www.suto-itec.com

Product Overview 2023/24

Measurement Technology for Compressed Air, Gases and Liquids



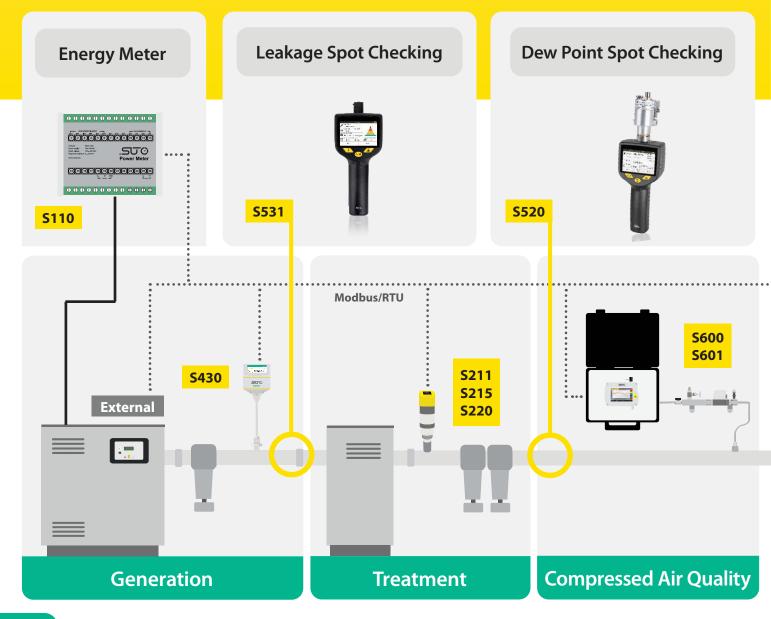
Be smart. Measure it.

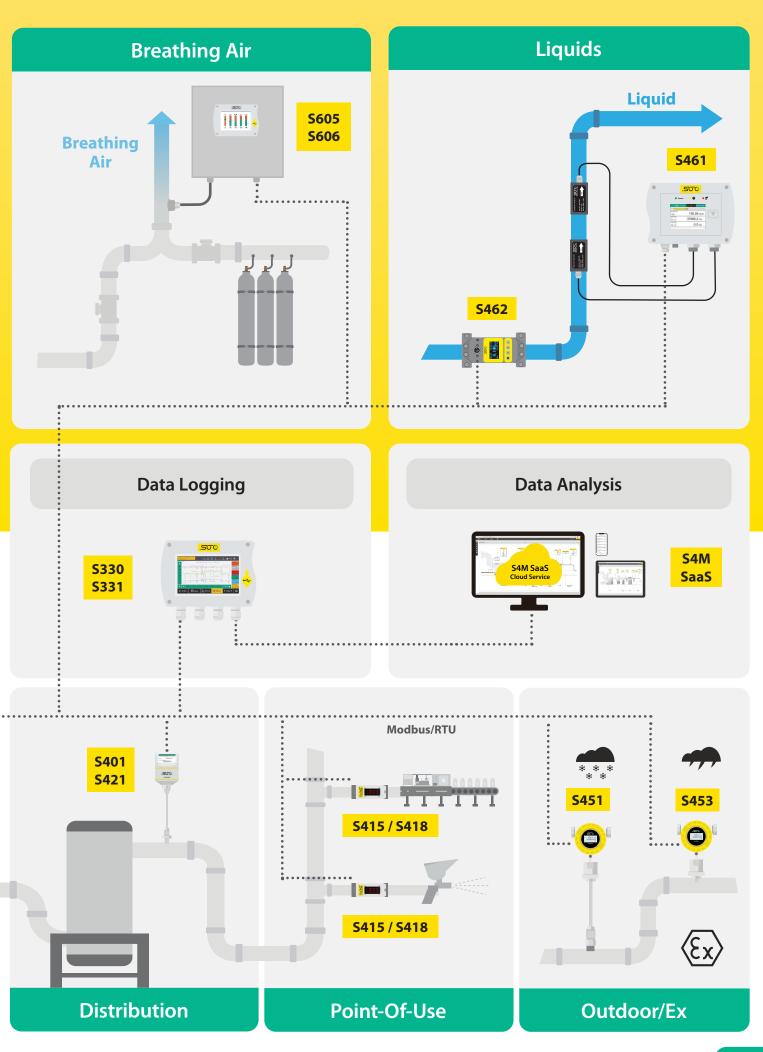
Advanced Measurement Solutions

Compressed Air and Gas Monitoring - get your system under control

The use of compressed air and technical gases in modern production processes has become indispensable. Compressed air is used to drive actuators, machines and to control other automated processes. Technical gases and air are used to conserve food or are even becoming part of the product, like in the beverage production.

- System Performance and Reliability
- Energy Efficiency and Cost Reduction
- Product Quality and Safety
- ISO Purity Requirements





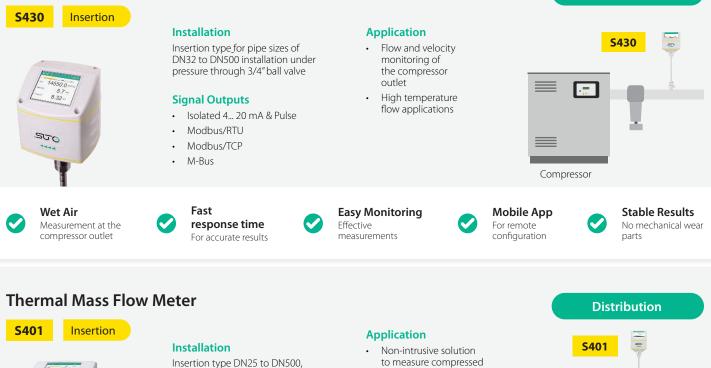


Flow and Consumption Meters for Compressed Air and Gases



Generation

Pitot Tube Flow Meter for Wet Air



Insertion type DN25 to DN500, installation under pressure through 1/2" ball valve

Signal Outputs

- Isolated 4... 20 mA & Pulse
 - Modbus/RTU
- Modbus/TCP
- M-Bus

Easy Installation Through 1/2" ball valve under pressure

100000000 10.0

SUO





Total Flow Reliable measurements



air and gas consumption

and flow in main and distribution lines

Applications in various

energy management,

process control, cost allocation and quality

assurance

industries, aiding in

IP65 Casing Provides robust protection Cost-efficient Affordable sensor solution

Thermal Mass Flow Meter



Installation

In-line type with measuring section DN15 to DN80 (Thread / Flange)

Signal Outputs

- Isolated 4... 20 mA & Pulse
- Modbus/RTU
- Modbus/TCP
- Meabus, re
 M-Bus
- M-Bus

Application

- Non-intrusive solution to measure compressed air and gas consumption and flow in main and distribution lines
- Applications in various industries, aiding in energy management, process control, cost allocation and quality assurance



Tank



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Mobile App For remote configuration





IP65 Casing Provides robust protection



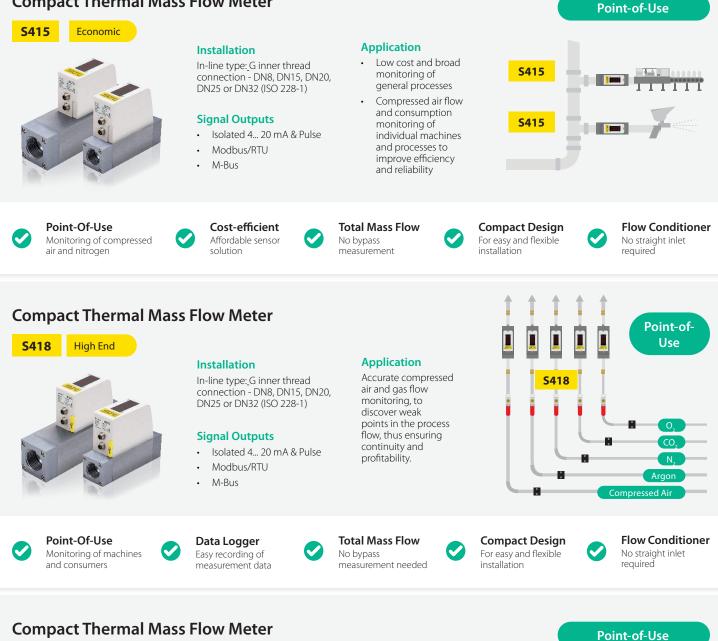
Cost-efficient Affordable sensor solution



Flow and Consumption Meters for Compressed Air and Gases



Compact Thermal Mass Flow Meter





Installation

In-line type: G inner thread connection - DN8, DN15, DN20, DN25 or DN32 (ISO 228-1)

Signal Outputs

- Isolated 4... 20 mA & Pulse
- Modbus/RTU
- M-Bus

Application

- Performance monitoring of vacuum pumps.
- Monitoring of critical values in vacuum applications which help operators to ensure the process reliability.











Accurate Results Integrated flow conditioner



Total Mass Flow No bypass measurement needed



Compact Design For easy and flexible installation



Flow and Consumption Meters for Compressed Air and Gases



Thermal Mass Flow Meter for Heavy Duty and Ex Applications **Outdoor and Ex** S451 Insertion Application Installation Outdoor / all-weather Insertion type DN25 to DN1000, . flow applications installation under pressure through S451 3/4" ball valve Explosive environments **Signal Outputs** • 2 x 4... 20 mA, pulse & Modbus/RTU 2 x 4... 20 mA, pulse & Ethernet/APL (Modbus/TCP protocol) Industrial Design Easy to Clean **Explosion Proof** Accurate Results **High Stability** For outdoor All wetted parts Use in Ex-area Very fast response Pressure & temperature applications stainless steel applications independent time Thermal Mass Flow Meter for Heavy Duty and Ex Applications **Outdoor and Ex** S453 In-line Application Installation Outdoor / all-weather Inline type flow meter with flow applications measuring sections from S453 DN25 to DN80 (R-thread / Flange) Explosive environments **Signal Outputs** • 2 x 4... 20 mA, pulse & Modbus/RTU 2 x 4... 20 mA, pulse & Ethernet/APL (Modbus/TCP protocol)



Easy to Clean All wetted parts stainless steel

Explosion Proof Use in Ex-area applications

Accurate Results Very fast response time

High Stability Pressure & temperature independent

Thermal Mass Flow Direction Switch



Installation

Insertion type DN25 to DN500, installation under pressure through 1/2" ball valve

Signal Outputs

- 4 ... 20 mA 2-wire + SDI
- 4 ... 20 mA 3-wire + SDI
- 4 ... 20 mA 3-wire + Modbus/RTU

Application

Flow direction switch for reliable indication of flow directions. Flow-Switch can be connected to bi-directional flow meters for direction detection.

Two seperated relays for direction indication



Multiple Locations



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Total Flow Reliable measurements









Dew Point Meters for Compressed Air and Gases



Dew Point Sensor Treatment -60 ... +20 °C Td S211 **Measured Gases** Installation **S211** Air / CO₂ / N₂ / O₂ / Argon G1/2" Process connection for installtion directly in process or via measuring chambers. **Operating pressure** • 0 ... 1.6 MPa **Signal Outputs** Optional 35.0 MPa • 4 ... 20 mA 2-wire + SDI 4 ... 20 mA 3-wire + SDI Application 4 ... 20 mA 3-wire + Dew point measurements after Modbus/RTU desiccant dryers Desiccant Dryer Optional Display Long term stable -60 ... +20 °C Td **High Precision** Compact Design **Pressure Sensor** Low Maintenance Installation anywhere After desiccant dryers Integrated as option ± 2 °C Td Accuracy Costs **Dew Point Sensor** Treatment S215 -20 ... +50 °C Td **Measured Gases** Installation S215 G1/2" Process connection for Air / CO₂ / N₂ / O₂ / Argon installtion directly in process or via measuring chambers. **Operating pressure** • 0 ... 1.6 MPa **Signal Outputs** • Optional 35.0 MPa • 4 ... 20 mA 2-wire + SDI 4 ... 20 mA 3-wire + SDI Application 4 ... 20 mA 3-wire + Dew point measurements after Modbus/RTU fridge dryers Fridge Dryer **Optional Display** Long term stable -20 ... +50 °C Td Pressure Sensor **High Precision** Compact Design Low Maintenance ± 2 °C Td Accuracy Installation anywhere After fridge dryers Integrated as option Costs **Dew Point Sensor** Treatment **S220** -100 ... +20 °C Td **Measured Gases** Installation **S220** Air / CO₂ / N₂ / O₂ / Argon G1/2" Process connection for installtion directly in process or via Ĭ measuring chambers. **Operating pressure** • 0 ... 1.6 MPa **Signal Outputs** • 4 ... 20 mA 2-wire + SDI **Application** 4 ... 20 mA 3-wire + SDI 4 ... 20 mA 3-wire + Dew point measurements in high Modbus/RTU tech requirements and conditions Desiccant Dryer Optional Display Compressed Precise -100 ... +20 °C Td Compact Design Pressure Sensor For high tech **Air Quality** Measurement Installation anywhere Integrated as option applications Monitors humidity ± 2 °C Td Accuracy

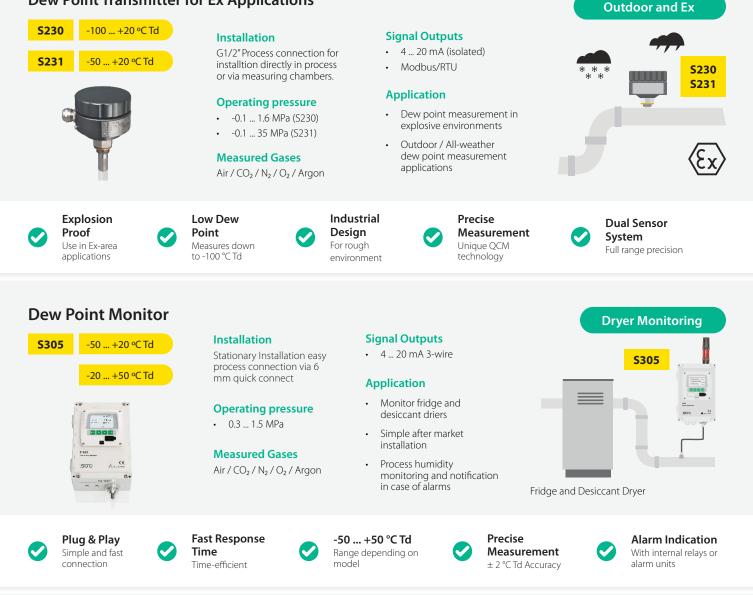
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Dew Point Meters for Compressed Air and Gases



Dew Point Transmitter for Ex Applications



Portable Dew Point Meter







units

Installation

quick connect

Operating pressure

Measured Gases

Air / CO₂ / N₂ / O₂ / Argon

Point-of-use spot checking with easy process connection via 6 mm

-0.1 ... 1.5 MPa(g) (at least 0.3 MPa is

needed for the measuring chamber supplied with the instrument)

Various humidity

Low Dew Point

Measures down to -100 °C Td

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•



Signal Outputs

Application

• Internal data logger

On site print outs

ppm or mg/m³

USB interface for data transfer

Dew point checks at the point of use

Measure absolute humidity in units like

· ISO 8573-1 dew point audits

Drier performance checks

Data Logger Integrated mass storage



Mobile Measurements

Dew Point Audits Indication of classes

S520

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Air Quality Instruments for Compressed Air and Gases



Oil Vapor Monitor



Installation

Easy process connection via 6 mm quick connect

Signal Outputs

- 4 ... 20 mA (isolated)
- . Modbus/RTU .
- Modbus/TCP (available for display version)
- Alarm Relay: NO, 40 VDC, 0.2 A •
- USB .
- **Pressure Range**
- 0.3 ... 1.5 MPa
- 600 ... 1070 hPa abs. (Ambient version only) .

Easy

Solution

Installation

Measured Gases

Compressed Air, Nitrogen

Permanent participle mea-

high tech applications.

surement and monitoring of compressed air and gases in

N₂, Carbon dioxide CO₂

(software setting)

Application

Plug and Play

Measured Gases

Compressed Air, Nitrogen N₂, Carbon dioxide CO₂ (software settina)

Application

Permanent monitoring of oil content in compressed air and gas systems to ensure crucial processes in medical and pharma industry, food and beverage, semiconductor fabs and high tech applications

S120

Dew Point

-100 ... +20 °C Td

Sensor

Point-of-use

Option:

Point-of-use

Accurate Results Latest PID senor technology

Compact Design Can be installed anywhere

Laser Particle Counter



According

ISO 8573

Installation

Easy process connection via 6 mm quick connect

Signal Outputs

- Modbus/RTU .
- Alarm Relay: NO, 40 VDC, 0.2 A
- USB

Pressure Range

03 15 MPa

\$132

 $0.1 < d \le 0.5 \ \mu m$

Installation

Easy process connection

via 6 mm quick connect

Signal Outputs

Modbus/RTU

Modbus/TCP

USB



according to compressed air standard ISO 8573-4. Easy

Eco Version

S130 / S132

S130 Smallest channel $0.3 < d \le 0.5 \ \mu m$

Portable Compressed Air Purity Analyzer





All in One Dew point, particle and oil vapor





4G/LTE Modem (optional)

0.3 ... 1.5 MPa

Portable Unit Can be carried

with one hand

Measured Gases

Compressed Air, Nitrogen N₂, Carbon dioxide CO₂ (software setting)

Application

- Air quality measurements in medical, pharmaceutical, food and beverage and other applications
- Compressed air quality audits in regards to the ISO 8573-1
- Monitoring of high tech applications with strict air purity requirements





4G/LTE Option For data transfer



Logger To save and print data

Installation Plug and Play Solution

Data

values

Logger

Storage of



Mobile Measurements

Compact

Design

Makes it

unique



Air Quality Instruments for Compressed Air and Gases



Treatment

S601

Stationary Compressed Air Purity Monitor

S601	5 in 1 Plug & Play
	Ξ.
	· · · ·
0	20 X
12	₫ ·
N.	

Installation

Wall mountable cabinet with 6 mm hose connection.

Signal Outputs

- Modbus/RTU (RS485)
- Modbus/TCP (Ethernet)

USB

Pressure Range 0.3 ... 1.5 MPa



All in One Dew point, particle and oil vapor



Use User-friendly desian

Data Logger Storage of measurements High Precision Accurate measurements

Measured Gases

Breathing air analysis

Application

1910.134(d).

Measured Gases

Application

Air / CO₂ / N₂ / O₂ / Argon

Permanent measurement and

monitoring of compressed air quality in high tech applications

as medical air, pharmaceuticals, food and beverage, etc.

Ensuring compressed air quality

standards as stated in ISO 8573-1.

with strict purity requirements, such

Permanent Monitoring 24/7 quality measurements

Robust Cabinet For rough industrial applications

Point-of-use

-

Generation

Portable Breathing Air Analyzer



Installation

Point-of-use spot checking with easy process connection via 6 mm quick connect

Signal Outputs

- Modbus/RTU (RS485)
- Modbus/TCP (Ethernet) .
- USB . .

4G/LTE Modem (optional)

Inlet Pressure

3 ... 15 barg, External pressure reducer allow up to 350 bar process pressure







Ultra Portable With one hand



measurements

Regular checks of breathing air systems

in various sectors as fire fighting, diving,

spray painting, chemical industry, offshore and high tech applications.

Meet requirements of international

standards such as EN 12021 or CFSR



HIIII

S606

 \equiv

> PDF Generator Powerful PDF Reporting

S605

Stationary Breathing Air Monitor





All in One

Oil, Pressure

O2, CO2, CO, H2O,

Installation

Wall mountable cabinet with 6 mm hose connection.

Signal Outputs

- Modbus/RTU (RS485)
- Modbus/TCP (Ethernet)
- USB .

Inlet Pressure

reducer allow up to 350 bar process pressure

Measured Gases

Breathing air analysis

Application

Permanent Monitoring of all crucial breathing air parameters, to ensure that the breathing air is safe for health and the process.

Crucial Industries and sectors rely on a reliable breathing air supply, e.g. fire fighting, diving, spray painting, chemical industry, offshore and high tech applications.









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Permanent

Monitoring

24/7 monitoring

3 ... 15 barg, External pressure

Data Logger

Storage of measurements

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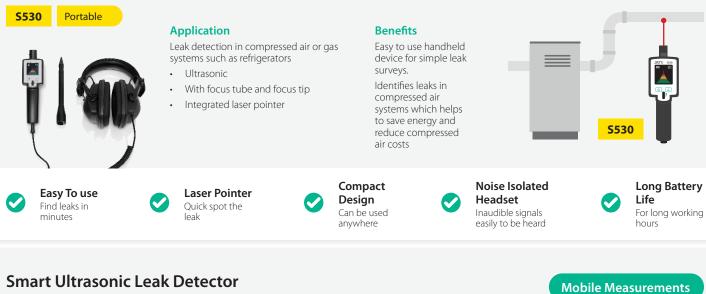
Leak Detection for Compressed Air and Gases



Mobile Measurements

Ultrasonic Leak Detector

(for Compressed Air, Gas and Pneumatic Systems)



(for Compressed Air, Gas and Pneumatic Systems)



Application

The S531 helps users quickly find and record leakages in their compressed air, gas and pneumatic system.

- Ultrasonic
- With focus tube and focus tip
- Integrated laser pointer
- Trumpet, to focus the sound waves

Wireless Connection Wireless connection to headset



Installation

Application

Local installation for easy

The Leak Management

Software (LMS) enables

companies to properly

manage their leakage

installation on a PC.

detection and repair activities.

The software comes as a local

setup and local data storage

Leak Parts Photo Camera to take photo of leak locations



Free LMS License

When purchasing a

S531 ultrasonic leak

detector set, one free LMS license is

included.

Data Analysis Export data to LMS for statistics and repair

Loss Calculation Air loss calculation in m³/h or in local currency

Leak Management Software





Design Quick and intuitive operation steps

Simple Interaction



LMS + S531

The LMS works seamlessly with the S531 Ultrasonic Leak Detector. Recording leaks in the field using the S531 and later importing them to LMS software enables users to gather quantitative leak loss data and easily create powerful reports.







One-Click Import and Update Import and update new leak data

S531

5 - 121-14-1

Flow and Consumption Meters for Liquids and Steam



Ultrasonic Flow Meter for Liquids

S461 Clamp-On 0 500 0 11 U

Non-Invasive

Through clamp-

on sensors

Installation

Clamp-On Installation for pipe sizes of DN40 ... DN1200, Versatile installation options for the display unit

Signal Outputs

- Isolated 4 ... 20 mA (Analog option)
- Switch output, normally open, max. 40 VDC, 0,5 A (Pulse option)
- Modbus/RTU(Standard)
 - Modbus/TCP and PoE (Option)

Energy

Meter

Monitors heat

exchangers

Application

Measures the actual flow and total consumption of various liquids

- Cooling / Heating / Process Water
- Purified Water Measurement
- Fuel, Oils, Petroleum Products .
- Water Treatment
- Food / Beverage
- Sanitary .

Easy

options

- Hydraulic System Test
- Pharmaceutical Industry

installation

Various installation



Multiple Locations

Compact Design

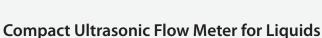
Data

Logger

8 million

samples

Can be installed anywhere



App

Smartphone

Easy configuration

Multiple Locations S462 Clamp-On **Application** Installation Clean fluid measurements in Clamp-On Cooling / Heating / Process Water for pipe sizes of DN20 ... DN40 • • Purified Water Measurement Can be installed on stainless steel pipe, carbon steel pipe, copper pipe Fuel, Oils, Petroleum Products or plastic pipe. Water Treatment • Food / Beverage • **Signal Outputs** Sanitary • **S462** Isolated 4 ... 20 mA (Analog) Hydraulic System Test • Modbus/RTU • Pharmaceutical Industry • Compact Cost-TTC Clamp On Portable Stationary Desian efficient Transit Time No contact to Connectable Connectable Correlation Can be installed Affordable medium to S551 to S330/S331 Technology anywhere sensor solution

Vortex Flow Meter for Steam

In-Line

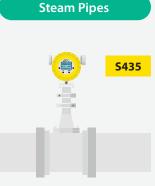
Installation Wafer type for pipe sizes of DN40 ... DN300

Signal Outputs

- 4 ... 20 mA
- . Pulse •
- Modbus/RTU

Application

Measures the saturated steam flow and consumption to ensure the process quality. The integrated consumption counter allows to calculate steam usage for each consumer in the system.



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S435





Local Display For easy configuration and live values

Accurate Results Vortex flow measurement



Total Flow High accuracy and reliable measurements





Displays / Datalogger and IIoT



Display for Sensors Data Visualization S320 Local installation Installation **Sensor Inputs** Panel mounting (standard) 1 input for SUTO flow/ • Wall mounting dew point sensor Hat rail holder 1 input for analog sensor ... 2971 m 3457918 -0 ... 20 mA, (only in connection with wall 0 ... 10 V mounting casing) **Application S320** Convenient data reading from difficult-to-access sensors. Easy Easy to Use **USB** Interface Alarm Power Supply Signal Inputs installation User-friendly Configuration with Optional alarm Flexible power Digital and analog Wall or panel design S4C software settings supply input mountable **Display and Data Logger Data Logging** Inputs Installation **S330** Display 2 digital inputs: Panel mounting (standard) SDI Sensors (up to 2 **S331** Wall mounting **S331** Data Logger SDI sensors) Outputs Modbus Sensors (up Application Modbus/TCP • to 16 Modbus sensors) .suo Central unit of a compressed air (Ethernet) monitoring system displaying and Modbus/RTU 2 analog inputs (option): recording all relevant parameters (RS 485) in a compressed air system (Flow, 0 ... 20 mA, 4 ... 20 mA USB • consumption, dew point, pressure, 0...10V . 2 Alarm relay temperature, power consumption, Pulse . outputs compressor status etc.). Data Versatile Strong **IIoT Support** Distribution **Touch Screen** Data Logger Connection to Connection Protection Via Modbus/RTU 5" large color LCD 100 million values S4M software 16 sensors inputs IP65 Casing & Modbus/TCP Portable Display and Data Logger **Multiple Locations** S551 Portable Installation Application S551 Portable solution: Carrying case The ideal data for a flexible and efficient usage logger for energy m³/h, MPa, °C analysis (ISO at the point-of-use 50001) and air audits (ISO 11011). **Sensor Inputs** Attend Up to 20 sensors inputs: • 2 x SDI . 2 x analog 16 x Modbus .







4G/LTE Modem Remote monitoring and logging (optional)





Back-Up Power Battery as back-up power



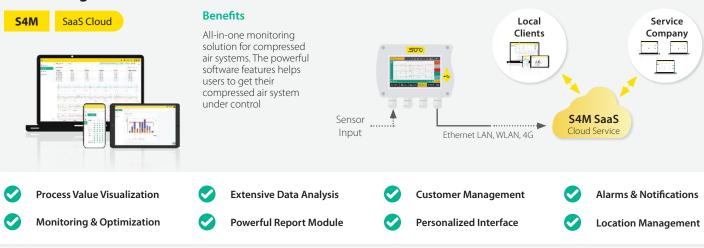
Monitoring and Application Software and Apps



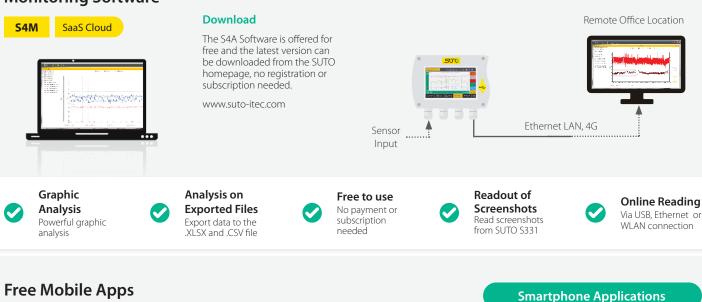
Monitoring, Visualization and Analysis

Data Visualization and Analysis

Smart Compressed Air System Monitoring Software



Smart Compressed Air System Monitoring Software



S4C-FS Gas Flow S4C-DP **Dew Point** S4C-US **Liquid Flow**

Applications

- SUTO Smartphone Apps are completely free to use
- Wireless real-time data readings of SUTO Flow Meters trough S4C-FS App
- User friendly design with intuitive workflows
- Everything runs from your smartphone
- Online configuration, settings and user calibrations of compatible SUTO devices

Signal Outputs

- Wireless connection to SUTO Sensors for on-site readings and configuration
- No PC needed





Wireless Connection Connection to devices in hard-to-reach places

Free Smartphone Apps For remote Configuration

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Easy to Use User-friendly design



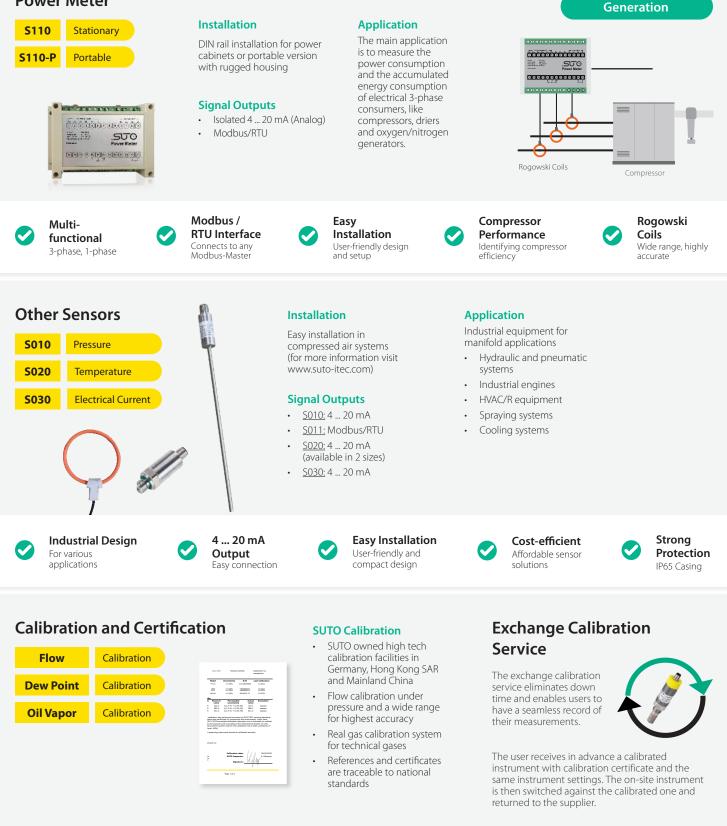
Online Reading Live measurement data



Current Meter, other Sensors and Calibration Service



Power Meter





Flow

Calibration

Dew Point

Calibration

Oil Vapor

Calibration

Particle

Calibration

Pressure

Calibration

Temperature

Calibration

723 09 30