Instruction and
Operation Manual

Be smart. Measure it.

S010

Pressure Transmitter



English

www.suto-itec.com

Dear Customer,

Thank you for choosing our product.

The operating instructions must be read in full and carefully observed before you start up the device. The manufacturer cannot be held liable for any damage which occurs because of non-observance or non-compliance with this manual.

Should the device be tampered with in any manner other than a procedure which is described and specified in the manual, the warranty is cancelled and the manufacturer is exempt from liability.

The device is destined exclusively for the described application.

SUTO offers no guarantee of its suitability for any other purpose. SUTO is also not liable for consequential damage resulting from the delivery, capability or use of this device.

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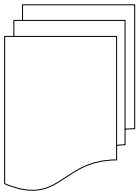
1 Safety instructions



Please check if this instruction manual corresponds to the product type.

Please observe all notes and instructions indicated in this manual. It contains essential information which must be observed before and during installation, operation and maintenance. Therefore, this instruction manual must be read carefully by the technician as well as by the responsible user / qualified personnel.

This instruction manual must always be available at the operation site. If anything in this manual is unclear, or if you have questions, please contact the manufacturer.



WARNING: Compressed Air Hazard!

Contact with rapidly escaping pressurized air or bursting components can cause serious injury or death.

- Do not exceed the maximum permitted pressure range.
- Only use pressure tight installation material.
- Ensure that nobody can be hit by escaping air or bursting parts of the device.
- The system must be depressurized before any maintenance work.



WARNING: Electrical Hazard!

Contact with energized electrical components may cause electric shock, resulting in serious injury or death.

- Consider all regulations for electrical installations.
- The system must be disconnected from any power supply during maintenance work.
- Any electrical work on the system is only allowed by authorized qualified personnel.



CAUTION: Permitted Operating Parameters!

Operating the device outside the specified limits may result in malfunctions, measurement errors, or damage to the device and associated system components.

- Do not exceed the permitted operating parameters.
- Make sure the product is operated within its permitted limits.
- Do not exceed or undercut the permitted storage and operation temperature and pressure.
- The product should be maintained and calibrated frequently, at least annually.

General safety instructions

- It is not allowed to use the product in explosive areas.
- Please observe the national regulations before/during installation and operation.

Remarks

- Do not disassemble the device.
- Always use a spanner to mount the product properly.



CAUTION: Measurement Accuracy!

Improper use or inadequate maintenance of the device may affect measurement accuracy and lead to unreliable measurement results.

- Do not exceed the maximum operation temperature at the sensors process connection.

Storage and transportation

- Transportation temperature: -40°C ... +100°C.
- Original packaging recommended: use the supplied packaging for the device during transit.
- Storage temperature: -40°C ... +100°C.
- Protect from direct UV and solar radiation during storage.
- Storage humidity: less than 90%, no condensation.

1 Application

The S010 Pressure Transmitter is designed to measure the pressure of non-corrosive gases and liquid within the permissible operating parameters. These parameters can be found in the technical data section.

The S010 Pressure Transmitter can measure the pressure in MPa.

The S010 Pressure Transmitter is not developed to be used in explosive areas. For the use in explosive areas please contact the manufacturer.

The S010 Pressure Transmitter is mainly used in compressed air systems in an industrial environment.

2 Features

- Highly accurate and affordable industrial pressure transmitter
- Excellent anti-interference capability (EMC, EMI)
- Salt-spray, temperature and humidity tested
- IP67 protection
- 4 … 20 mA loop powered

3 Technical data

3.2 General

CE	
Measured parameter	Pressure — standard unit: MPa
Sensor	Thin-film measuring cell
Measuring medium	S694 1886/ S694 3557: Gases and liquids compatible with NBR, HNBR, FKM and FPM materials
	S694 0356/ S694 3558/ S694 2564: Non-corrosive gases and liquids for stainless steel 304 and 316L
Measuring range	0 ... 1.6 MPa (g) (S694 1886 / S694 3557) 0 ... 4.0 MPa (g) (S694 0356 / S694 3558) 0 ... 0.16 MPa (a) (S694 2564)
Temperature of the meas. medium	-35°C ... +80°C (S694 1886 / S694 3557) -30°C ... +125°C (S694 0356 / S694 3558 / S694 2564)
Operating temperature	-30°C ... +80°C
Temperature compensation range	-10°C … +80°C (S694 1886 / S694 3557) -20°C … +80°C (S694 0356 / S694 3558 / S694 2564)
Storage temperature	-40°C ... +100°C
Overload pressure	2 x F.S.
Burst pressure	2.5 x F.S. (S694 1886 / S694 3557) 3.0 x F.S. (S694 0356 / S694 3558 / S694 2564)
Casing material	Stainless steel
Protection class	IP67
Dimensions	See dimensional drawing on the next page
Screwing thread	G 1/4” A (ISO 228/1)
Electrical connection	M12, 4 pins
Vibration resistance	S694 1886 / S694 3557: IEC 60068-2-6 (5 ... 2000 Hz, 10 g)
	S694 0356 / S694 3558/ S694 2564: IEC 60068-2-6 (5 ... 2000 Hz, 20 g)
Weight	70 g

3.3 Electrical data

Power supply	24 V DC (12 ... 32 V DC)

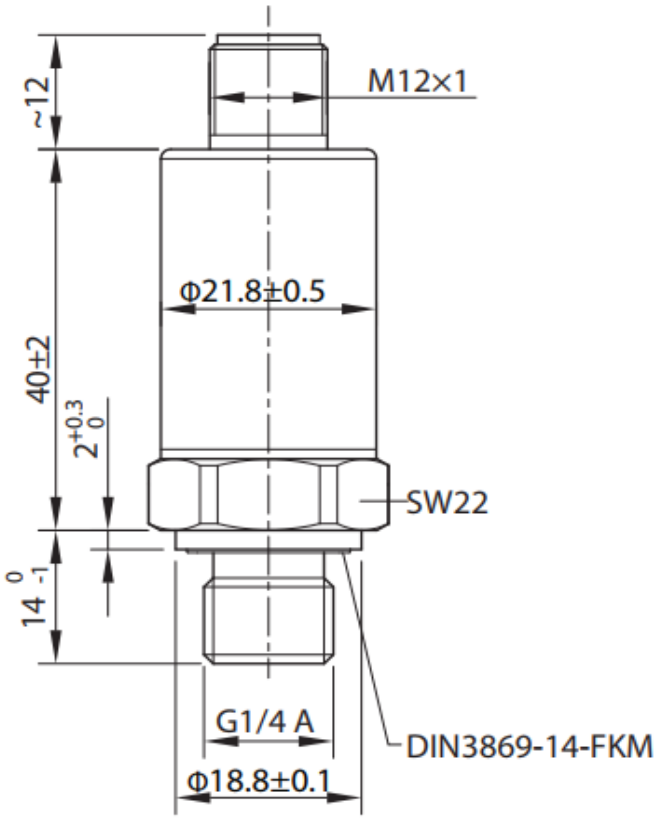
Output signals

Analogue output	4 ... 20 mA, 2-wire

3.4 Accuracy

Accuracy	± 0.5% F.S.
Long-term drift	± 0.25% F.S. / year (S694 1886 / S694 3557) ± 0.2% F.S. / year (S694 0356 / S694 3558 / S694 2564)

4 Dimensional drawing



5 Installation

Please make sure that all components listed below are included in your package.

Qty	Description	Item No.
1	S010 Pressure Transmitter	• S694 1886 / S694 3557 [0 ... 1.6 MPa (g)] • S694 0356 / S694 3558 [0 ... 4.0 MPa (g)] • S694 2564 [0 ... 0.16 MPa (a)]
1	M12 connector	No P/N
1	Instruction manual	No P/N
1	Calibration certificate	No P/N



CAUTION!

Wrong measurement is possible, if the pressure transmitter is not installed correctly.

- The pressure transmitter is for indoor use only! At an outdoor installation, the pressure transmitter must be protected from solar radiation and rain.

5.1 Installation Requirements

To install the pressure transmitter a ball valve or a nozzle is needed.

The inner thread must be G 1/4”.

5.2 Installation and Removal Procedure

Install the transmitter

Screw the pressure transmitter tightly to the nozzle.

Remove the transmitter

To remove the transmitter, unscrew it from the nozzle.

5.3 Electrical connection

The pressure transmitter is supplied with an M12 connector.

Pin	Signal	Assignment
1	V+	24 V DC power supply
2	I+	Positive 4 … 20 mA signal (loop)
3	NC	Not connected
4	NC	Not connected

Optionally a cable with M12 can be ordered separately.

5 m cable: A553 0104

10 m cable: A553 0105

If ordered with the above-mentioned cables, refer to the table below for color coding.

Pin	Signal	Assignment	Color
1	V+	24 V DC power supply	brown
2	I+	Positive 4 … 20 mA signal (loop)	white
3	NC	Not connected	blue
4	NC	Not connected	black
5	NC	Not connected	grey

6 Signal outputs

The transmitter has an analog output with range of 4 ... 20 mA. It is a 2-wire analog output.

7 Calibration

The instrument is calibrated ex works. The exact calibration date is printed on the certificate which is supplied together with the instrument. The accuracy is affected by the on-site conditions. Oil, high humidity or other impurities can affect the calibration and thus accuracy. However, it is recommended to calibrate the instrument at least once per year. The calibration is excluded from the instruments warranty. For this please contact the manufacturer.

8 Maintenance

To clean the instrument and its accessories, use only a moist cloth.



CAUTION!

Do not use isopropyl alcohol to clean the instrument and its accessories!

9 Disposal of waste



Electronic devices are recyclable material and do not belong in household waste.
The instrument, its accessories and packaging must be disposed of in accordance with local statutory requirements. Disposal can also be carried out by the manufacturer; please contact the manufacturer.

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