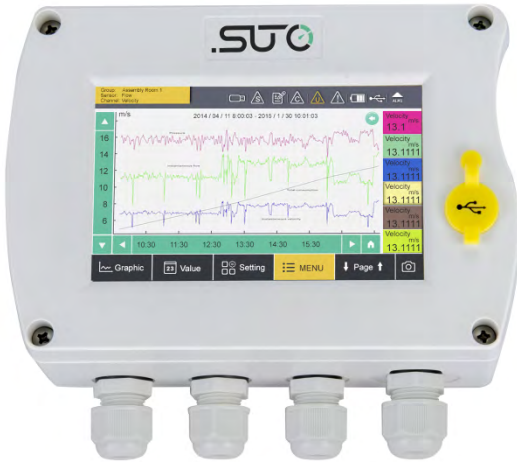


The universal display and data logger can measure, display and record all relevant parameters (Flow, consumption, dew point, pressure, temperature, power consumption, compressor status etc.) in a compressed air system.



## Features

- High resolution 5" colour touch screen interface
- All SUTO sensors and compatible third party sensors are connectable
- Up to 20 sensor inputs (2 x SDI, 2 x Analog and 16 x Modbus)
- 2 wall casings available: 4 cable glands or 7 cable glands
- USB interface for data transfer to data stick or PC
- RS-485 (Modbus RTU) and Ethernet (Modbus TCP) interface to factory automation system
- 10 W sensor power supply (24 VDC)
- Data logger (S 331 only): 100 million values
- Alarm monitoring with 2 relay outputs
- Integrated web server for remote monitoring
- Quick set up
- Various options for system extension

The SUTO S 330/331 is a powerful yet cost effective local display, sensor interface and data logging (S 331 only) solution for virtually any application. Up to 20 sensors can be connected to a single device allowing local nodes to be setup throughout the factory. With it's easy to use, high resolution 5" touch screen, information from all the connected sensors can be accessed locally making readings easy to access for those on the ground.

Modbus RTU or Modbus-TCP output data can be transmitted into the site's ethernet network allowing information to be viewed in real time via an existing SCADA system or with the simple and easy to use SUTO S4M software. Alternately locally logged data can be downloaded onto a USB memory card or directly to a computer through the USB port.

The S 330/331 can display virtually any parameter from the connected sensors and with it's virtual channels can make calculations to help you measure and monitor efficiency or productivity, simplifying often complex tasks. Alarms can be set on each signal to your preselected parameters helping keep an eye on performance and indicating when there is a problem.

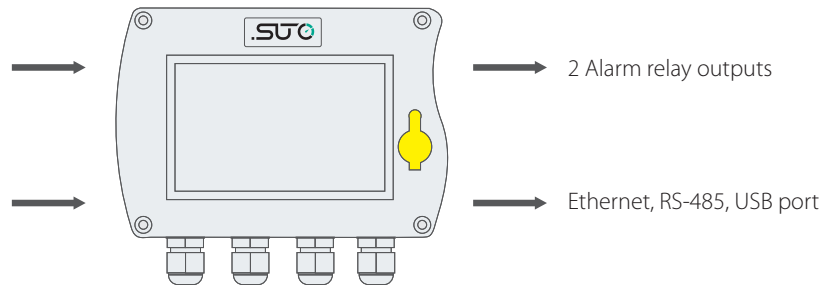
## System overview

2 digital inputs:

- SDI Sensors (up to 2 SDI sensors)
- Modbus Sensors (up to 16 Modbus sensors)

2 analog inputs (option):

- 0 ... 20 mA, 4 ... 20 mA
- 0 ... 10 V
- Pulse



SUTO sensors are equipped with SDI and / or Modbus interface

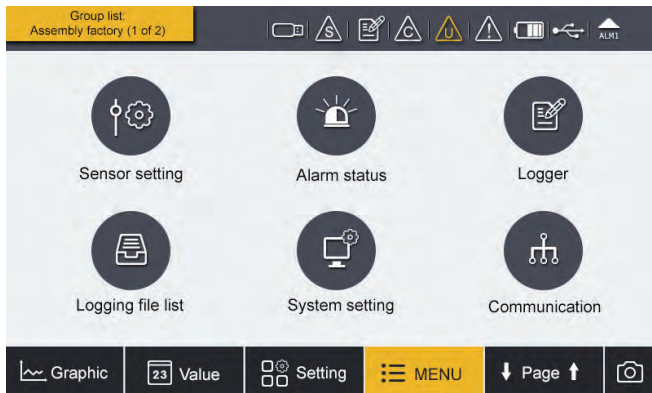


S 330/331 is available as panel version or in 2 different size wall mountable casings

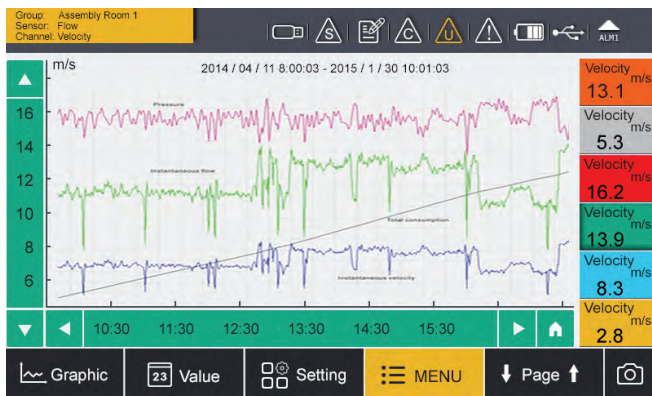
Hat rail option

Back view with connection terminals

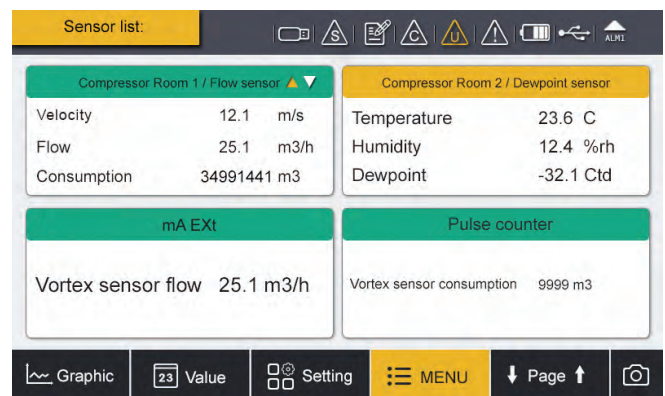
## Touch screen operation



Up to 4 sensors can be viewed on one page and through page scrolling further sensors can be displayed.



The S 330/331 comes with a high resolution 5" colour touch screen interface making the operation as simple as possible.



Select which channels you want to view or analyze and the built in graphic analyzer will help you identify problems immediately.

For detailed analysis we recommend using SUTO S4M software.

### Technical data S 330/331

Casing	Size: 120 x 173 x 67 mm	Accuracy	SDI, Modbus: see sensor specs Analog:
Power supply	A: 100 ... 240 VAC, 20 W B: 18 ... 30 VDC, 20 W		0 ... 20 mA: 0.01 mA 0 ... 10 V: 0.01V Pulse: ±1 digit
Interface	USB RS-485 Ethernet	Display	size: 5" Resolution: 800 x 480
Alarm output	2 relay, 230 VAC, 3 A	Operating temperature	0° ... +50°C
Sensor inputs	2 x SDI inputs or 1 x SDI and 1 x Modbus input (Modbus input for up to 16 sensors) 2 x analog (option)	Storage temperature	-20° ... +70°C
Data logger	100 million values (option)	Protection:	IP65

## Sensors connectable to S 330/331

The S 330/331 has 2 digital inputs, 2 analogue inputs and can connect up to 16 Modbus sensors.

### Flow / Consumption sensors



S 330/331 can power maximum one S 450/452. If more than one S 450/452 is connected a separate power supply has to be added. (see accessories for S 330/331)

### Dew point sensors



Please refer to the detailed sensor data sheet for further information and options.

### Inputs for analog sensors (2 channels)

#### SUTO analog sensors



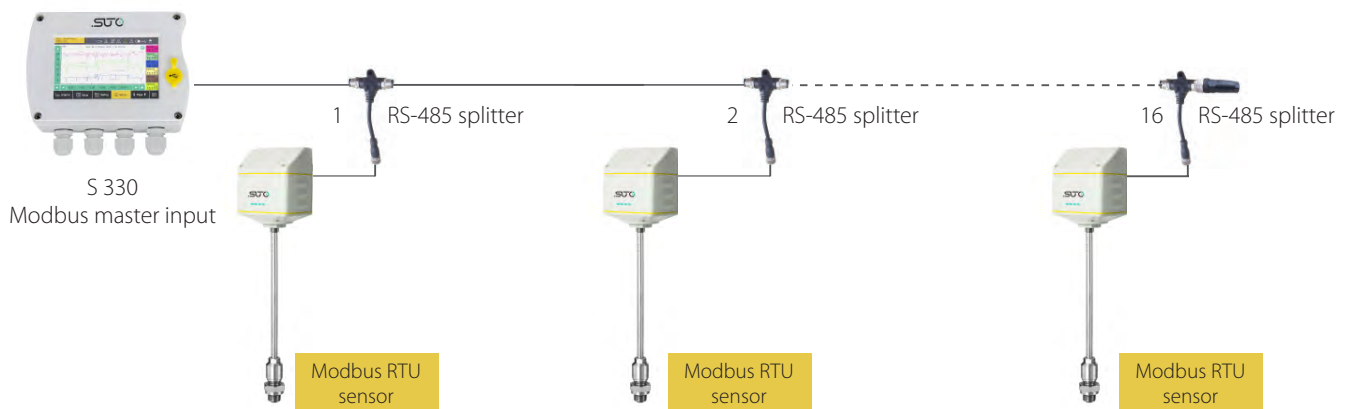
### Third party sensors

Following third party sensors are connectable to S 330/331:

- Flow / consumption sensor with mA signal and / or pulse output
- 0 ... 20 mA, 4 ... 20 mA, 0 ... 1V, 0 ... 10V signals
- Any Modbus sensor

### Modbus-Master input for Modbus RTU sensors

The S 330/331 includes digital inputs for SUTO sensors or Modbus RTU sensors. In order to connect the Modbus RTU sensors properly on a RS-485 bus system it's recommended to daisy-chain the sensors to one of the inputs. For this purpose we offer a RS-485 splitter to simplify the connection. Through this method you can add up to 16 sensors to the master input.



## Order form

Order No.	Option 1	Power supply	Casing	Description
D500 0333				S 330, panel version, 2 digital inputs, Ethernet, RS-485, USB
D500 0331				S 331, panel version, 2 digital inputs, Ethernet, RS-485, USB, data logger, S4A software
	A			None
A1662	B			2 analogue inputs 0 ... 20 mA + 2 pulse inputs
A1663		A		Power supply 100 ... 240 VAC, 20 VA, 2 relay outputs
A1664		B		Power supply 18 ... 30 VDC, 20 W, 2 relay outputs
			A	None
A1665			B	Wall mountable casing with 4 cable glands
A1666			C	Wall mountable casing with 7 cable glands
A1667			D	Wall mountable casing with 3 cable glands + Ethernet
A1668			E	Wall mountable casing with 6 cable glands + Ethernet
			A	None
A1669			B	Hat rail holder
A1661				S 330/331 with 108 Modbus-Sensor-channels [standard is 58]
A554 3310				M12 RS-485 (Modbus) splitter
A554 0007				Power supply wall mountable
A554 0009				Power supply for hat rail
A554 3311				Line filter for EMC protection
A554 3313				Connection board for looping 4-20 mA and pulse signals to PLC, mountable in wall casing A1666 + A1668
C219 0555				M12 connector with RS-485 termination resistor, 120 Ω, for Modbus daisy chain termination

### Further accessories

Order No.	Description
<b>Cables</b>	
A553 0130	USB cable for S 330/331
A553 0104	Sensor cable 5 m, with M12 connector, open wires, AWG24 (0.2 mm <sup>2</sup> )
A553 0105	Sensor cable 10 m, with M12 connector, open wires, AWG24 (0.2 mm <sup>2</sup> )
A553 0106	Power cable with mains plug, 1.8 m
A553 0120	Ethernet cable 5 m, RJ45 plug at both ends
A553 0123	RS-485 cable, 3 pole, AWG 24 (per meter)
<b>Converters and gateways (Please contact our customer service for further converter/gateway options)</b>	
A554 0010	RS-485 / Ethernet gateway
A554 0012	RS-485 / Profibus gateway
A554 0013	Modbus RTU / Modbus TCP gateway
A554 0011	RS-485 repeater
A554 0331	RS-485 / USB converter
<b>Software</b>	
M599 2030	S4M, data acquisition and analyzes software, 20 measuring channels
M599 2033	S4M, data acquisition and analyzes software, unlimited measuring channels
A1102	Consumption report generator for S4M
<b>Others</b>	
D554 0030	Power meter S 110, hat rail mountable, Modbus RTU
D554 0031	Current meter, 0-20 mA, 8 channels, Modbus RTU
D554 0032	Pulse meter, 7 channels, Modbus RTU