

MEASUREMENT
TECHNOLOGY YOU
CAN RELY ON



 German Precision
and Quality

Further Useful Sensors and Systems



SUTO TECHNOLOGY AND SERVICES

AIR AND POWER CONSUMPTION
For system optimization

MACHINE & SYSTEM MONITORING
No straight pipe section required

PURITY MONITORING
To ensure Product quality

LEAKAGE MANAGEMENT
Cost saving in systems

DISPLAY & LOGGER TECHNOLOGY
Smart graphical, statistical analysis

SUPPORT SERVICES AND CALIBRATION
For optimal performance

REDUCE COSTS BY IMPROVING PERFORMANCE

Quantitative measuring helps you to discover exactly where money can be saved. Some companies make the mistake of only measuring the energy consumption of the compressor while a smarter method is to measure the air consumption.

For example, a modern compressor converts ~90% of the electrical power into heat and only 10% into compressed air. This makes compressed air ten times more expensive than electricity. To assure the efficiency and effectiveness of a compressed air system, the measurement of flow is crucial.

Cost distribution in compressed air systems



WORLD-WIDE INDUSTRIAL SUPPORT SERVICES

SUTO is committed to the success of your business.

We offer world-wide service with our test and calibration labs in Germany, Hong Kong and China.

We are dedicated to technical expertise and precision in all of our products and services.

POWER METER S110



Power Meter S110 —
**monitors the power
consumption and
power quality**



S110 hat rail mountable

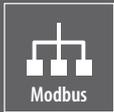
S110 FEATURES



**MULTIFUNCTION
POWER METER**
3-phase, 1-phase



**ROGOWSKI
COILS**
Wide range,
highly accurate



**MODBUS/
RTU INTERFACE**
Connects to any
Modbus-Master

S110 OPERATION PRINCIPLE

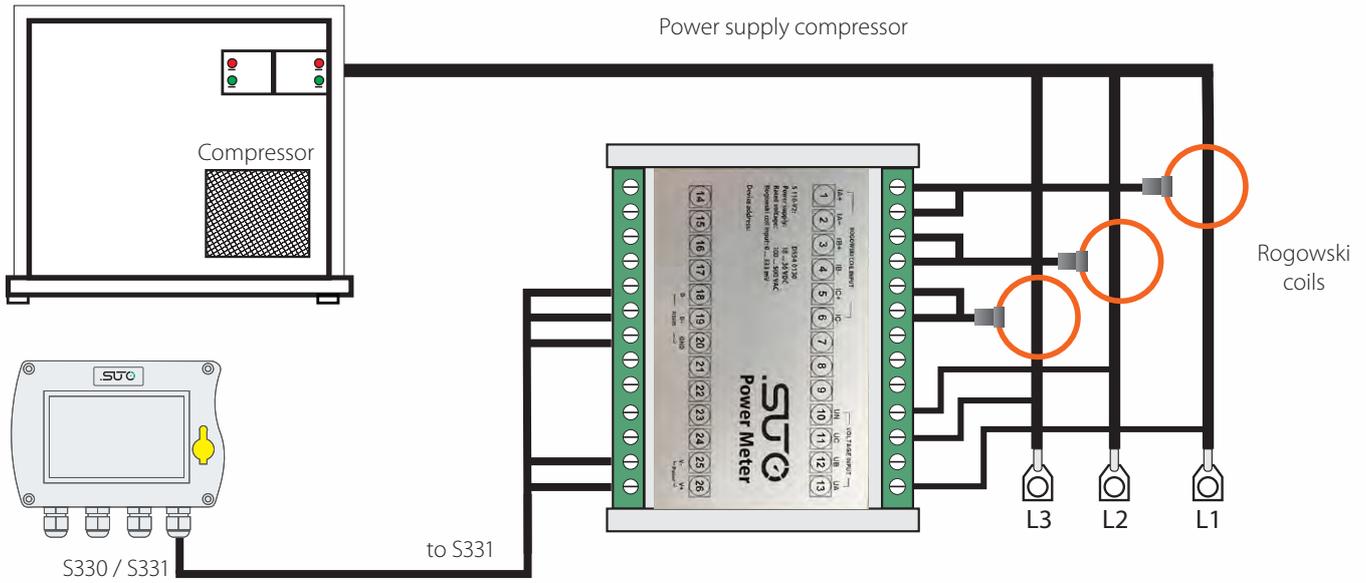
The S110 Power Meters are designed for easy installation and high accuracy. They measure the actual power consumption in kW and accumulate the Energy consumption in kWh of a 3-phase load.

The S110 can measure other parameters such as current, voltage, cos phi etc. Hat rail, wall mountable and portable versions are available.

S110 TECHNICAL DATA

General Specifications	
Nominal voltage (L-N, L-L)	100 ... 500 VAC
Voltage measurement	3PH4W, 3PH3W, 1PH2W
Clamp sensor input range	(333 mV only) external Rogowski coil
Available clamp sensors	Rogowski coil 1 ... 100 A 10 ... 1000 A 30 ... 3000 A
Power range	up to 2000 kW (depends on Rogowski coil)
Accuracy	Voltage 0.2 % Current 0.5 % Clamp Class 1 Energy Class 0.5
Output	Modbus/RTU
Supply	24 V DC
	S110 1W S110-P 2W
Operating Temperature	-25 ... +55 °C
Dimensions	Hat rail version 122 x 87 x 23 mm Portable 177 x 177 x 60 mm

S110 INSTALLATION



In above illustration a power meter is installed directly into the connection box of the compressor. The Rogowski coils can be easily fixed. The voltage connection can be drawn from other available connection points. A separate cable connects the S110 power meter to the S330 / S331 with Modbus/RTU and 24 VDC power supply. The power meter could also be installed into the connection cabinet where the power supply for the compressor is coming from. If no hat rail mounting is available, there is a wall mountable version of the S110 power meter.



S330 / S331 can be used as stationary display of up to 16 power meters



S110-P, portable solution power meter, to be connected to the S551



Rogowski coil with wide measuring range, high accuracy and easy installation (Note: for each phase you must order 1 coil)

S110 ORDERING

Please use the following table to assist in placing your order with our sales staff.

S110 Power Meter	
Order No.	Description
Stationary	
D554 0130	S110 power meter, hat rail, Modbus/RTU, 24 VDC supply
S554 0140	SUTO current sensor for S110, 1000 A, 100 mm diameter, 1.8 m cable, open ends
S554 0141	SUTO current sensor for S110, 3000 A, 150 mm diameter, 1.8 m cable, open ends
S554 0142	SUTO current sensor for S110, 100 A, 16 mm diameter, 1.8 m cable, open ends
Portable	
P554 0134	Portable power meter S110-P, Modbus/RTU, including 4 test leads, 4 test clips, connection cable to S551
S554 0160	SUTO current sensor for S110-P, 1000 A, 100 mm diameter, 1.8 m cable, connector to S110-P
S554 0161	SUTO current sensor for S110-P, 3000 A, 150 mm diameter, 1.8 m cable, connector to S110-P
S554 0162	SUTO current sensor for S110-P, 100 A, 16 mm diameter, 1.8 m cable, connector to S110-P

Pressure Sensors —
**monitor your compressed
air pressure**



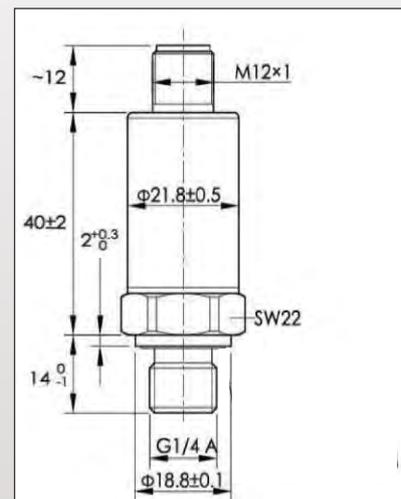
PRESSURE SENSOR APPLICATIONS

- Compressors
- Mechanical engineering
- Plant construction
- Industrial pneumatics

PRESSURE SENSOR FEATURES

- Reliably
- Economically
- Universally applicable

PRESSURE SENSOR DIMENSIONS



PRESSURE SENSOR TECHNICAL DATA

General Specifications		
Supply voltage	24 VDC (12 ... 32 VDC)	
Casing material	Stainless steel	
Mechanical connection	G 1/4" A (ISO 228/1)	
Electrical connection	M12 connector, 4 pins	
Proof pressure	2 x F.S.	
Vibration resistance	IEC 60068-2-6 (5 ... 2000 Hz, 10 g)	
Shock resistance	IEC 60068-2-27 (50 g, 11 ms)	
EMC proof	IEC 61000-6-2/3/4	
	4 ... 20 mA Loop powered	Modbus
Accuracy	±0.5 % F.S. (typ.)	0.25 % F.S.
Media temperature	-30 ... +100 °C	-40 ... +85 °C
Output signal	4 ... 20 mA, 2-wire	Modbus/RTU
Protection	IP67	IP65
Storage temperature	-40 ... +100 °C	-40 ... +85 °C
Operating temperature	-30 ... +80 °C	-40 ... +85 °C
Repeatability	< ± 0.25 % F.S.	0.1 % F.S.

Modbus version:

Baud rate: 19.200

Framing/Parity/Stop: 8, N, 1

Device address: 1 (default), Please specify the needed Modbus parameters on your order, the parameters can only be set in our works

PRESSURE SENSOR ORDERING

Please use the following table to assist in placing your order with our sales staff.

Pressure Sensor	
Order No.	Description
S694 3557	Pressure sensor, 1.6 MPa, 4 ... 20 mA loop powered, M12 connector
S694 3558	Pressure sensor, 4.0 MPa, 4 ... 20 mA loop powered, M12 connector
S694 2559	Pressure sensor, 1.6 MPa, Modbus/RTU, M12 connector
A553 0105	Sensor cable 10 m, with M12 connector, open wires, 4 pole
R200 0030	Pressure sensor calibration 1.6 MPa type, at 3 points

Temperature Sensor — the compact sensor solution with 4 ... 20 mA output



TEMPERATURE SENSOR FEATURES

- Easy installation in compressed air systems
- 4 ... 20 mA transmitter

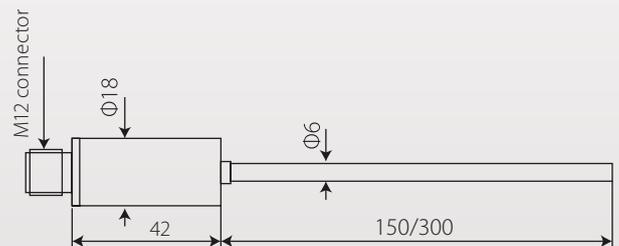
TEMPERATURE SENSOR INSTALLATION

- Temperature measurement in liquids, gases and vapors
- Inlet / outlet temperature of dryers
- Outlet temperature of compressors



Temperature sensor with 4 ... 20 mA output

TEMPERATURE SENSOR DIMENSIONS



Compression fitting

TEMPERATURE SENSOR TECHNICAL DATA

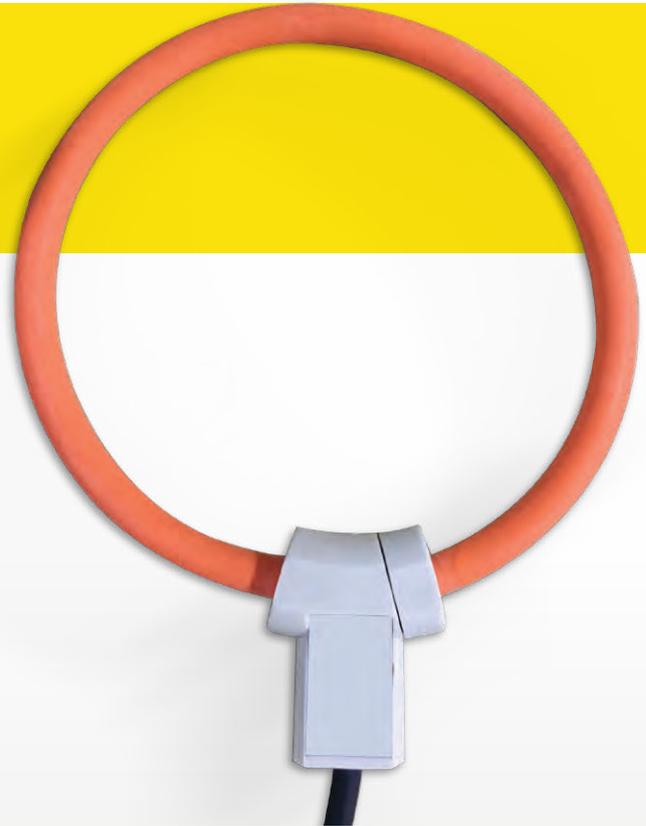
General Specifications	
Measuring range	-50 ... +200 °C
Sensor	Pt1000, class A
Supply	16 ... 30 VDC
Output signal	4 ... 20 mA, 2 wire loop powered
Scaling	4 mA → -50 °C 20 mA → +200 °C
Accuracy	0.5 % of reading + 0.2 % FS
Connection type	M 12 connector
Tube material	Stainless steel 1.4571
Sensor diameter	6 mm
Sensor tube length	150 mm, 300 mm
Classification	IP65
Ambient temperature (electronics)	-40 ... +90 °C

TEMPERATURE SENSOR ORDERING

Please use the following table to assist in placing your order with our sales staff.

Temperature Sensor	
Order No.	Description
S693 0003	Temperature transmitter, -50 ... +200 °C, 4 ... 20 mA loop powered, 6 x 150 mm sensor tube
S693 0004	Temperature transmitter, -50 ... +200 °C, 4 ... 20 mA loop powered, 6 x 300 mm sensor tube
A554 6003	Compressor fitting 6 mm, G 1/2", PTFE ring, 0.6 MPa
A554 6004	Compressor fitting 6 mm, G 1/2", metal ring, 1.6 MPa
A553 0104	Sensor cable 5 m, with M12 connector, open wires, AWG24 (0.2 mm ²)

SUTO current sensor — Rogowski Coil for wide range at high accuracy



SUTO current sensor is an AC RMS current sensor composed of a flexible active part (Rogowski coil model) connected to a compact digital converter, capable of measuring the current carried on a power conductor up to a value of 3000 A AC.

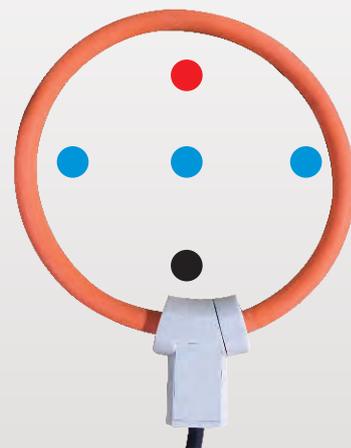
The digital converter supplies an output of 4-20 mA DC in linear proportion to the measured current.

SUTO CURRENT SENSOR APPLICATION

- Current sensing at compressors for load / unload analysis
- Current sensing for power / energy measurement
- Evaluation of machine operation hours

SUTO CURRENT SENSOR FEATURES

- Easy installation
- Wide measuring range
- Accurate current sensing
- 4-20 mA output signal



Position sensitivity	
Conductor Position	Typical Error(%)
●	<0.5 %
●	<0.8 %
●	<1 %

SUTO CURRENT SENSOR TECHNICAL DATA

General Specifications	S554 0155 / S554 0156	S554 0157 / S554 0158
Measuring range	10 ... 1000 A AC	30 ... 3000 A AC
Fundamental frequency	40 ... 70 Hz	
Output signal	4 ... 20 mA DC 0 A AC = 4 mA DC 1000 A AC = 20 mA DC	4 ... 20 mA DC 0 A AC = 4 mA DC 3000 A AC = 20 mA DC
Maximum output	21,6 mA DC	
Load impedance	≤ 300 Ω	
Accuracy	0.5 % of reading + 0.2 % of range	
Power supply	10 VDC to 32 VDC	
Current consumption	≤ 30 mA	
Clamp diameter	100 mm (1000 A)	150 mm (3000 A)
Maximum temperature of clamped cable	≤ +80 °C	
Protection rating	IP67	

SUTO CURRENT SENSOR ORDERING

Please use the following table to assist in placing your order with our sales staff.

Current Sensor	
Order No.	Description
S554 0156	SUTO current sensor, 1000 A, 100 mm diameter, including connector to S551
S554 0155	SUTO current sensor, 1000 A, 100 mm diameter, open wire ends
S554 0157	SUTO current sensor, 3000 A, 150 mm diameter, including connector to S551
S554 0158	SUTO current sensor, 3000 A, 150 mm diameter, open wire ends

Regular Calibration —
**comply with Quality Standards,
 ensure Product Safety and
 Energy Saving**

Calibration certificate

Instrument: S 220
Serial numbers: 1603 7342
Item numbers: S699 0223

Test conditions:
 Test medium: Air Ambient humidity: 50...80% rH
 Volumetric flow: 1...4 l/min Ambient pressure: 990...1050 mbar
 Ambient temperature: 18...25°C Testing method: Calibration by comparison

References used:
 Device type: Model: Uncertainty: S/N: Last calibration:
 Dew point sensor: P9W 3-FIL: ± 0.4 °C: 14-0828: 06.2018
 Pressure sensor: P-30: ± 0.016 bar: 2245357: 07.2018
 Temperature sensor: P1100: ± 0.1 °C: PT-18003-0005: 07.2018

Description	Units	Nominal value	Permissible uncertainty	Actual value	Evaluation
Dew point:	°C	-7.26	± 0.0	-7.3	passed
Dew point:	°C	-18.82	± 0.0	-18.9	passed
Dew point:	°C	-74.78	± 0.0	-74.1	passed
Temperature:	°C	25.0	± 0.3	25.0	passed
Pressure:	bar	8.95	± 0.05	7.0	passed

We hereby confirm, that the above-mentioned measuring system was calibrated according to SUTO ITC working standard and traceability chain for dew point, temperature and pressure calibrations. The measuring facilities used for calibration are regularly calibrated and are based on national standards. We recommend that this measuring instrument should be calibrated annually.

Factory settings

Analogue Output

Output 1:
 Scaling: 4 mA: 100.0 °C/dl Type: Active
 20 mA: 20.0 °C/dl

Output 2:
 Scaling: 4 mA: 0.0 bar Type: Active
 20 mA: 16.0 bar

Fieldbus Interface

Modbus
 Device address: N/A Encoder: N/A
 Frame length/party: N/A Transmission mode: N/A
 Stop bit: N/A

SUTO ITC GmbH
 Wiesen 3
 71634 Stuttgart
 Tel.: +49 (0)7143 636 880 0
 Fax: +49 (0)7143 636 880 14
 E-mail: sales@ito-tec.com
 Web: www.ito-tec.com

Calibration date: 27.03.2019
 Inspector: F. Gleisner
 Signature:

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CALIBRATION SERVICE FOR:



FLOW



PARTICLES



DEW POINT



PRESSURE



OIL VAPOUR



ENERGY CURRENT VOLTAGE

SUTO provides a calibration service for all its sensors as well as on-site testing. Please contact our service for inquiries. Dew point and flow calibration service is performed in the SUTO Test & Calibration Labs in Germany and China (Asia market). For other physical units we have contract partners in Germany. All references are traceable to national standards and are re-calibrated in regular intervals.

ON-SITE TESTING

For on-site testing we can offer:

- Dew point measurement
- Flow /consumption measurement
- Pressure measurement
- Temperature measurement
- Leak detection
- Data logging over days and weeks



DEW POINT CALIBRATION SERVICE

- Accuracy: 0.1 °C Td
- Calibration range: -75 ... +15 °C Td
- Reference: Dew point mirror MBW 373



Instrument:		Serial number:		Item number:		
S620		6499 0234		6499 0234		
Test conditions:						
Test medium:	Air	Ambient humidity:	50, 65 to 80			
Test humidity:	± 1 % RH	Ambient pressure:	900, 1000 hPa			
Ambient temperature:	18 - 26 °C	Testing method:	Calibration by comparison			
Reference used:						
Reference:	Model:	Uncertainty:	N/N	Last calibration:		
Dew point mirror:	MBW 373:	± 0.1 °C:	0.0015:	6 Jul 2018		
Pressure sensor:	P-30:	± 0.016 bar:	204563:	6 Jul 2018		
Temperature sensor:	R102:	± 0.1 °C:	2010551-12:	13 Nov 2018		
Calibration test results:						
Description	Units	Nominal value	Permissible uncertainty	Actual value	Direction	Evaluation
Dew point	°C	15.0	± 0.1	15.0	Standard	passed
Dew point	°C	-24.3	± 0.25	-24.4	Standard	passed
Dew point	°C	-79.0	± 0.5	-79.2	Standard	passed
Temperature	°C	19.4	± 0.5	19.7	Standard	passed
Pressure	bar	0.53	± 0.05	0.51	Standard	passed
<small>We hereby certify that the above-mentioned measuring system was calibrated according to DIN 9132 according to the accuracy and traceability chain. The measuring system used for calibration of reference instruments and the measuring instrument used for reference standards. We recommend that the measuring instrument should be calibrated annually.</small>						
Product settings:						
Measurement	Parameter	Setting	Parameter	Setting		
Measurement 1	Measurement	Dew point	Humidity	50%	120	100
	Humidity	50%	Humidity	50%	120	100
Measurement 2	Measurement	Pressure	Pressure	0.53 bar	100	100
	Pressure	0.53 bar	Pressure	0.53 bar	100	100
Measurement 3	Measurement	Temperature	Temperature	19.4 °C	100	100
	Temperature	19.4 °C	Temperature	19.4 °C	100	100
<small>The product has been calibrated by:</small>						
Calibration date: 18 Oct 2018 Supervisor: Sam Liu						

FLOW CALIBRATION SERVICE

- Accuracy: 0.65 % of reading
- Pressure: 0 ... 0.6 MPa
- Medium: Air, other gases on request
- Calibration range: 0 ... 4000 sm³/h
- Pipe diameter: DN8 ... DN100
- Reference: Sonic Nozzles, Laminar Flow Elements, Turbine meters



Instrument:		Serial number:		Item number:		
S600		1257 3849		6499 4100		
Test conditions:						
Test medium:	Air	Ambient temperature:	18 - 26 °C			
Test temperature:	23 °C	Ambient humidity:	50, 65 to 80%			
Test humidity:	± 20 % RH	Ambient pressure:	900, 1000 hPa			
Test pressure:	0.6 MPa	Calibration range:	m ³ /h			
Testing pipe inner diameter:	16.3 mm	Testing method:	Calibration by comparison			
Reference used:						
Reference:	Model:	Uncertainty:	N/N	Last calibration:		
Flow meter:	FT4-040E1:	0.5%:	11082490520:	19 Oct 2018		
Flow meter:	FT2-120S101:	0.5%:	11082490522:	19 Oct 2018		
Flow meter:	FT-320S101:	0.5%:	11082490551:	13 Nov 2018		
Pressure meter:	P-30:	± 0.005%:	222050:	13 Nov 2018		
Pressure meter:	P-30:	± 0.005%:	222050:	13 Nov 2018		
Temperature sensor:	R102:	± 0.2 °C:	2010551-12:	13 Nov 2018		
Temperature sensor:	R102:	± 0.2 °C:	2010551-12:	13 Nov 2018		
Calibration test results:						
Description	Units	Nominal value	Permissible uncertainty	Actual value	Direction	Evaluation
Flow	m ³ /h	155.0	± 2.0 %	157.2	Standard	passed
Flow	m ³ /h	325.0	± 2.0 %	318.9	Standard	passed
Flow	m ³ /h	525.0	± 2.0 %	520.8	Standard	passed
Flow	m ³ /h	155.0	± 2.0 %	157.2	SI-direction	passed
Flow	m ³ /h	325.0	± 2.0 %	318.9	SI-direction	passed
Flow	m ³ /h	525.0	± 2.0 %	520.8	SI-direction	passed
<small>We hereby certify that the above-mentioned measuring system was calibrated according to DIN 9132 according to the accuracy and traceability chain. The measuring system used for calibration of reference instruments and the measuring instrument used for reference standards. We recommend that the measuring instrument should be calibrated annually.</small>						
The product has been calibrated by:						
Calibration date: 18 Oct 2017 Supervisor: Sam Liu						

TEST AND CALIBRATION ORDERING

Please use the following table to assist in placing your order with our sales staff.

Test and Calibration	
Order No.	Description
R200 0001	Flow calibration with certificate
R200 0120	General service and re-calibration: - General inspection of the unit - Replacement of tubes and fittings - Cleaning of lamp and sensor - Assembly and test of unit - Calibration of oil sensor S120
R200 0030	Pressure sensor calibration 16 bar(g) type, at 3 points
R200 0600	S600 calibration and service: - General inspection of the unit - Replacement of tubes and fittings - Cleaning of components - Assembly and test of unit
R699 3396	Dew point sensor calibration
R200 0050	Dew point calibration, one additional point, freely selectable in the range -75 ... +20 °C Td
R200 0130	Calibration for Particle Counter S130
R200 0131	Calibration for particle counter S131
R200 0601	S601 Main unit exchange including dew point sensors
R200 0602	S601 Oil vapor sensor exchange
R200 0603	S601 Particle counter 0.3 µm type exchange
R200 0604	S601 Particle counter 0.1 µm type exchange
R200 0005	Oil-& grease-free cleaning option for flow sensors (For Oxygen, it is already included in A1009.)

ACCESSORIES ORDERING

Please use the following table to assist in placing your order with our sales staff.

	C190 0002	
	Description	Closing cap for S421/S452 material: 1.4404
	Application	To close the measuring sections in case the sensor unit is removed
	C190 0060	
	Description	Thread adaptor, G 1/2" internal to PT 1/2" external, SUS303
	Application	Used to adapt S401 or S450 to a PT thread ball valve
	C190 0065	
	Description	Thread adaptor, G 1/2" internal to NPT 1/2" external, SUS303
	Application	Used to adapt S401 or S450 to a NPT thread ball valve
	C190 0116	
	Description	Flow conditioner
	Application	Wafer type flow conditioners, which is flanged between two flanges 5-8 times diameter upstream of the flow meter. Please specify nominal pipe diameter and pressure
	A530 1105 / A530 1106 / A530 1111 / A530 1113	
	Description	High pressure installation device. To be used for pressure > 1.5 MPa
	Application	For safety reasons we recommend using this installation device whenever the operating pressure exceeds 1.5 MPa * A530 1105 - High pressure installation device for S400/S401-220 mm * A530 1106 - High pressure installation device for S450-220 mm * A530 1111 - High pressure installation device for S400/S401-400 mm * A530 1113 - High pressure installation device for S450-400 mm
	A530 1108	
	Description	SUTO spot drilling device G 1/2" for S401, S450 and S409
	Application	This drilling tool is used to drill holes into compressed air pipes under pressure through a ball valve
	A530 1205	
	Description	HT20 G 3/4" hot tapping tool, for S430
	Application	Drill 3/4" holes into compressed air pipes under pressure through ball valves
	A553 0121	
	Description	Sensor cable, 6 poles, AWG22, 7.5 mm outer diameter, w/ shielding, black (per meter)
	Application	Sensor cable for S450 sensor, US flow meter and power meter
	A553 0122	
	Description	Sensor cable, 5 poles, AWG24, 5.0 mm outer diameter, black (per meter)
	Application	Standard sensor cable for flow and dew point sensors
	A553 0123	
	Description	RS-485 cable 3 poles with shielding, AWG 24
	Application	RS-485 connection cable

ACCESSORIES ORDERING

Please use the following table to assist in placing your order with our sales staff.

	A553 0104	
	Description	Sensor cable 5 m, with M12 connector, open wires, AWG24 (0.2 mm ²)
	Application	Used to connect SUTO sensors to a PLC or power supply
	A553 0105	
	Description	Sensor cable 10 m, with M12 connector, open wires, AWG24 (0.2 mm ²)
	Application	Used to connect SUTO sensors to a PLC or power supply
	A553 0146	
	Description	Sensor cable 5 m, with M12 and RJ45 connectors, PoE supported, AWG24 (0.2 mm ²)
	Application	Used to connect SUTO flow sensors to the Ethernet network via router, switch and etc.
	A554 0009	
	Description	Power supply for hat rail, input: 85 ... 264 VAC, output: 24 VDC, 60 W
	Application	This power supply can be used to supply sensors with 24 VDC/2.5A It's mounted on a hat rail
	A554 0007	
	Description	Power supply wall mountable, input: 85 ... 264 VAC, output: 24 VDC, 15 W, without cable
	Application	This power supply is used to supply 24 DC to sensors and other devices
	A554 0008	
	Description	½" G type ball valve
	Application	This is a proper ball valve for the installations of flow sensors S401 / S450
	A554 0010	
	Description	¾" G type ball valve
	Application	This is a proper ball valve for the installations of flow sensors S430
	P554 0009	
	Description	Wall thickness meter
	Application	The instrument is used to measure the wall thickness of pipes. Too often the inner diameter of pipes is not exactly known, but this information is required for an accurate flow measurement. By measuring the wall thickness and the pipe size the exact inner diameter can be calculated
	A554 0107	
	Description	Mains unit 100-240 VAC/24 VDC, 0.5 A for S401 / S201 series, 2 m cable
	Application	Simple power supply for a portable S421 or S401 solution (Special plug on request)

ACCESSORIES ORDERING

Please use the following table to assist in placing your order with our sales staff.

	A554 2005	
	Description	Service kit for sensor configuration including software
	Application	This service kit can be used for all SUTO sensors to change settings and check sensors
	A699 3491	
	Description	Measuring chamber, 2 l/min @ 0.8 MPa, fast connector, without filter, max pressure 1.5 MPa, suitable for all SUTO dew point sensors
	Application	For easy connection and disconnection to compressed air system through quick-disconnector
	A699 3493	
	Description	By-pass-type chamber with 6 mm hose in and out connection up to 1.5 MPa
	Application	This chamber can be used in applications where the measured gas is by-passed through the chamber
	A699 3500	
	Description	Measuring chamber, 4 l/min @ 0.8 MPa, hose fast connector, with filter, recommended pressure range 0.3 ... 1.5 MPa, convenient dew point measurement of gas/air with S505
	Application	The sample gas/air is connected to the chamber through a 6 mm PTFE hose The chamber is mounted to the S505 through the 1/2" G-type thread connection. Parking and measurement position is selected through the handle at the chamber, which allows quick measurement results
	A699 3501	
	Description	By-pass-type chamber with 6 mm hose in and out connection up to 1 MPa, convenient dew point measurement of gas/air with S505
	Application	This chamber can be used in applications where the measured gas is by-passed through the chamber to avoid any gas/air loss. The chamber is mounted to the S505 through the 1/2" G-type thread connection Parking and measurement position is selected through the handle at the chamber, which allows quick measurement results
	A699 3496	
	Description	Measuring chamber for dryer installation, 2 l/min @ 0.8 MPa, hose fast connector, without filter, max. pressure 1.5 MPa
	Application	The sample gas/air is connected to the chamber through a 6 mm PTFE hose The chamber is mounted to stationary S2XX dew point sensors through the 1/2" G-type thread connection. This chamber can be conveniently mounted to the frame or cabinet of a dryer
	A699 3690	
	Description	Chamber for atmospheric pressure dew point
	Application	This chamber is used where the gas is supplied under pressure (up to 1.0 MPa) but the measurement should be under atmospheric conditions The measurement result will be atmospheric dew point

ACCESSORIES ORDERING

Please use the following table to assist in placing your order with our sales staff.

	A699 3590	
	Description	High pressure chamber up to 35 MPa
	Application	In applications where the pressure is exceeding 1.5 MPa, this chamber can be used. Through the adjustable valve a small purge is set to ensure a gas flow through the sensor element (response time)
	A554 0054	
	Description	Compressed air quick coupling, female side R 1/2" thread
	Application	Connect this quick coupling to a 1/2" ball valve to set up a quick connector for measurement of dew point, oil and particle
	Dew point sensor protection caps	
	Application	Protection caps are used to protect the dew point sensor element from mechanical impacts or dust. The proper cap selection depends in application. Please contact customer service
	A554 0002	
	Description	Test pot 11.3 % rH
	Application	Is used to check dew point sensors. The pot creates a constant relative humidity of 11.3 %. The resulting dew point is depending on the ambient temperature, at 25 °C it is equal to -6.3 °C
	D500 0005	
	Description	S51 panel meter, with 4-20 mA input and 2 alarm outputs, 85 ... 265 VAC supply, 96 x 48 mm panel
	Application	Installations in dryers or similar equipment as dew point indicator
	C219 0055	
	Description	M12 connector with RS-485 termination resistor, 120 Ω
	Application	Termination resistor for enhancing communication stability of RS-485 network. Connect it to the final device of RS-485 network
	A554 3310	
	Description	M12 RS-485 (Modbus) splitter
	Application	Stationary Modbus splitter for easier wiring
	A554 0013	
	Description	RS-485 / Ethernet gateway Protocol: - Modbus/RTU - Modbus TCP
	Application	Converts RS485 physical layer to Ethernet and RTU protocol to Modbus TCP protocol.

ACCESSORIES ORDERING

Please use the following table to assist in placing your order with our sales staff.

	A554 0011	
	Description	RS-485 Repeater
	Application	A repeater is used whenever the bus length of RS-485 exceeds 500 m. After every 500 m of cable distance a repeater is recommended.
	A554 0331	
	Description	RS-485 / USB converter
	Application	This converter brings RS-485 to the USB port of the PC.
	D554 0031	
	Description	8-channel current input module, 0 ... 20 mA, Modbus/RTU
	Application	For connecting up to 8 sensors with 0 ... 20 mA / 4 ... 20 mA signal via RS-485 to S330 / S331.
	D554 0032	
	Description	Pulse meter, 7 channels, Modbus/RTU
	Application	For connection up to 7 sensors with pulse output signal via RS-485 to S330 / S331.
	A554 0087	
	Description	USB OTG memory stick
	Application	USB memory drive for transferring data between SUTO data loggers (S331 / S551 / S120 with display / S130 with display) and a PC. The USB drive has a USB-A and a Micro-USB connector.