

**S601**

# Stationary Compressed Air Purity Monitor



**ALL IN ONE**  
Dew point, particle  
and oil vapor



**TOUCH  
SCREEN**  
5" large color LCD



**INDUSTRIAL  
DESIGN**  
For outdoor  
applications



**PRECISION**  
Accurate  
measurements



**COMPACT  
DESIGN**  
Can be installed  
anywhere



## Benefits

- ✓ All-in-one device measures particle concentration, dew point and oil vapor
- ✓ Measures additionally the temperature and pressure
- ✓ Software guided measurement makes it easy to generate reliable results
- ✓ Real time information can be retrieved from the S601 by SCADA systems via Modbus outputs
- ✓ Compact design and easy setup, just connect the unit to power and the compressed air supply

## Constant Measurement — 24/7 Monitoring

The S601 combines three major quality measurements into a single wall mountable device. Optimized to be used as Plug & Play system, the S601 helps users to identify the air quality at a glance.

The robust cabinet makes is well suited for rough industrial applications.

A stainless steel cabinet is offered on request, which is suited for pharmaceutical and medical applications.

The S601 combines the latest sensor technology and a time-saving setup into a one of its kind multi-tool. Mount it, power it, connect it and measure. Trust us, it is that easy.

## Monitoring of All Relevant Contaminants



### Particle Concentration Measurement

$0.1 < d \leq 0.5 \mu\text{m}$  /  $0.5 < d \leq 1.0 \mu\text{m}$  /  $1.0 < d \leq 5.0 \mu\text{m}$  /  $5.0 \mu\text{m} < d$



### Dew Point Measurement

-100 ... +20 °C Td



### Oil Vapor Measurement

0.001... 5.000 mg/m<sup>3</sup>

ISO 8573-1 Classification

Alarm Management  
Monitoring Software



Ethernet LAN



S601



Environment

Compressor

Dryer Desiccant

Tank

User



## Various Applications

- ✓ Air quality measurements in medical, pharmaceutical, food and beverage applications
- ✓ Compressed air quality audits in regards to the ISO 8573-1
- ✓ Point-of-use measurements to ensure process safety and quality in all applications
- ✓ Monitoring of high tech applications with strict air purity requirements

## 5 in 1 Measuring Device

The S601 is the stationary multi-tool for compressed air purity measurements. It measures, records and validates quality parameters like particles, dew point, oil vapor contents, temperature and the pressure of compressed air systems. It offers different signal outputs to seamlessly integrate it into your system. The integrated logger stores the recorded values safely.



### Particle Concentration Measurement

- Measurement methods according to ISO 8573 standards
- Latest laser detection technology
- Smallest particle size 30 ... 70 %, next bigger sizes 90 ... 110 % per ISO 21501-4



### Integrated Data Logger

- Integrated data logger records all channels in parallel for later analysis
- 5" touchscreen allows you to interact with the device on site
- There is no need for a PC to manage the device



### Oil Vapor Measurement

- Latest photoionisation detector (PID) with self-calibration
- Wide range of oil vapor concentrations
- High precision with 5 % of reading  $\pm$  0.003 mg/m<sup>3</sup> accuracy



### Dew Point Measurement

- Large ranges thanks to the unique multiple sensor technology
- Long-term stable and well-proven measurement methods
- Outstanding precision with a high accuracy over the full range from -100 to +20 °C Td



### Pressure Measurement

- State of the art sensor technology
- Additional quality data about the compressed air system

## Modular Concept

The S601 is based on a modular concept which enables the client to decide which type of measurement needs to be performed.

This makes the S601 customizable and flexible to offer the end-user the best suited instrument to finish the desired measurement tasks.



## ISO 8573-1 Compressed Air Classes

ISO 8573-1:2010 is the main publication of the ISO 8573 series of standards, because it contains the permissible amount of contaminants per cubic meter of compressed air is fixed.

Class	Particle Concentration			Pressure Dew Point	Oil Concentration
	cn/m <sup>3</sup>			°C (°F)	mg/m <sup>3</sup>
	0.1 < d ≤ 0.5 µm	0.5 < d ≤ 1.0 µm	1.0 < d ≤ 5.0 µm		
0	As specified by the equipment user or supplier and more stringent than class 1				
1	≤ 20,000	≤ 400	≤ 10	≤ -70 (94.0)	≤ 0.01
2	≤ 400,000	≤ 6,000	≤ 100	≤ -40 (-40.0)	≤ 0.1
3	not specified	≤ 90,000	≤ 1,000	≤ -20 (-4.0)	≤ 1
4	not specified	not specified	≤ 10,000	≤ +3 (+37.4)	≤ 5
5	not specified	not specified	≤ 100,000	≤ +7 (+45.6)	> 5
6	x	x	x	≤ +10 (+50.0)	x

## Why should you focus on your ISO 8573-1 specifications?

Certain industries like the pharmaceutical and food industry requires high-quality compressed air. By meeting the ISO 8573-1 standard requirements you can:

### ✓ Ensure Process and Product Safety:

Potential incidents, like contaminants meeting food via water and oil, can create safety concerns and unreliable processes.

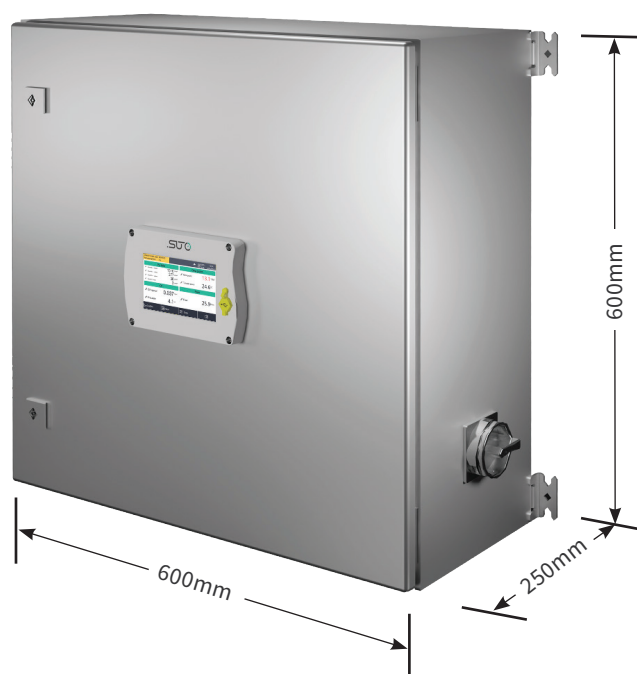
### ✓ Avoid Production Failures and Poor Quality Finishes:

Contaminants mixing with applications effect product results.

### ✓ Prevent production downtime:

Processes and machines are stopped to find and eliminate the contamination issues.

## Dimensions



# Technical Data

## Measurement

### Particle concentration

Accuracy	Counting Efficiency according ISO 21501-4	
	Option A1263:	Option A1260:
	30 ... 70 % of d > 0.1 µm	50 % @
	90 ... 110 % of d ≥ 0.3 µm	0.1 < d ≤ 0.15 µm
		100 % @ d > 0.15 µm

Selectable units cn/m<sup>3</sup>, cn/ft<sup>3</sup>

Measuring range	Option A1263:	Option A1260:
	0.1 < d ≤ 0.5 µm	0.3 < d ≤ 0.5 µm
	0.5 < d ≤ 1.0 µm	0.5 < d ≤ 1.0 µm
	1.0 < d ≤ 5.0 µm	1.0 < d ≤ 5.0 µm
	5.0 µm < d	5.0 µm < d

Sensor Laser optical particle counter

Sampling rate 1 min.

Flow rate 2.83 l/min

### Pressure Dew Point

Accuracy	± 1 °C Td (0 ... 20 °C Td)
	± 2 °C Td (-70 ... 0 °C Td)
	± 3 °C (-100 ... -70 °C Td)

Selectable units °C, °F

Measuring range -100 ... +20 °C Td

Sensor QCM + Polymer

Response time  
(t<sub>90</sub>) -20 °C Td → -60 °C Td = < 240 sec  
-60 °C Td → -20 °C Td = < 30 sec  
@ 4 l/min

### Oil vapor

Accuracy 5 % of value +/- 0.003 mg/m<sup>3</sup>

Detection limit 0.001 mg/m<sup>3</sup>

Resolution 0.001 mg/m<sup>3</sup>

Selectable units mg/m<sup>3</sup>

Measuring range 0.001 ... 5.000 mg/m<sup>3</sup>

Sensor PID (Photoionisation detector)

UV lamp lifetime 1 year or 6000 working hours, whichever comes first

Sampling rate 1 sec.

### Pressure

Accuracy 0.5 % FS

Measuring range 0.1 ... 1.6 MPa(g)

Sensor Piezo resistive sensor

### Temperature

Accuracy ± 0.3 °C

Measuring range 0 ... + 50 °C

Sensor Pt100

### Reference conditions

ISO1217 20 °C / 1000 hPa

## Signal / Interface & Supply

### Fieldbus

Protocol Modbus/TCP

Update rate 1 / sec.

### Alarm output

Relay 2 x Changeover Relay (freely programmable)

Rating 230 VAC, 3A

### Power Supply

Voltage supply 100 ... 240 VAC, 50/60 Hz

Current consumption 50 VA

### Interface

USB USB Micro with OTG support

## General data

### Configuration

Others Device comes pre-configured  
Configuration can be done via on-screen touch

### Display

Integrated Touchscreen, Size: 5", Resolution: 800 x 480 px

### Data Logger

Storage Up to 3 million recorded data sets (10 channels each)

### Material

Process connection Brass nickel-plated, FKM

Housing Sheet steel, powder coated cabinet

### Miscellaneous

Electrical connection AC Clamp Terminals, M12, RJ45

Protection class IP55 (cover lid closed)

Approvals CE

Process connection Micro quick connector, full pass-through, male (1.5 m hose with coupling included)

Weight 15 kg

### Operating conditions

Medium Compressed Air, Nitrogen N<sub>2</sub>, Carbon dioxide CO<sub>2</sub> (software setting)

Medium quality ISO 8573-1: 4.5.4 or better

Medium temperature 0 ... + 50 °C

Medium humidity Medium humidity < 40 % rH, no condensation

Operating pressure 0.3 ... 1.5 MPa(g)

Ambient temperature 0 ... + 50 °C

Ambient humidity 0 ... 90 % rH

Storage temperature -10 ... + 50 °C

Transport temperature -10 ... + 50 °C

# Ordering

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

## S601 Stationary Compressed Air Purity Monitor

Order No.	Description
	S601 Stationary Compressed Air Purity Monitor Touch screen interface, data logger , metal cabinet for wall mounting Supply voltage 100 ... 240 V AC, Inlet pressure 0.3 ... 1.5 MPa
D500 0601	<u>Including:</u> <ul style="list-style-type: none"> <li>• Dew point measurement rig -100 ... +20 °C Td</li> <li>• 2 m PTFE hose</li> <li>• 1.5 m PTFE hose with quick connector</li> <li>• Purge unit for measuring point cleaning</li> <li>• USB OTG memory stick</li> <li>• S4A Software for logger read out and analysis</li> <li>• 1 x PTFE hose adapter</li> <li>• Certificate of calibration</li> </ul>

### Particle counter

A1260	Integrated particle counter rig, 0.3 < d ≤ 0.5 µm, 0.5 < d ≤ 1.0 µm, 1.0 < d ≤ 5.0 µm, 2.83 l/min
A1263	Integrated particle counter rig, 0.1 < d ≤ 0.5 µm, 0.5 < d ≤ 1.0 µm, 1.0 < d ≤ 5.0 µm, 2.83 l/min

### Oil vapor measurement

A1267	Integrated oil vapor sensor rig, 0.001 ... 5.000 mg/m³
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## Ordering Example

<b>Example</b>	S601 Stationary Compressed Air Purity Monitor, with Dew point measurement, Particle counter 0.1 < d ≤ 0.5 µm, 0.5 < d ≤ 1.0 µm, 1.0 < d ≤ 5.0 µm and oil vapor sensor
<b>Order Code</b>	D500 0601.A1263.A1267



[www.suto-itec.com](http://www.suto-itec.com)



[sales@suto-itec.com](mailto:sales@suto-itec.com)