to 8") valves

Data sheet: [VS-EVMR.pdf](#)

VS-VMH

Electro-hydraulic Gas Valves



Sontay's series of gas safety shut off valves with hydraulic actuators are suitable for air or gas blocking applications including, gas power burners, gas boilers, kilns and many other gas consuming appliances. On power loss the valve will automatically close, and will not open until power is restored.

An incorporated find mesh filter is fitted protect the valve as well as downstream components. Vales are fitted as standard with a connection for the optional closed position indicator.

SPECIFICATION

Connections:	Flanged	PN16 – ISO 7005
Power supply:	230Vac 50/60Hz	
Closing & Opening time:	<1 Second	
Approval:	Class A EN161 Group 2	
Protection:	IP65	
Ambient temperature:	-15 to +60°C (5 to 140°F)	
Weight:	52kg (114 lb) max.	

Part code	Description	
VS-VMH-01	65mm (2 ½")	Hydraulic Gas Valve
VS-VMH-02	80mm (3")	Hydraulic Gas Valve
VS-VMH-03	100mm (4")	Hydraulic Gas Valve
VS-VMH-04	125mm (5")	Hydraulic Gas Valve
VS-VMH-05	150mm (6")	Hydraulic Gas Valve
VS-VMH-06	200mm (8")	Hydraulic Gas Valve
Accessory (Closed Position Indicator Switch)		
VS-PCS-HP	Closed Position Indicator Switch	

[Data sheet: VS-VMH.pdf](#)

VT-24

Terminal Unit Valve Actuators



The VT-24 range of actuators are for use with the VT-xP terminal unit valves. They have end of travel automatic shut-off for long life expectancy. On start-up the modulating version has an automatic calibration sequence during which the two ends of travel are programmed.

The reversible, brushless, synchronous, electric motor maintains accurate positioning and provides creep-free control with extreme accuracy.

FEATURES

- Raise/lower (3-point) or modulating control types
- No tools required for mounting
- Hand override
- Life expectancy in excess of ½ million cycles
- Quiet operation

SPECIFICATION

Power supply:	24Vac +10% –5%	
Power consumption:	45mA. 1VA	
Control type:	VT-24-RL	Raise/lower (3-point)
	VT-24-M	0-10Vdc Modulating
Frequency:	50/60Hz	
Stroke:	4.5mm (0.18")	
Speed:	VT-24-RL	90 seconds @ 60Hz
	VT-24-RL	108 seconds @ 50Hz
	VT-24-M	120 seconds
Feedback:	1-5Vdc (VT-24-M only)	
Ambient:	Temperature	5 to 50°C (41 to 122°F)
	Humidity	0 to 95% non-condensing
Protection:	IP51	
Weight:	240g (0.53 lb)	

Part code	Description
VT-24-RL	24V Raise/Lower Actuator
VT-24-M	24V Modulating

[Data sheet: VT-24.pdf](#)



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VT-xP

Terminal Unit Valves



Sontay's range of terminal unit valves, are designed and provide a high quality long lasting solution for control of hot or chilled water applications with up to a 50% glycol mix. They are suitable for fan coil units, small re-heaters and re-coolers in temperature control systems. They have replaceable interchangeable cartridges that can be changed without removing the valve from the line. 2 & 3-Port valves are available with female or males threaded ports. They are used in combination with the VT-24, VT-SR (2. 3-port valves only) and VT-TA range of actuators.

FEATURES

- Suitable for water or glycolic water
- Better than 50:1 turndown ratio
- Soft sealing on plug gives complete shut-off
- Life time Warranty on valve castings
- 5 year Warranty on cartridges

SPECIFICATION

Nominal pressure:	PN25	
Connections:	2. 3-port VT-xPE	½" BSP or ¾" BSP female thread on all ports
	VT-2PI	½" BSP or ¾" BSP male thread on all ports
	VT-3PI	½" BSP male thread on all ports
	VT-4P	15mm Conex® or similar compression fitting kit (not supplied)
Stroke length:	2-port valves	4mm (0.16")
	3-port valves	2.8mm (0.11")
	4-port valves up to 2.60 Kvs	2.8mm (0.11")
	4-port valve 3.00 Kvs	4mm (0.16")
Medium temp:	0 to 120°C (32 to 248°F)	
Glycol:	50% max.	
Materials:	Body	Low zinc bronze. alloy C84400
	Stem	Stainless steel
	Packing	Double EPDM
	Disc / plunger	EPDM / brass
Leakage:	100% tight shut-off	
Turndown ratio:	50:1	
Max. pressure:	3.5 (50.8 psi) bar	
Weight:	650g (9.4 lb) max.	

Part code	Description	Characteristics
2-Port. External Threaded c/w Unions		
VT-2PE-15-01	15mm (½"), 0.43 Kvs (0.5 Cv), Value	Equal percentage
VT-2PE-15-02	15mm (½"), 0.86 Kvs (1.0 Cv), "	"
VT-2PE-15-03	15mm (½"), 1.30 Kvs (1.5 Cv), "	"
VT-2PE-15-04	15mm (½"), 1.72 Kvs (2.0 Cv), "	"
VT-2PE-15-05	15mm (½"), 2.15 Kvs (2.5 Cv), "	"
VT-2PE-15-06	15mm (½"), 2.58 Kvs (3.0 Cv), "	"
VT-2PE-20-07	20mm (¾"), 2.58 Kvs (3.0 Cv), "	"
VT-2PE-20-08	20mm (¾"), 3.87 Kvs (4.5 Cv), "	Linear
3-Port. External Threaded c/w Unions		
VT-3PE-15-02	15mm (½"), 0.86 Kvs (0.5 Cv), Value	Equal percentage
VT-3PE-15-03	15mm (½"), 1.72 Kvs (2.0 Cv), "	"
VT-3PE-15-04	15mm (½"), 2.58 Kvs (3.0 Cv), "	"
VT-3PE-20-05	20mm (¾"), 3.10 Kvs (3.5 Cv), "	"
2-Port. Internal Threaded		
VT-2PI-15-01	15mm (½"), 0.43 Kvs (0.5 Cv), Value	Equal percentage
VT-2PI-15-02	15mm (½"), 0.86 Kvs (1.0 Cv), "	"
VT-2PI-15-03	15mm (½"), 1.30 Kvs (1.5 Cv), "	"

Part code	Description	Characteristics
2-Port. Internal Threaded		
VT-2PI-15-04	15mm (½"), 1.72 Kvs (2.0 Cv), Value	Equal percentage
VT-2PI-15-05	15mm (½"), 2.15 Kvs (2.5 Cv), "	"
VT-2PI-15-06	15mm (½"), 2.58 Kvs (3.0 Cv), "	"
VT-2PI-20-07	20mm (¾"), 2.58 Kvs (3.0 Cv), "	"
VT-2PI-20-08	20mm (¾"), 3.87 Kvs (4.5 Cv), "	Linear
3-Port. Internal Threaded		
VT-3PI-15-01	15mm (½"), 0.86 Kvs (1.0 Cv), Value	Linear
VT-3PI-15-02	15mm (½"), 1.72 Kvs (2.0 Cv), "	"
VT-3PI-15-03	15mm (½"), 2.58 Kvs (3.0 Cv), "	"
4-Port. Compression Terminal Valves (diverting only)		
VT-4P-15-01	15mm, 0.86 Kvs (1.0 Cv), Value	Linear
VT-4P-15-02	15mm, 1.70 Kvs (2.0 Cv), "	"
VT-4P-15-03	15mm, 2.60 Kvs (3.0 Cv), "	"
VT-4P-15-04	15mm, 3.00 Kvs (3.5 Cv), "	"

Data sheet: [VT-xP.pdf](#)

Note: 6.8 bar (98.6 psi), high close-off 2-port valves are available on request. Please contact the Sales Support Team for more information.

VT-SR

Spring Return Terminal Unit Valve



These spring return actuators are designed for on/off control and are used with the 2 or 3-port VT-xP terminal unit valves. The VT-SR-xx-1 normally open series and the VT-SR-xx-2 normally closed series are 2-position, 2-wire fail safe on power disruption actuators.

FEATURES

- 24Vac and 230Vac supply options
- Normally closed and normally open versions
- Position indicator
- Maintenance free

Part code	Description
VT-SR-24-1	24V On/Off Spring Return N/O Actuator
VT-SR-24-2	24V On/Off Spring Return N/C Actuator

SPECIFICATION

Power supply:	VT-SR-24-x - 24Vac ±10% VT-SR-230-x - 230Vac ±10%	
Power consumption:	8VA. 0.3A @ 24Vac	
Control type:	On/off	
Stroke:	4.5mm (0.18")	
Speed:	VT-SR-xx-1	20 sec. closing. 10 sec. opening
	VT-SR-xx-2	20 sec. opening. 10 sec. closing
Ambient:	Temperature	5 to 50°C (41 to 122°F)
	Humidity	0 to 95% non-condensing
Protection:	IP20	
Weight:	360g (0.79 lb)	

Data sheet: [VT-SR.pdf](#)



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VT-TA

Thermic Terminal Unit Valve Actuators



Used with the VT-xP range of valves, they are tried and tested totally silent wax expansion principle actuators. The valve opens in direct proportion to the amount of wax melted, driving the stem through its travel to close (or open) the valve. They provide a very cost effective solution for valve control.

FEATURES

- 24Vac and 230Vac supply options
- No tools required for mounting
- Position indicator

SPECIFICATION

Power supply:	VT-TA-24	24Vac $\pm 10\%$
	VT-TA-230	230Vac $\pm 10\%$
Control type:	VT-TA-xx-1 & 2	On/off
	VT-TA-24-M	0-10Vdc Modulating
Stroke:	4mm (0.16")	
Speed:	VT-TA-xx-1 / 2	180 seconds approx.
Ambient:	Temperature	5 to 40°C (41 to 104°F)
	Humidity	0 to 95% non-condensing
Protection:	IP54	
Weight:	140g (0.31 lb)	

Part code	Description
VT-TA-24-1	24V On/Off Thermic N/O Actuator
VT-TA-24-2	24V On/Off Thermic N/C Actuator
VT-TA-230-1	230V On/Off Thermic N/O Actuator

Part code	Description
VT-TA-230-2	230V On/Off Thermic N/C Actuator
VT-TA-24-M	24V Modulating Thermic N/C Actuator

Data sheet: [VT-TA.pdf](#)



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VZ

Zone Valves and Actuators



This series of zone valves are designed for on/off control of fluid flow in a variety of heating and cooling applications, including AHUs and FCUs.

They feature a reliable synchronous motor and a spring return mechanism to provide power failsafe position and fitted with an auxiliary switch as standard.

SPECIFICATION

Operation:	2-port	Normally closed, spring return
	3-port	Mixing, spring return
Supply:	230Vac and 24Vac options	
Voltage tolerance:	$\pm 10\%$	
Max. electrical load:	Aux. switch 3A, 125 to 250Vac	
Power consumption:	6W	
Running time:	Open	10 seconds
	Close	5 seconds
Working temp:	0 to 60°C (32 to 140°F)	
Working humidity:	Non-condensing	
Housing:	Plate	Casting aluminium alloy
	Cover	Flame retardant ABS
Valve type:	2 or 3-port	
Fluid temp:	0 to 94°C (32 to 201°F)	
Body rating:	2.5 MPa (362 psi)	
Material:	Valve body	Forged brass
	Valve rod	Stainless steel A151302
	Seal	NBR
Protection:	IP20	
Weight:	960g (2.12 lb) max.	

Part code	Description
2-port Valves	
VZ-2-15	½" BSP Zone Valve
VZ-2-20	¾" BSP Zone Valve
VZ-2-25	1" BSP Zone Valve
3-port Valves	
VZ-3-15	½" BSP Zone Valve
VZ-3-20	¾" BSP Zone Valve
VZ-3-25	1" BSP Zone Valve

Part code	Description
Actuators	
VZ-SM24	24Vac Actuator with auxiliary switch
VZ-SM230	230Vac Actuator with auxiliary switch

Data sheet: [VZ.pdf](#)

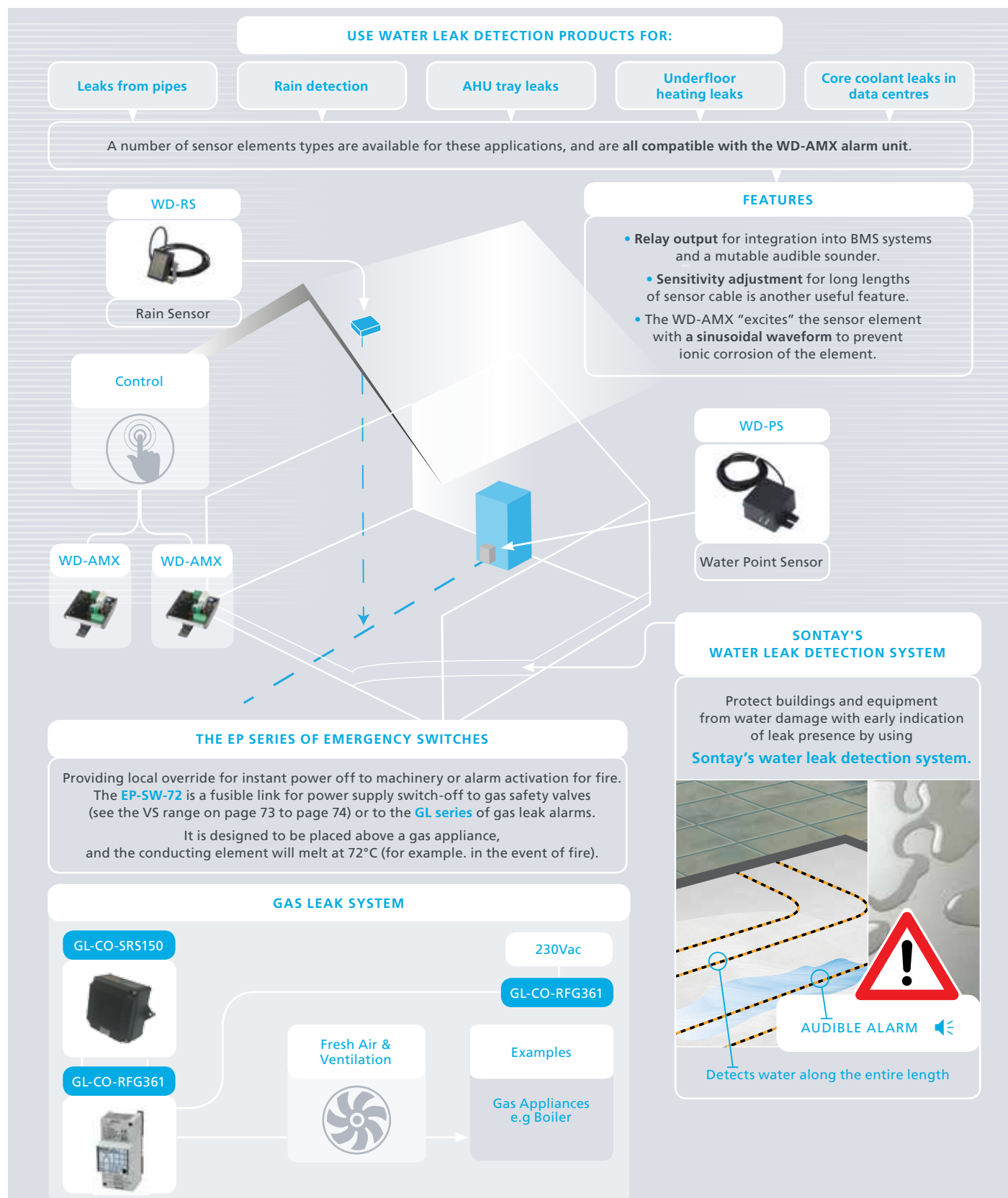


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Water Detection & Emergency Products



EP-SW

Emergency Stop



EP-KL

A range of emergency stop buttons for manual shutdown of systems in the event of fire or other emergency.

TYPES

EP-KL

Emergency Stop Button with key lock re-set. Set of 2 keys provided.



EP-SW10

EP-SW-10

Emergency Stop Button with recessed re-set button.



EP-SW11

EP-SW-11

Emergency Stop Button with twist knob re-set.

SPECIFICATION

Switch rating:	EP-KL	15 to 415Vac, 4A
	Others	13 to 110Vdc, 0.5A
Reset type:	Others	6A @ 240Vac
	EP-KL	Key
	EP-SW-10	Push (recessed)
Dimensions:	EP-SW-11	Twist
	EP-KL	65 x 65 x 90mm (2.56 x 2.56 x 3.54")
	EP-SW-10	73 x 80 x 50mm (2.87 x 3.15 x 1.97")
Weight:	EP-SW-11	65 x 65 x 90mm (2.56 x 2.56 x 3.54")
		220g (0.49 lb)

Part code	Description
EP-KL	Stop Button – Key lock
EP-SW-10	Stop Button – Push button (recessed)
EP-SW-11	Stop Button – Twist knob

Data sheet: [EP-ES.pdf](#)

EP-SW-72

Fusible Thermal Link



The EP-SW-72 is for use in gas safety circuits. Units consist of a ventilated high temperature glass filled resin case, with electrical connection terminals and a thermal fuse. When located above boilers, the fuse activates on detection of over-temperature to close down the gas system. Replacement fuses are available.

SPECIFICATION

Housing:	High temperature flame retardant glass filled resin
Entry:	M20 thread for standard conduit
Melting point:	72°C (162°F)
Rating:	250Vac @ 5A
Protection:	IP20
Dimensions:	85 x 28 x 65mm (3.35 x 1.10 x 2.56")
Weight:	60g

Part code	Description
EP-SW-72	Electro-thermal Link
EP-SW-72-F	Electro-thermal Link – spare fuse

Volume Price Breaks are applicable

EP-SW-72	Please see price list
----------	-----------------------

Data sheet: [EP-SW72.pdf](#)

EP-FS

Fireman's Switches



This range of safety switches are for use in the event of fire or other emergency. Usually located at exits to gas plant rooms, units are key operated with a 2 or 3-position latching switch.

The EP-KG is a wall or panel-mounted Keyguard. The window is a non-hazardous clear plastic with side tabs designed to break in order to gain access to the key.

It is ideal for use in situations where a glass window would pose a hazard, i.e. food preparation areas, schools etc.



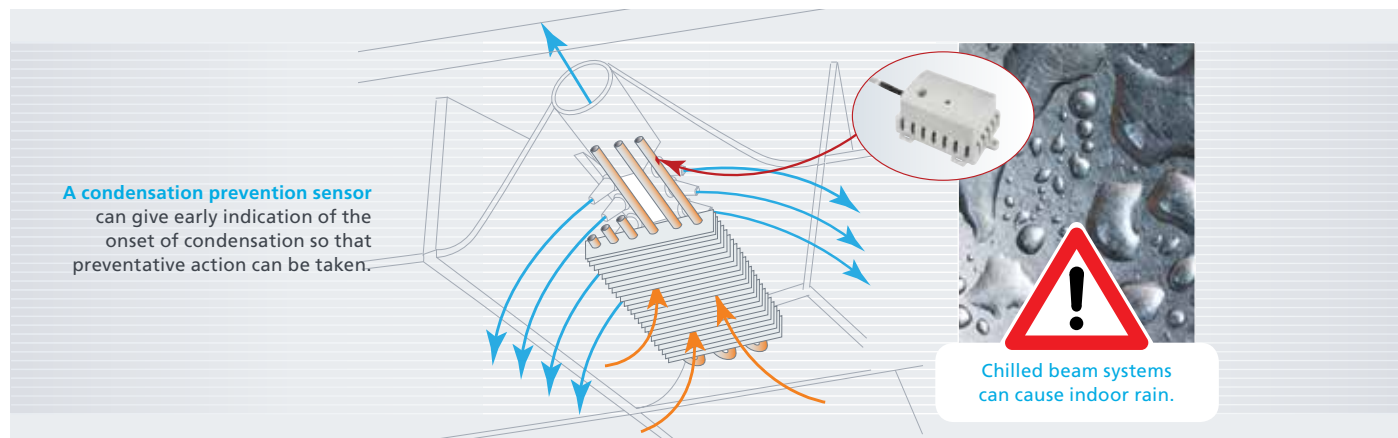
SPECIFICATION

Switch rating:	EP-FS	6A @ 240Vac
Keys:	EP-FS	2 supplied (removable in all positions)
Connections:	EP-FS	4 x 100mm (3.94") flying leads
Dimensions:	EP-FS	86 x 86 x 50mm (3.39 x 3.39 x 1.97")
	EP-KG	142 x 125 x 45mm (5.59 x 4.92 x 1.77")
Weight:	EP-FS	200g (0.44 lb)
	EP-KG	220g (0.49 lb)
Housing:		ABS plastic

Part code	Description
EP-FS-1	Fireman's Switch – Red 2-position
EP-FS-2	Fireman's Switch – Red 3-position
EP-FS-C	Fireman's Switch – Hinged cover
EP-KG-1	Keyguard – Red
EP-KG-W	Keyguard – Spare window

Data sheets: [EP-FS.pdf](#) · [EP-KG.pdf](#)

Condensation Sensing



WD-CPS

Condensation Prevention Sensor



Sontay's condensation prevention sensor has been designed to provide a switched output signal to prevent the onset of condensation on chilled surfaces such as chilled beams.

The detector measures the temperature compensated RH and surface temperature of the chilled surface and calculates the dew point temperature. This is compared to an adjustable setpoint to provide either a current output or VFC switched output.

FEATURES

- Reliable and accurate switching
- VFC or current output
- Quick and simple to install

SPECIFICATION

Output:	Current mode	(dry <3mA. wet >12 mA)
	VFC mode	SPDT contact. 240Vac @ 1A resistive
Supply voltage:	24Vdc $\pm 5\%$ or 24Vac $\pm 10\%$	
Cable:	Low smoke and fume	
Dimensions:	70 x 48 x 30mm (2.76 x 1.89 x 1.18")	
Weight:	80g (0.18 lb)	

Part code	Description
WD-CPS	Condensation Detector - 2m (6.56 ft) lead
WD-CPS-5M	Condensation Detector - 5m (16.4 ft) lead

[Data sheet: WD-CPS.pdf](#)



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WD-x

Water Leak Detection



The WD-x range is designed to detect water leaks either at localised points using the WD-PS point sensor or larger areas with the WD-CS cable sensor, a rain sensor is also available.

All these sensors are used with the WD-AMX range of modules that are suitable for DIN-rail mounting inside AHUs, power distribution units or general areas where leak detection is required.

They are fitted as standard with LED indication of the water leak status, and sounder that can be disabled by simply removing a jumper. The WD-AMX relay output can be either configured to be manual or auto reset.

A relay output provides an alarm signal that can be used for connection to a BMS controller or remote alarm annunciation panel such as the UI-AA1-F (see page 69).

FEATURES

Modules

- AC detector excitation for reliability
- 24Vac/dc or 230Vac versions
- Audible alarm

Sensors

- WD-CS is easy to lay and detects along its entire length
- More than one WD-PS can be connected to a WD-AMX
- Self-contained heater to avoid nuisance alarms on WD-RS

SPECIFICATION

Power Supply:	WD-AMX-1	24Vac/dc $\pm 10\%$
	WD-AMX-2	230Vac @ 50Hz
	WD-RS heater	24Vac/dc
Supply Current		
(WD-AMX):	50mA max.	
Output:	SPDT relay 12A @ 230Vac	
Audible alarm:	85dB @ 2.3kHz at 10cm	
Maximum cable run:	200m (656ft) – including detection cable	
Ambient range:	Temperature	0 to 40°C (32 to 104°F)
	RH	0 to 80% RH. non-condensing
Dimensions:	WD-AMX	72 x 64 x 55mm (2.83 x 2.52 x 2.17")
	WD-PS	58 x 58 x 31mm (2.28 x 2.28 x 1.22")
	WD-RS	70 x 30 x 45mm (2.76 x 1.18 x 1.77")
Protection:	WD-AMX	IP30
	WD-RS	IP65
Weights:	WD-AMX-1	100g (0.22lb)
	WD-AMX-2	240g (0.53lb)
	WD-CS	520g (1.15lb) max.
	WD-PS	100g (0.22lb)
	WD-RS	125g (0.28lb)

Part code	Description
Modules	
WD-AMX-1	24Vac/dc Controller with buzzer
WD-AMX-2	230Vac Controller with buzzer
Sensors	
WD-CS-2M	Water Cable Sensor, 2m (6.56ft) cable, 3m (9.84ft) leader
WD-CS-5M	" 5m (16.4ft) cable, 3m (9.84ft) leader
WD-CS-10M	" 10m (32.81ft) cable, 3m (9.84ft) leader
WD-CS-15M	" 15m (49.21ft) cable, 3m (9.84ft) leader
WD-CS-20M	" 20m (65.62ft) cable, 3m (9.84ft) leader
WD-CS-25M	" 25m (82.02ft) cable, 3m (9.84ft) leader
WD-PS	Water Point Sensor, 2m (6.56ft)
WD-RS	Rain Sensor with internal heater, 2m (6.56ft) leader
WD-RS-5M	Rain Sensor with internal heater, 5m (16.4ft) leader
Accessory	
WD-FC	Pack of 20 fixing clips for WD-CS

Data sheets: [WD-AMX.pdf](#). [WD-xS.pdf](#)

Note: Custom WD-CS lengths available.



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Thermistor Types and Compatibility Chart

Element Code	Element Type	Manufacturer	Room	Outside	Duct	Immersion	Clamp-on	Bullet
A	10K3A1	Aquatrol	✓	✓	✓	✓	✓	✓
		Honeywell	T8120B	T7416A, T7043E	✓	T7106A, T7043F	T7044C	T7076D
		Johnson	✓	✓	TE-6361V TE-636GV-1	✓	✓	✓
		Satchwell	✓	DOT10K2 DOS10K2	DDT10K1	DWT10K1 DST10K1	✓	✓
		Seachange	SEN/PTR/ROM	SEN/PR/OAT	SEN/PR/DCT	SEN/PR/IMM	SEN/PR/CLP	SEN/FL
		Trend	TE-TS	TE-TO	TE-TD	TE-TI	TE-TC	✓
		Cylon	✓	✓	✓	✓	✓	✓
		Distech Controls	✓	✓	✓	✓	✓	✓
		Heatmiser	✓	✓	✓	✓	✓	✓
B	10K4A1	Andover	TTS-S Series	✓	TT-O Series	TT-I Series	TT-ST	✓
		Siebe	✓	✓	✓	✓	✓	✓
		York <40°C	✓	✓	✓	✓	✓	✓
C	20K6A1	Honeywell	T7460H, T7470A AF20, DRF20-S RF20	AF20 DAF20 T7416A1022	LF20	VF20T, VF20NT VF20L, VF20LN WPF20, T7425A	VF20A, WPF20A	KFT20, KFT20B DKF20
D	PT100A	Sauter	EGT430/F011	✓	EGT466/F011 EGT447/F011	✓	✓	EGT456/F011
		Serck	✓	✓	✓	✓	✓	✓
		Siemens/Landis & Staefa	QAA100 QAA2010	QAC2010	FK-TP/200 QAM2110	QAE2110		QAP2010
E	PT1000A	Honeywell	T7412	T7416A1014	T7411	T7413	T7414	
		Sauter	EGT430/F101	EGT401/F101	EGT446/F101 EGT446/F101		EGT411/F101	EGT456/F101
		Serck	✓	✓	✓	✓	✓	✓
		Siebe	TS-5811	✓	✓	✓	✓	✓
		Cylon	✓	✓	✓	✓	✓	✓
F	Ni1000A	Sauter	EGT330/F101	EGT301/F101	EGT346/F101 EGT347/F101 EGT348/F101	EGT346/F101 EGT347/F101 EGT348/F101	EGT311/F101	EGT354/F101 EGT356/F101
G	Ni1000A/TCR (LAN1)	Siemens	QAA24/25/26/27 QAA64	QAC22	QAM2120	QAE2120	QAD22 QAD26	QAP21, QAP22 QAZ21
H	SAT1	Satchwell	DRT, DU, DUS DUSF	DOT0002 DOS0002	DDT0001	DWT0001 DST0001	✓	DDU
K	STA1	Landis & Staefa	QAA2040 FR-T1	FW-T1	QAM2140 FK-T1	QAE2140	FA-T1 QAP2040	✓
L	TAC1	TAC	✓	✓	✓	✓	✓	✓
M	2.2K3A1	Ambiflex	RTN3060	ETN3060	DTN3060	ITN3060	CTN3060	✓
		Johnson	TE-6344P	TE-6343P	TE-6341P TE-6341V TE-634GV-1	TE-6342P	✓	✓
N	3K3A1	Alerton	MS-1000 Series TS-1050	✓	✓	✓	✓	✓
P	30K6A1	Drayton	A701	A702	✓	A703	A704	✓
Q	50K6A1	Ambiflex						
R	100K6A1	York >40°C	✓	✓	✓	✓	✓	✓
S	SAT2	Satchwell	DR	✓	DD	DW1202 DWS1301	✓	✓
T	SAT3	Satchwell	✓	✓	✓	DW1204 DWS1202	✓	✓
V	SAT4	Satchwell	✓	DO2202	✓	✓	✓	✓
W	SIE1	Barber Colman	✓	✓	✓	✓	✓	✓
		Siebe	✓	✓	✓	✓	✓	✓
Y	STA2	Landis & Staefa	FR-T30	FO-T30	FK-T30	FT-T305	✓	✓
Z	10K	Carel	✓	✓	✓	✓	✓	✓
DC	10K4A1	Delta Controls	✓	✓	✓	✓	✓	✓

Thermistor Temperature Range

A - 10K3A1

Sensor type:
Thermistor, temp
coef. negative

°C	Ω
-50	667828
-40	335671
-30	176683
-20	96974
-15	72895
-10	55298
-5	42314
0	32650
1	31030
2	29500
3	28054
4	26688
5	25396
6	24173
7	23016
8	21921
9	20885
10	19904
11	18974
12	18092
13	17257
14	16465
15	15714
16	15001
17	14325
18	13623
19	13053
20	12494
21	11943
22	11420
23	10923
24	10450
25	10000
26	9572
27	9165
28	8777
29	8408
30	8056
35	6530
40	5325
45	4367
50	3601
55	2985
60	2487
65	2082
70	1751
75	1480
80	1256
85	1070
90	916.1
95	787.0
100	678.6
105	587.3
110	510.1
115	444.5
120	388.6
125	340.8
130	300.0
140	234.1
150	184.8
160	-
170	-
180	-
190	-
200	-

B - 10K4A1

Sensor type:
Thermistor, temp
coef. negative

°C	Ω
-50	441667
-40	239831
-30	135233
-20	78930
-15	61030
-10	47549
-5	37316
0	29490
1	28157
2	26891
3	25689
4	24547
5	23462
6	22430
7	21450
8	20517
9	19631
10	18787
11	17983
12	17219
13	16490
14	15797
15	15136
16	14507
17	13906
18	13334
19	12788
20	12268
21	11771
22	11297
23	10845
24	10413
25	10000
26	9606
27	9229
28	8869
29	8525
30	8197
35	6754
40	5594
45	4656
50	3893
55	3271
60	2760
65	2339
70	1990
75	1700
80	1458
85	1255
90	1084
95	939.6
100	817.2
105	713.0
110	624.1
115	547.9
120	482.5
125	426.0
130	377.2
140	298.1
150	238.0
160	-
170	-
180	-
190	-
200	-

C - 20K6A1

Sensor type:
Thermistor, temp
coef. negative

°C	Ω
0	71120
1	67324
2	63749
3	60385
4	57218
5	54397
6	51429
7	48032
8	46258
9	43938
10	41719
11	39640
12	37676
13	36020
14	34067
15	32409
16	30841
17	29388
18	27954
19	26625
20	25387
21	24178
22	23047
23	21977
24	20962
25	20000
26	19085
27	18225
28	17404
29	16824
30	16384
31	16189
32	14491
33	13847
34	13235
35	12654
36	12010
37	11578
38	11076
39	10600
40	10148
41	9721.1
42	9314.5
43	8826.8
44	8557.5
45	8205.3
46	7899.3
47	7548.9
48	7243.1
49	6951.2
50	6672.6
51	6404.0
52	6148.9
53	5904.6
54	5671.4
55	5448.6
56	5235.7
57	5092.3
58	4837.8
59	4651.6
60	4473.9
61	-
62	-
63	-
64	-

D - PT100A

Sensor type:
Platinum, temp
coef. positive

°C	Ω
-50	80.3
-40	84.3
-30	88.2
-20	92.2
-15	
-10	96.1
-5	
0	100.0
5	
10	103.9
15	
20	107.8
25	109.8
30	111.7
35	
40	115.5
45	
50	119.4
55	
60	123.2
65	
70	127.1
75	
80	130.9
85	
90	134.7
95	
100	138.5
105	
110	142.3
115	
120	146.1
125	
130	149.8
140	153.6
150	157.3
160	161.0
170	164.8
180	168.5
190	172.2
200	175.8
210	179.5
220	183.2
230	186.8
240	190.5
250	194.1
260	197.7
270	201.3
280	204.9
290	208.5
300	212.0
310	215.6
320	219.1
330	222.7
340	226.2
350	229.7
360	233.2
370	236.7
380	240.1
390	243.6
400	247.0
401	-
402	-
403	-

E - PT1000A

Sensor type:
Platinum, temp
coef. positive

°C	Ω
-50	803
-40	843
-30	882
-20	921
-15	
-10	961
-5	
0	1000
5	
10	1039
15	
20	1078
25	
30	1117
35	
40	1155
45	
50	1194
55	
60	1232
65	
70	1271
75	
80	1309
85	
90	1347
95	
100	1385
105	
110	1423
115	
120	1461
125	
130	1498
140	1536
150	1573
160	1611
170	1648
180	1685
190	1722
200	1758
210	1795
220	1832
230	1868
240	1905
250	1941
260	1977
270	2013
280	2049
290	2085
300	2121
310	2156
320	2191
330	2227
340	2262
350	2297
360	2332
370	2367
380	2401
390	2436
400	2470
401	-
402	-
403	-

F - NI1000

Sensor type:
Nickel, temp
coef. positive

°C	Ω
-50	743
-40	791
-30	842
-20	893
-15	
-10	946
-5	
0	1000
5	
10	1056
15	
20	1112
25	
30	1171
35	
40	1230
45	
50	1291
55	
60	1353
65	
70	1417
75	
80	1483
85	
90	1549
95	
100	1618
105	
110	1688
115	
120	1760
125	
130	1833
140	1909
150	1987
160	2066
170	2148
180	2232
190	-
200	-
201	-
202	-
203	-
204	-
205	-

Thermistor Temperature Range

G - LAN 1
(Ni1000A/TCR)**Sensor type:**
Nickel, temp coef.
positive

°C	Ω
-50	790.8
-40	826.8
-30	871.7
-20	913.4
-15	934.7
-10	956.2
-5	978.0
0	1000.0
1	1004.4
2	1008.9
3	1013.3
4	1017.8
5	1022.3
6	1026.7
7	1031.2
8	1035.8
9	1040.3
10	1044.8
11	1049.3
12	1053.9
13	1058.4
14	1063.0
15	1067.6
16	1072.2
17	1076.8
18	1081.4
19	1086.0
20	1090.7
21	1095.3
22	1100.0
23	1104.6
24	1109.3
25	1114.0
26	1120.0
27	1123.4
28	1128.1
29	1132.9
30	1137.6
35	1161.5
40	1185.7
45	1210.2
50	1235.0
55	1260.1
60	1285.4
65	1311.1
70	1337.1
75	1363.5
80	1390.1
85	1417.1
90	1444.4
95	1472.0
100	1500.0
105	1528.3
110	1557.0
115	1586.0
120	1625.4
125	-
130	-
135	-
140	-
150	-
170	-
180	-
190	-
200	-

H - SAT1**Sensor type:**
Thermistor, temp
coef. negative

°C	Ω
-50	9719
-40	9584
-30	9349
-20	8968
-15	8708
-10	8396
-5	8031
0	7614
1	7525
2	7434
3	7341
4	7246
5	7150
6	7053
7	6954
8	6853
9	6752
10	6649
11	6545
12	6440
13	6334
14	6228
15	6121
16	6013
17	5905
18	5786
19	5684
20	5580
21	5471
22	5362
23	5254
24	5147
25	5039
26	4933
27	4827
28	4721
29	4617
30	4513
35	4012
40	3545
45	3117
50	2730
55	2386
60	2082
65	1816
70	1585
75	1385
80	1213
85	1064
90	937
95	828
100	734
105	654
110	585
115	525
120	474
125	429
130	391
140	329
150	281
160	-
170	-
180	-
190	-
200	-

K - STA1**Sensor type:**
Thermistor, temp
coef. positive

°C	Ω
0	2226
1	2236
2	2246
3	2256
4	2266
5	2276
6	2286
7	2298
8	2306
9	2316
10	2326
11	2337
12	2347
13	2357
14	2367
15	2377
16	2388
17	2398
18	2408
19	2418
20	2429
21	2439
22	2449
23	2460
24	2470
25	2480
26	2491
27	2501
28	2512
29	2522
30	2532
31	2543
32	2553
33	2564
34	2574
35	2585
36	2596
37	2606
38	2617
39	2627
40	2638
41	-

L - TAC1**Sensor type:**
Thermistor, temp
coef. negative

°C	Ω
0	5085
5	4078
10	3294
15	2676
20	2188
25	1800
30	1488
35	1237
40	1034
50	740
60	540
70	400
80	300
90	230
100	180
110	-

M - 2.2K3A1**Sensor type:**
Thermistor, temp
coef. negative

°C	Ω
-50	150395
-40	75593
-30	39789
-20	21839
-15	16416
-10	12453
-5	9529
0	7353
1	6988
2	6643
3	6318
4	6010
5	5719
6	5444
7	5183
8	4937
9	4703
10	4482
11	4273
12	4075
13	3886
14	3708
15	3539
16	3378
17	3226
18	3081
19	2940
20	2814
21	2690
22	2572
23	2460
24	2353
25	2252
26	2156
27	2064
28	1977
29	1893
30	1814
35	1471
40	1199
45	983.4
50	810.9
55	672.2
60	560.1
65	468.9
70	394.5
75	333.3
80	282.9
85	241.1
90	206.3
95	177.2
100	152.8
105	132.3
110	114.9
115	100.1
120	87.51
125	76.75
130	67.52
140	52.72
150	41.61
160	-
170	-
180	-
190	-
200	-

N - 3K3A1**Sensor type:**
Thermistor, temp
coef. negative

°C	Ω
-50	200348
-40	100701
-30	53005
-20	29092
-15	21868
-10	16589
-5	12694
0	9795
1	9309
2	8850
3	8416
4	8006
5	7619
6	7252
7	6905
8	6577
9	6266
10	5971
11	5692
12	5428
13	5177
14	4940
15	4714
16	4500
17	4297
18	4105
19	3916
20	3748
21	3583
22	3426
23	3277
24	3135
25	3000
26	2871
27	2749
28	2633
29	2522
30	2417
35	1959
40	1598
45	1310
50	1080
55	895.5
60	746.2
65	624.7
70	525.5
75	444.0
80	376.9
85	321.2
90	274.8
95	236.1
100	203.6
105	176.2
110	153.0
115	133.3
120	116.6
125	102.2
130	89.95
140	70.23
150	55.44
160	-
170	-
180	-
190	-
200	-

P - 30K6A1**Sensor type:**
Thermistor, temp
coef. negative

°C	Ω
-50	2497K
-40	1219K
-30	622911
-20	331876
-15	245785
-10	183697
-5	138502
0	105305
1	99787
2	94588
3	89689
4	85069
5	80713
6	76604
7	72726
8	69064
9	65608
10	62347
11	59257
12	56346
13	53585
14	50978
15	48511
16	46178
17	43969
18	41877
19	39895
20	38019
21	36240
22	34554
23	32955
24	31438
25	30000
26	28635
27	27339
28	26108
29	24939
30	23828
35	19046
40	15317
45	12390
50	10079
55	8243
60	6777
65	5600
70	4650
75	3879
80	3251
85	2737
90	2313
95	1963
100	1672
105	1430
110	1228
115	1058
120	914.6
125	793.2
130	690.2
140	527.4
150	407.7
160	-
170	-
180	-
190	-
200	-

Thermistor Temperature Range

Q - 50K6A1

Sensor type:
Thermistor, temp
coef. negative

°C	Ω
−50	4168K
−40	2033K
−30	1038K
−20	553243
−15	409689
−10	306183
−5	230842
0	175508
1	166310
2	157644
3	149480
4	141779
5	134521
6	127669
7	121207
8	115105
9	109344
10	103903
11	98761
12	93901
13	89307
14	84962
15	80851
16	76961
17	73280
18	69794
19	66492
20	63364
21	60400
22	57589
23	54925
24	52398
25	50000
26	47724
27	45564
28	43513
29	41565
30	39714
35	31744
40	25529
45	20650
50	16799
55	13740
60	11297
65	9334
70	7751
75	6466
80	5419
85	4560
90	3855
95	3271
100	2787
105	2384
110	2046
115	1762
120	1523
125	1321
130	1149
140	878.2
150	678.8
160	–
170	–
180	–
190	–
200	–

R - 100K6A1

Sensor type:
Thermistor, temp
coef. negative

°C	Ω
-50	8337K
-40	4067K
-30	2077K
-20	1106K
-15	819378
-10	612366
-5	461683
0	351017
1	332619
2	315288
3	298959
4	283558
5	269041
6	255337
7	242414
8	230210
9	218688
10	207807
11	197521
12	187803
13	178613
14	169924
15	161702
16	153923
17	146560
18	139588
19	132984
20	126729
21	120799
22	115179
23	109850
24	104796
25	100000
26	95449
27	91128
28	87026
29	83129
30	79428
35	63489
40	51058
45	41301
50	33598
55	27479
60	22593
65	18669
70	15502
75	12932
80	10837
85	9121
90	7710
95	6543
100	5574
105	4767
110	4092
115	3525
120	3047
125	2642
130	2299
140	1756
150	1357
160	—
170	—
180	—
190	—
200	—

S - SAT2

Sensor type:
Thermistor, temp
coef. negative

°C	Ω
-50	-
-40	-
-30	-
-20	-
-15	-
-10	-
-5	-
0	2094
1	2079
2	2061
3	2046
4	2027
5	2010
6	1992
7	1973
8	1951
9	1934
10	1911
11	1897
12	1872
13	1851
14	1810
15	1809
16	1787
17	1764
18	1740
19	1716
20	1690
21	1667
22	1644
23	1621
24	1598
25	1574
26	1549
27	1524
28	1500
29	1476
30	1452
35	1336
40	1219
45	1113
50	1011
55	-
60	-
65	-
70	-
75	-
80	-
85	-
90	-
95	-
100	-
105	-
110	-
115	-
120	-
125	-
130	-
140	-
150	-
160	-
170	-
180	-
190	-
200	-

T - SAT3

Sensor type:
Thermistor, temp
coef. negative

$^{\circ}\text{C}$	Ω
20	2708
21	2681
22	2659
23	2618
24	2616
25	2592
26	2567
27	2544
28	2520
29	2496
30	2474
31	2447
32	2423
33	2398
34	2372
35	2346
36	2322
37	2296
38	2269
39	2243
40	2216
45	2086
50	1950
55	1818
60	1694
65	1758
70	1461
75	1353
80	1258
85	1171
90	1089
95	1020
100	950

V - SAT4

Sensor type:
Thermistor, temp
coef. negative

[illegible]

W - SEI1

Sensor type:
Thermistor,temp
coef. negative

$^{\circ}\text{C}$	Ω
-50	10732
-40	10517
-30	10172
-20	9654
-15	9320
-10	8933
-5	8496
0	8044
1	7910
2	7807
3	7702
4	7596
5	7489
6	7381
7	7271
8	7161
9	7050
10	6938
11	6825
12	6712
13	6598
14	6485
15	6370
16	6256
17	6141
18	6028
19	5913
20	5798
21	5686
22	5573
23	5461
24	5349
25	5238
26	5128
27	5019
28	4910
29	4803
30	4696
35	4185
40	3707
45	3271
50	2875
55	2521
60	2206
65	1929
70	1685
75	1472
80	1287
85	1127
90	986
95	866
100	760
105	670
110	590
115	522
120	462
125	410
130	365
140	290
150	233
160	–
170	–
180	–
190	–
200	–

Y - STA2

Sensor type:
Thermistor, temp
coef. negative

°C	Ω
0	7490
5	6340
10	5360
15	4540
20	3840
25	3250
30	2750
35	2320

Z - 10K NTC

Sensor type:
Thermistor, temp
coef. negative

°C	Ω
-10	42218
-5	33784
0	27197
5	22023
10	17933
15	14684
20	12087
25	10000
30	8315
35	6947
40	5831
45	4916
50	4163
55	3540
60	3023
65	2591
70	2230
75	1926
80	1669
85	1451
90	1266
95	1109
100	973

General Information

Your Sontay Account

Setting up an account:

- Complete and return an account application form to apply for credit facilities
- Pay for your order up front by bank transfer or credit-debit card on a proforma account

Placing orders:

Phone	+44 1732 861200	Mail
Fax	+44 1732 861201	Sontay Ltd.
Email	sales@sontay.com	Four Elms Road · Edenbridge
Website	www.sontay.com	TN8 6AB · UK

Setting up an account:

Companies wishing to purchase on credit account should complete and return the 'Application for credit account' form included in this catalogue or on our website at www.sontay.com. Please note that references will not be accepted from companies that are immediate competitors of Sontay.

Companies and individuals placing orders without an account will be invoiced on a proforma basis. Goods will not be despatched until the payment has cleared into our bank account, or for a faster response we are able to accept payment by Mastercard, Visa, and most types of debit/purchase cards.

Credit and payment terms:

All accounts will be subject to a trading credit limit. Accounts trading beyond these terms will be notified and asked to correct their account. Our standard credit terms are nett monthly account unless agreed otherwise in writing.

Accounts not settled within their terms will be notified and placed on stop. Accounts trading beyond agreed credit terms may invalidate their product warranty. (See warranty section).

Sontay reserve the right to charge interest on overdue balances. Sontay reserve the right to withdraw credit facilities should payment performance be outside of agreed terms.

Please note that we are no longer able to accept payment by cheque.

Non proforma credit and debit card payments will be subject to a 5% handling fee to cover bank charges.

Minimum order values:

In order that we may maintain our competitive pricing it is necessary for us to insist on minimum order values per shipment as follows:

UK and Republic of Ireland:	£30
International:	£50
France & Germany:	€45

Orders supported by a bank Letter of Credit will only be accepted if over £5,000 in value. In each case, an administration charge of 5% minimum will be applied to cover set-up of payment arrangements and any bank charges will be recovered at cost.

Discount structure:

Customers may be allocated sales discounts, any discount given will be determined and reviewed on the basis of actual turnover. Standard discounts only apply to the specific products in this catalogue, special products and custom variants are excluded and are net priced. Your company discount entitlement can be confirmed at any time by calling Sales Support.

Custom products:

Sontay is always willing to discuss OEM manufacturing and special build contracts. Please contact Sales Support or your account manager for more information.

Placing orders:

Orders can be placed by phone, fax, mail, e-mail or by our website.

The following information is required:

- Order number
- Invoice address
- Delivery address
- Delivery date required
- Part shipment acceptance (Y/N)
- Customer contact
- Items detailed with Sontay part numbers

Delivery periods:

Many items are available for immediate delivery. In all cases where delivery is critical consult the Sales Support who will try to fulfil your needs.

Warranty:

All products purchased after the 1st January 2012 and paid for in full compliance with Sontay's Terms and Conditions of Sale are covered by a 3 year warranty from the date the goods were despatched. The product warranty is void if the bar code label attached to the product has been removed or tampered with in anyway. VT and VE valve castings now have lifetime warranty.

CE marking:

Compliance to the essential requirements of relevant EC Directives and British Standards is detailed on the datasheet for each product, and products are CE marked where appropriate. All data sheets are provided on our website and copies of which can be obtained from the Sales Support Team.

WEEE and RoHS Directive Compliance:

Waste Electrical and Electronic Equipment (WEEE) Directive The WEEE Directive requires producers to pay for electronic and electrical equipment recycling and it covers a broad range of electronic and electrical products. The WEEE Directive aims to divert waste electronics from going into landfills and to encourage eco-design, reuse and recycling through producer responsibility. The WEEE Directive applies to standalone products. These are products that can function entirely on their own and are not part of another system or piece of equipment. Sontay do not supply any products that fit into this category.

General Information

Terms and Conditions of Sale

RESTRICTION OF HAZARDOUS SUBSTANCES (ROHS) DIRECTIVE

A sister directive to WEEE, the RoHS Directive bans the presence of specified hazardous substances in certain electronic and electrical equipment placed on the EU market after 1st July 2006. The RoHS Directive ensures that any such new electronic and electrical equipment does not contain Lead, Mercury, Cadmium, Hexavalent Chromium, Polybrominated Biphenyls (PBB) and Polybrominated Diphenyl Ethers (PBDE) that are often used as flame retardants in some plastics, unless derogation is provided for via an exemption. It should be noted that not all products that Sontay supply are subject to the RoHS Directive. For those that are subject to the Directive we are fully compliant.

PROGRESSING AN ORDER

To progress an order, please call our Sales Support Team and provide the following information:

- Your company name
- Your purchase order number
- The Sontay sales order number as stated on the order confirmation, if at all possible.

If the order has been dispatched but not received, then a 'Proof of Delivery' can be requested. It usually takes between 15 minutes and two hours to provide verbal delivery status or delivery time, location and signature, as applicable. A hard copy can be requested from the couriers, but can take some days to produce.

DELIVERY AND PACKAGING CHARGES

The following prices are for shipping and packing of parcels up to 30Kg within the UK. Heavier parcels are priced individually on request.

Service (UK mainland only)	Price
Next Day (up to 20Kg) before 12.00am*	£ 9.00
Before 9.00am (up to 20Kg)	£25.00
France & Germany	€19.50

* Please note – before 12.00am delivery is not available in all areas.

For prices on international and heavier items please contact the Sales Support Team. Should you choose to nominate your own freight forwarder a £25 handling charge will be applied to your account to cover our handling and admin.

CANCELLATION OF AN ORDER

Sontay employ the latest lean manufacturing techniques and often manufacture and source products to suit customer's instructions. In the event of a cancelled order, the customer will be liable for any costs incurred by Sontay during the fulfilment of your order up to the point of cancellation. Please note we will only accept written cancellation of an order. You will receive a confirmation of cancellation from us advising that we have been able to cancel your order. We regret that we cannot accept cancellation of confirmed orders for any special products and custom variants.

CUSTOMER COLLECTION

The office is open for collections from 09.00 and 17.00 hours. Please call Sales Support to arrange a suitable collection time.

DELIVERY TERMS

DAP (Edenbridge): The buyer pays all transportation costs and also bears the risks for bringing the goods to their final destination. This term requires that the buyer is responsible for all duties and taxes applicable when goods are shipped internationally.

Loss, shortfall or damage (UK only): Dispatches will only be delivered if the destination address is attended and the receiver will sign for receipt of the goods.

Our carrier will make all reasonable attempt to deliver the package, it is the customer's responsibility to have a representative available to receive the package. Please allow a 30 minute leeway on delivery times.

If there is nobody available to receive the goods, the carrier will leave a calling card and return the delivery to their local depot. Simply call the number on the card to rearrange the delivery. Neither Sontay nor the carrier will advise further of any failure to deliver. Any loss, shortfall or damage discovered by the receiver/customer must be reported to Sontay within 7 days of despatch. Sontay will not accept any liability for claims made after this period and the customer will be liable to pay for the whole delivery.

LOSS, SHORTFALL OR DAMAGE (EXPORT) All export orders are accepted terms, ex-works. Sontay accept no responsibility for either lost or damaged goods, we strongly advise customers to ensure that you have insurance in place to cover any such losses.

PRODUCT RETURNS

Please refer to the relevant information below for our procedures and guidelines on our product returns process.

All goods that are to be returned to us must have a RMA number and documentation stating the reason for return, please contact the Sales Support Team to obtain your RMA number should you need to return goods.

Any goods received without a valid RMA number or documented reason for return will not be processed and will be returned to the originator at their cost.

WARRANTY FAILURES

All goods received and accepted with the correct documentation will undergo inspection to determine their condition, goods that are determined to have failed within the defined warranty period will be credited or replaced as requested.

Goods that are deemed by inspection and test to have been damaged by the user will be referred back to the customer for a decision on either return or disposal, after notification we will automatically return the goods to the originator after a period of 30 days without reply.

Should you require advance replacements to items being returned we will require you to place a new purchase order, then after inspection should any credit be due it will be placed against the original order.

PRODUCT EXCHANGE

We offer to exchange products that have been ordered in error providing they are standard catalogue items, and have been returned within 60 days of purchase. These products will be inspected on return and if found to be in good condition for resale will be restocked for a 25% charge.

Should you require exchange of items in advance we will require you to place a new purchase order, then after inspection should any credit be due it will be placed against the original order less the 25% restock charge.

Please note that all customised "special products" and non-catalogue items are excluded from the product exchange programme.

SONTAY, EASIER TO DO BUSINESS

Sontay provide a range of services for customers to enable greater and easier access to key information and personnel.

CUSTOMER SERVICES

UK:	Tel: 01732 861200	Fax: 01732 861201
International:	Tel: +44 1732 861225	Fax: +44 1732 861226
Email:	sales@sontay.com	

General Information

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TECHNICAL SUPPORT

UK:	Tel: 01732 861218	Fax: 01732 861219
International:	Tel: +44 1732 861218	Fax: +44 1732 861219
Email:	support@sontay.com	

ACCOUNTS

UK:	Tel: 01732 861202	Fax: 01732 861203
International:	Tel: +44 1732 861202	Fax: +44 1732 861203
Email:	accounts@sontay.com	
Website:	www.sontay.com	

You will find the latest news, information on any product updates as well access to all technical datasheets for our range of catalogue products. Visit often as we are constantly evolving the site!

ISO9001 & ISO14001:



Sontay Limited is committed to serving the environment and supplying products that meet or exceed our customers' expectations of quality and service, and to this end we have an Environmental & Quality Management System that complies with the requirements of BS-EN ISO14001 and ISO9001, the scope of which covers:

'The design, manufacture, distribution, technical and after-sales support of electro and electro-mechanical temperature and relative humidity sensors and their associated peripheral equipment for building management, measurement and control applications. The provision of training services related to the products provided, and their relative applications.' [Copies of the certificates of registration are available on request.](#)

DEFINITIONS:

- "Acceptance" means confirmation in writing by the Company upon receipt of the Customer's order.
- "Company" means Sontay Limited.
- "Contract" means the contract for the purchase and sale of Goods.
- "Customer" means the person, firm or company [described overleaf] and who purchases the Goods or any services from the Company.
- "Goods" means the goods or services which the Company is to supply in accordance with these Terms and Conditions.
- "Terms and Conditions" means the terms and conditions of sale set out below, the Company's "Your Sontay Account" document and any specific terms and/or conditions agreed in writing between the Customer and the Company. In the event of conflict, the terms in this document shall take precedence.
- "Writing" includes communication by post, facsimile, e-mail and by personal delivery of documents.

1. APPLICATION

- Unless otherwise specifically agreed in writing, these Terms and Conditions shall be incorporated into every offer, quotation, acceptance and contract for the sale or supply of Goods by the Company and, together with the order to which they relate, constitute the entire contract between the Company and the Customer. Any conditions proposed by the Customer which are inconsistent with these Terms and Conditions are hereby excluded (including any terms or conditions which the Customer purports to apply under purchase order, confirmation of order, specification or other document).
- These Terms and Conditions apply to all the Company's sales of Goods and any variation to these Terms and Conditions and any representation about the Goods or services shall have no effect unless expressly agreed in writing by a director of the Company. The Customer acknowledges that it has not relied on any statement, promise, assurance, warranty or representation made or given

by, or on behalf of, the Company which is not set out in the Contract. Nothing in this clause 1 shall exclude or limit the Company's liability for fraudulent misrepresentation.

- The Customer shall ensure that the terms of its order and any applicable specification are complete and accurate.

2. ACCEPTANCE

- All quotations are given subject to confirmation in writing by the Company upon receipt of the Customer's order, and no contract shall be concluded until such confirmation is given or the Customer's order is otherwise accepted. Unless otherwise stated in writing by the Company, each order when accepted constitutes a separate contract.
- The quality and description of the Goods shall be as set out in the Company's quotation or acknowledgement of order.
- All samples, drawings, descriptive matter, specifications and advertising issued by the Company, and any descriptions or illustrations contained in the Company's catalogues or brochures, are issued or published for the sole purpose of giving an approximate idea of the Goods described in them. They shall not form part of the Contract and this is not a sale by sample.

3. PRICES

- Prices quoted are exclusive of Value Added Tax from time to time ("VAT") (unless otherwise stated) and are those in force at the date of quotation. Unless otherwise stated in the quotation (if any) given by the Company, prices quoted may be varied at any time before delivery of the Goods or before performance of any services, provided that the prices may be varied after a Contract has become binding only by reason of an increase in the cost to the Company of raw materials or labour, or by reason of a fluctuation in exchange rates.
- If prices are varied after a Contract has become binding, the Company shall give the Customer written notice of such variation, and on receipt of such notice the Customer may cancel his order. In a case where Goods are to be delivered or services are to be supplied in instalments, the Customer may cancel payments only for the undelivered Goods or the unperformed part of the Services. If the order is not cancelled, the Customer shall be bound to pay the increased or varied price in respect of the Goods delivered or services performed after such notice is received. To be effective, cancellations must be in writing and must be received by the Company either within 14 (fourteen) days of the date on which such notice was sent, or at least 28 (twenty-eight) days before delivery is due, whichever is the sooner.
- Unless otherwise expressly agreed, prices quoted are ex works and exclude all cost of packaging and delivery from the Company's premises, but these may be charged as extras.
- Any variation or amendment requested by the Customer will only be valid and binding on the Company when it is subject to a change order relating to the order duly placed with, and accepted by, the Company in writing and signed by a duly authorised representative of the Company, and subject to appropriate adjustment in price, delivery dates and other matters.
- Unless otherwise expressly agreed, in the case of export sales, prices quoted also exclude all overseas taxes and tariffs, and all costs of delivery which will be the responsibility of the Customer.

4. DELIVERY

- Delivery dates or periods are only best estimates, and the Company is not liable for the consequences of any delay. Accordingly, time shall not be of the essence in making deliveries.
- Unless otherwise agreed in writing by the Company, delivery of the Goods shall take place at the Company's place of business.
- Any delivery or performance period begins on the date of the Company's acceptance of the Customer's order, or (if later) when the Company receives

General Information

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- from the Customer any further information which it may require to proceed with the Contract. The Customer agrees to supply such information to the Company promptly, and to accept the Goods within the delivery or performance schedule or timetable specified in the Contract, and to give any necessary instructions for delivery or performance accordingly.
- (d) Where the Company has agreed to deliver the Goods to a place other than the Company's place of business, the Customer shall, in all cases other than export sales, provide the labour necessary to the Company to unload and stack the Goods free of charge to the Company. The Customer shall ensure that the delivery vehicle is unloaded within a reasonable time, and shall indemnify the Company against any loss or damage arising during unloading.
- (e) If for any reason the Customer fails to accept delivery of any of the Goods when they are notified to the Customers as being ready for delivery, or the Company is unable to deliver the Goods on time because the Customer has not provided appropriate instructions, documents, licences or authorisations:
- (i) risk in the Goods shall pass to the Customer (including for loss or damage caused by the Company's negligence);
 - (ii) the Goods shall be deemed to have been delivered to the Customer; and
 - (iii) the Company may store the Goods until actual delivery to the Customer, whereupon the Customer shall be liable for all related costs and expenses (including, without limitation, storage and insurance).
- (f) If the Company delivers to the Customer a quantity of Goods of up to 5% more or less than the quantity ordered and accepted by the Company, the Customer shall not be entitled to object to or reject the Goods or any of them by reason of the surplus or shortfall, and shall pay for such goods at the pro rata Contract rate.
- (g) Any typographical, clerical error or other omission in documents issued by the Company shall be subject to correction by the Company without liability on the part of the Company.
- (h) The Customer must examine the Goods immediately upon delivery, and within 7 (seven) days thereafter notify the Company in writing of any defects, and return any allegedly defective part or parts of the Goods to the Company or as the Company shall direct at the Customer's expense within 18 (eighteen) days of delivery. The Customer must pay to the Company the costs of any tests carried out to such allegedly defective part or parts of the Goods (such cost to be certified by the Company) together with the costs of return thereof to the Company, in the event that no liability attaches to the Company in respect of any defects of any Goods. Where damage occurs, not apparent on reasonable inspection, the Customer must notify the Company within 7 (seven) days of discovery of any such damage. In default, the Customer will be deemed to have examined and accepted the Goods.
- (i) The Company shall not be liable for any loss or damage caused by, or resulting from, any variation (for whatever reason) in the specifications or technical data of any outside manufacturer or, for any loss or damage arising out of curtailment or cessation of supply following such variation.
- (j) The Company will repair or, at its option, replace free of charge any part of the Goods lost or damaged in transit provided that (if the Company appoints the carrier) the Company and the carrier are given written notice of such loss or damage within the time required by the carrier's Conditions of Carriage. Alternatively, where delivery is made by the Company's own transport, the Company should be given written notice within 3 (three) days of the arrival of the Goods or, in the case of non-delivery, within 14 (fourteen) days of dispatch. This clause shall not apply to export sales.
- (k) The quantity of any consignment of Goods as recorded by the Company on dispatch from the Company's place of business shall be conclusive evidence of the quantity received by the Customer on delivery, unless the Customer can provide conclusive evidence proving the contrary.
- (ii) store the Goods (at no cost to the Company) separately from all other goods of the Customer or any third party in such a way that they remain readily identifiable as the Company's property;
 - (iii) not remove, destroy, deface or obscure any identifying mark or packaging on or relating to the Goods;
 - (iv) maintain the Goods in satisfactory condition and keep them insured on the Company's behalf for their full price against all risks, to the reasonable satisfaction of the Company. On request the Customer shall produce the policy of insurance to the Company; and
 - (v) give to the Company information relating to the Goods as the Company may require from time to time.
- (d) The Customer may resell the Goods before ownership has passed to it, solely on the following provisions:
- (i) any sale shall be effected in the ordinary course of the Customer's business at full market value; and
 - (ii) any such sale shall be a sale of the Company's property on the Customer's own behalf, and the Customer shall deal as principal when making such a sale.
- (e) The Customer's right to possession of the Goods shall terminate immediately if:
- (i) the Customer (being an individual) has a petition, receiving order in bankruptcy or bankruptcy order presented or made against him, or commits an act of bankruptcy, or makes or offers to make an arrangement or composition with his creditors, or otherwise takes the benefit of any statutory provision for the time being in force for the relief of insolvent debtors, or (being a body corporate) convenes a meeting of creditors (whether formal or informal), or enters into liquidation (whether voluntary or compulsory) except a solvent voluntary liquidation for the purpose only of reconstruction or amalgamation, or has a receiver and/or manager, administrator or administrative receiver is appointed of its undertaking or assets or any part thereof, or documents are filed with the court for the appointment of an administrator of the Customer or notice of intention to appoint an administrator is given by the Customer or its directors or by a qualifying floating charge holder (as defined in paragraph 14 of Schedule B1 to the Insolvency Act 1986), or a resolution is passed or a petition presented to any court for the winding-up of the Customer or for the granting of an administration order in respect of the Customer (other than for the purpose of amalgamation or reconstruction), or any proceedings are commenced relating to the insolvency or possible insolvency of the Customer; or
 - (ii) the Customer suffers or allows any distress, execution, whether legal or equitable, to be levied on his/its property or obtained against him/it, or fails to observe or perform any of his/its obligations under the Contract or any other contract between the Company and the Customer, or is unable to pay its debts within the meaning of section 123 of the Insolvency Act 1986 or the Customer ceases to trade; or
 - (iii) the Customer encumbers or in any way charges any of the Goods.
- (f) The Company shall be entitled to recover payment for the Goods notwithstanding that ownership of any of the Goods has not passed from the Company.
- (g) The Customer grants the Company, its agents and employees an irrevocable licence at any time to enter any premises where the Goods are or may be stored in order to inspect them, or, where the Customer's right to possession has terminated, to recover them.
- (h) Where the Company is unable to determine whether any Goods are the goods in respect of which the Customer's right to possession has terminated, the Customer shall be deemed to have sold all goods of the kind sold by the Company to the Customer in the order in which they were invoiced to the Customer.
- (i) On termination of the Contract, howsoever caused, the Company's (but not the Customer's) rights contained in this clause 5 shall remain in effect.

5. RISK / TITLE

- (a) The Goods are at the risk of the Customer from the time of delivery.
- (b) Ownership of the Goods shall not pass to the Customer until the Company has received in full (in cash or cleared funds) all sums due to it in respect of:
 - (i) the Goods supplied to the Customer; and
 - (ii) all other sums which are, or which become, due to the Company from the Customer on any account.
- (c) Until ownership of the Goods has passed to the Customer, the Customer shall:
 - (i) hold the Goods on a fiduciary basis as the Company's bailee;

6. LAW

The validity construction and performance of any contract to which these Terms and Conditions apply shall be governed by the law of England and any disputes or claims arising out of or in connection with this Contract or its subject matter, shall be submitted to the English Courts.

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7. PAYMENT

- (a) Subject to the establishment of an approved credit account with the Company, payment by the Customer is due within 30 (thirty) days of the date of the invoice.
- (b) If the Customer fails to pay the Company by the due date for payment, the Company may either suspend all further deliveries of Goods or performance of services until payment is made in full, or cancel the order and any subsequently ordered Goods insofar as any such Goods remain to be delivered or Services remain to be performed thereunder.
- (c) The Company reserves the right to charge interest on any amounts outstanding when payment has not been made on the due date for payment at the rate (both before and after judgment) of 2 (two) per cent above Bank Of Scotland plc's base rate for the time being, calculated on the outstanding balance from the due date for payment up to and including receipt by the Company of payment.
- (d) Any sums paid by deposit, retainer or prepayment are not refundable in the event of a Customer cancelling an order. The Company reserves the right at any time, and at its sole discretion, to demand security for payment before continuing with or delivering any order.
- (e) Payment of the price for the Goods is due in pounds sterling.
- (f) No payment shall be deemed to have been received until the Company has received cleared funds.
- (g) All payments payable to the Company under the Contract shall become due immediately on its termination despite any other provision.
- (h) The Customer shall make all payments due under the Contract in full without any deduction whether by way of set-off, counterclaim, discount, deduction, withholding, abatement or otherwise, unless the Customer has a valid court order requiring an amount equal to such deduction to be paid by the Company to the Customer.

8. GUARANTEE OF QUALITY

- (a) The Company shall have the right, whether before or after the date of the order, to alter the specification of the Goods, or any part thereof, provided that such alterations shall not adversely affect the performance of the Goods.
- (b) Where the Company is not the manufacturer of the Goods, the Company shall endeavour to transfer to the Customer the benefit of any warranty or guarantee given to the Company.
- (c) The Company warrants that (subject to the other provisions of these Terms and Conditions) on delivery, and for a period of 36 (thirty six) months from the date of delivery, the Goods shall be of satisfactory quality within the meaning of the Sale of Goods Act 1979.
- (d) The Company shall not be liable for a breach of the warranty in clause 8(c) unless the Company receives notice in writing from the Customer within the warranty period referred to in clause 8(c) of a breach of that warranty, is given a reasonable opportunity, after receiving the notice, of examining such Goods, and provided also that the Customer (if asked to do so by the Company) returns such Goods to the Company's place of business at the Customer's cost for the examination to take place there.
- (e) The Company shall not be liable for a breach of the warranty in clause 8(c) if:
 - (i) the Customer makes any further use of such Goods after giving notice to the Company in accordance with clause 8(d); or
 - (ii) the defect arises because the Customer failed to follow the Company's oral or written instructions as to the storage, installation, commissioning, use or maintenance of the Goods or (if there are none) good trade practice; or
 - (iii) the Customer alters or repairs such Goods without the written consent of the Company; or
 - (iv) the defect arises as a result of fair wear and tear, wilful damage, negligence, or abnormal working conditions.
- (f) Subject to clause 8(d) and clause 8(e), if any of the Goods do not conform with the warranty in clause 8(c), the Company shall, at its option, repair or replace such Goods (or the defective part) or refund the price of such Goods at the pro rata Contract rate provided that, if the Company so requests, the Customer shall, at the Company's expense, return the Goods or the part of such Goods

which is defective to the Company.

- (g) If the Company complies with clause 8(f) it shall have no further liability for a breach of the warranty in clause 8(c) in respect of such Goods.

9. USE OF THE GOODS

Where the Goods are plant for use or operation at work (or are components for such plant), it is the Customer's responsibility to ensure that proper standards of safety are maintained in using the Goods and (without limitation) to pass on all instructions regarding such use to personnel and to arrange for their training in such use where appropriate. This obligation shall extend to taking all reasonable steps to ensure compliance with the Health and Safety at Work etc. Act 1974 in the event of sale on or other supply by the Customer.

10. INTELLECTUAL PROPERTY

- (a) The Company will indemnify the Customer against any claim for infringement of Letters Patent, Registered Design, Trade Mark or Copyright ("Intellectual Property Rights") arising by the use or sale of any of the Goods, against all costs and damages which the Customer may incur in any action for such infringement, or for which the Customer may become liable in any such action. Provided always that this indemnity shall not apply to any infringement which is due to the Company having followed any instructions furnished or given by the Customer, or to the use of such Goods in a manner, or for a purpose, or in a foreign country, not specified by, or disclosed to the Company, or to any infringement which is due to the use of the Goods in association or combination with any other goods not supplied by the Company. And provided also that this indemnity is conditional upon the Customer giving to the Company notice in writing within 7 (seven) days of any claim being made, or action threatened, or brought against the Customer, and on the Customer permitting the Company at the Company's own expense, to conduct any litigation that may ensue and all negotiations of the claim. The Customer warrants that any instruction furnished or given by it to the Company in respect of the Goods, shall not be such as will cause the Company to infringe any intellectual Property Rights.
- (b) The Customer shall indemnify the Company for any loss, damage, expense or liability in any suit or proceedings based upon any claim for the infringement of Intellectual Property Rights brought against the Company resulting from the Company's compliance with the Customer's designs or specifications, and for any such infringement involving any marking or branding applied by the Company at the request of the Customer.

11. LIABILITY

- (a) Subject to these Terms and Conditions, the following provisions set out the entire financial liability of the Company (including any liability for the acts or omissions of its employees, agents and sub-contractors) to the Customer in respect of:
 - (i) any breach of these Terms and Conditions;
 - (ii) any use made or resale by the Customer of any of the Goods, or of any product incorporating any of the Goods; and
 - (iii) any representation, statement or tortious act or omission, including negligence, arising under or in connection with the Contract.
- (b) All warranties, conditions and other terms implied by statute or common law (save for the conditions implied by section 12 of the Sale of Goods Act 1979) are, to the fullest extent permitted by law, excluded from the Contract.
- (c) Nothing in these Terms and Conditions excludes or limits the liability of the Company:
 - (i) for death or personal injury caused by the Company's negligence; or
 - (ii) for any matter which it would be illegal for the Company to exclude or attempt to exclude its liability; or
 - (iii) for fraud or fraudulent misrepresentation.
- (d) Subject to clauses 9(b) and 9(c):
 - (i) the Company's total liability in contract, tort (including negligence or breach of statutory duty), misrepresentation, restitution or otherwise, arising in connection with the performance or contemplated performance of the

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- Contract, shall be limited to the Contract price; and
- (ii) the Company shall not be liable to the Customer for loss of profit, loss of business, or depletion of goodwill, in each case, whether direct, indirect or consequential, or any claims for consequential compensation whatsoever (howsoever caused) which arise out of or in connection with the Contract.
 - (e) This clause 11 shall survive termination of the Contract.

12. FORCE MAJEURE

- (a) The Company shall not be liable to the Customer to the extent that fulfilment of its obligations to the Customer under the Contract has been prevented, hindered or delayed by force majeure, as herein defined.
- (b) For the purpose of this clause 12, "force majeure" shall mean any circumstance beyond the control of the Company and shall include (without limitation):
 - (i) riot, civil, commotion, war, rebellion, national or international emergency, strikes, lockouts or other labour disputes;
 - (ii) restriction or damage due to natural cause, floods, fires, storms, explosions or breakdown of machinery;
 - (iii) any order of a local national or international authority;
 - (iv) shortage of labour equipment, materials or supplies; or
 - (v) transportation embargoes, or failure or delays in transport or utility services.

13. REGULATIONS

The Customer warrants that it has complied with every applicable lawful requirement or instruction and (without limitation) that it has obtained every necessary licence, permit or authority that may be required in connection with the supply of Goods and services to be carried out under the Contract.

14. DEFAULT INSOLVENCY

Without prejudice to any other right or remedy which the Company may lawfully enforce or exercise, if the Customer shall commit a breach of any of its obligations to the Company under this Contract, or any other contract, or if the any of the events referred to in clause 5 (e) occur in respect of the Customer, then the Company may, without notice:

- (a) suspend or determine the Contract or any unfulfilled part thereof or any other contract between the Company and the Customer: and/or
- (b) stop any Goods in transit; and/or
- (c) recover any Goods from the Customer's premises for which payment has not been made in full. Any cost incurred by the Company during the process of recovering Goods from the Customer's premises for which payment has not been made in full, would be regarded as the debt of the Customer to the Company.

15. GENERAL

- (a) The Customer shall not assign, transfer, mortgage, charge, subcontract or deal in any other manner with all or any of its rights or its interest in the Contract without the written consent of the Company.
- (b) Each right or remedy of the Company under the Contract is without prejudice to any other right or remedy of the Company whether under the Contract or not.
- (c) If any provision of the Contract is found by any court, tribunal or administrative body of competent jurisdiction to be wholly or partly illegal, invalid, void, voidable, unenforceable or unreasonable it shall, to the extent of such illegality, invalidity, voidness, voidability, unenforceability or unreasonableness be deemed severable and deleted, and the remaining provisions of the Contract and the remainder of such provision shall continue in full force and effect.
- (d) Failure or delay by the Company in enforcing, or partially enforcing, any provision of the Contract shall not be construed as a waiver of any of its rights under the Contract.
- (e) Any waiver by the Company of any breach of, or any default under, any provision of the Contract by the Customer shall not be deemed a waiver of any subsequent breach or default and shall in no way affect the other terms of the Contract.

- (f) The parties to the Contract do not intend that any term of the Contract shall be enforceable by virtue of the Contracts (Rights of Third Parties) Act 1999 by any person that is not a party to it.

16. SONNET RF-SKK HIRE AGREEMENT

How to Order

To be able to hire the kit, an order will be needed to be placed to cover the full value. An invoice will be issued for the full amount, and credit will be raised when the kit is returned minus the hire charge and any applicable cost. Hire of the kit is per 6 working days.

Shipping

The hire period is calculated from the day after despatch from Sontay. This should be when the hirer receives the kit. The kit will be shipped out using our courier service to the hirers office address. We cannot ship to third party site addresses.

The kit should be returned to our Head Office address in Edenbridge and must arrive the day after the 6th hire day to count as one hire period. If the kit is received after this day another hire charge will be applied. The kit remains responsibility of the hirers until it is received back by Sontay. Any damages occurring in the return shipment will be charged to the hirer.

Condition of Return

We expect the kit to be returned in the same condition as it was hired. Loss or damage to the equipment will be identified when tested upon its return and any remedial work is chargeable to the hirers account. Acceptance of any such repairs are a condition of the equipment hire.

Charges for remedial work are:

- RF-SSK loss or non-return – £1415.94
- SSK case – major damage making the case ineffective – £85
- RF-RXSS Receiver replacement – £465
- RF-HHT Hand Held Tool replacement – £505
- RF-PS-500 Router replacement – £97
- RF-TS-900 End Device replacement – £88.87
- Charger replacement – £100
- USB Lead replacement – £5

Progressive Purchase

Each hire occasion per account contributes to outright ownership of a RF-SSK Site Survey Kit. For each hire occurrence a credit will be added up to the 6th hire period. On the 6th hire period we will despatch a new RF-SSK which will not need to be returned and will become the property of the account. The warranty period for the kit will begin from the date that the new kit is despatched

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Sontay Account Application Form

Please complete this form. scan and email to Sontay or photocopy and fax.

Email: sales@sontay.com · Fax: UK +44 (0)1732 861201 · International: +44 1732 861226

What type of business are you? (Please tick the box which best describes your company)			
<input type="checkbox"/> Distributor	<input type="checkbox"/> Original Equipment Manufacturer	<input type="checkbox"/> Panel Manufacturer	<input type="checkbox"/> End user
<input type="checkbox"/> Controls Manufacturer	<input type="checkbox"/> Contractor	<input type="checkbox"/> Systems Integrator	Other:
How did you find out about us? (Please select the company type which applies to you)			
<input type="checkbox"/> Website	<input type="checkbox"/> Internet Search	<input type="checkbox"/> Advertisements	<input type="checkbox"/> Word of Mouth
<input type="checkbox"/> Sales Visit	<input type="checkbox"/> Telesales	<input type="checkbox"/> Referral	Other:
Please select the company type which applies to you.			
<input type="checkbox"/> Limited Company	<input type="checkbox"/> Sole Trader	<input type="checkbox"/> Partnership	<input type="checkbox"/> Public Limited Company
Non Limited Companies: If you have been at your current address for less than three years please provide previous.			
Partnership's: Must provide trading names, all partners full names, addresses, date of birth and signatures. (Please provide this information on a separate sheet)			
Full Company Name			
Company Registration No.		VAT No. (if applicable)	
Registered Office Address			
Post Code		Country	
Telephone No.		Fax No.	
Main Contact Name (Mr / Mrs / Miss / Other)			
Position		Email	
Telephone No.		Fax No.	
Invoice Address (if different from above)			
Post Code		Country	
Telephone No.		Fax No.	
Preferred Invoice Currency	<input type="checkbox"/> GBP <input type="checkbox"/> Euro <input type="checkbox"/> US Dollar		
Bank Name			
Sort Code		Account No.	
Account Name			
Swift Code		IBAN Code	
Sontay Limited will make a search with a credit reference agency, who will keep a record of that search and may share that information with other business. Sontay Limited may also make enquiries about the principle directors with a credit reference agency. Sontay Limited reserve the right to change payment profile as it sees fit without explanation. Sontay Limited may also use your details to let you know about other products and services that they think would be of interest to you. By signing this agreement I/we agree with Sontay's Terms & Conditions of Sale (please refer to pages 80-85).			
Acceptance Signature		Print Name	
Date		Authorised Signatory Position in Company	

Sontay Return Procedure

Please follow the following guidelines to return products.

1. All items returned to us must have a valid returns form with a returns number, for example RMA xxx. The returns form and number are available at www.sontay.com/support or.
2. If you believe your product to be faulty, please order parts for replacement on a separate order whilst the original parts are being returned and investigated. If the goods are found to be faulty, a credit will be raised to cover the cost of the original goods and carriage.
3. Goods ordered in error can be returned within 60 days of purchase for re-stocking in a re-saleable condition. There will be a 25% restocking charge deducted for the credit issued. Special order products or products labelled with customer logos cannot be returned for re-stocking.

Returns Form

Returns No. (must be added)	
Company Name	
Account No.	
Contact Name	
Contact Number	
Reason for Return:	
	<input type="checkbox"/> Warranty <input type="checkbox"/> Restocking
Product Part Code	
Description of Fault:	
Have replaced goods been ordered?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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