

MOUNTING AND OPERATING INSTRUCTIONS



EB 6126 EN

Translation of original instructions



System 6000 · Electropneumatic Converters

Type 6126 i/p Converter

Type 6126 u/p Converter

Edition April 2020



Note on these mounting and operating instructions

These mounting and operating instructions assist you in mounting and operating the device safely. The instructions are binding for handling SAMSON devices. The images shown in these instructions are for illustration purposes only. The actual product may vary.

- For the safe and proper use of these instructions, read them carefully and keep them for later reference.
- If you have any questions about these instructions, contact SAMSON's After-sales Service (aftersaleservice@samsongroup.com).



The mounting and operating instructions for the devices are included in the scope of delivery. The latest documentation is available on our website at www.samsongroup.com > **Service & Support** > **Downloads** > **Documentation**.

Definition of signal words

DANGER

Hazardous situations which, if not avoided, will result in death or serious injury

WARNING

Hazardous situations which, if not avoided, could result in death or serious injury

NOTICE

Property damage message or malfunction

Note

Additional information

Tip

Recommended action

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1 Safety instructions and measures

Intended use

The Type 6126 Electropneumatic Converter is used to convert a direct current input signal into a pneumatic output signal for measuring and control tasks. The electropneumatic converter is particularly suitable as an intermediate element between electric measuring devices and pneumatic controllers or between electric control devices and pneumatic control valves.

The input of the electropneumatic converter is a load-dependent direct current from 0 or 4 to 20 mA or a DC voltage signal from 0 or 2 to 10 V with a 24 V DC supply. The output is, for example a pneumatic signal of 0.2 to 1 bar (3 to 15 psi) or 0.4 to 2 bar (6 to 30 psi) or special ranges up to 5 bar (75 psi).

The device is designed to operate under exactly defined conditions (e.g. input signal, pressure). Therefore, operators must ensure that the device is only used in operating conditions that meet the specifications used for sizing the device at the ordering stage. In case operators intend to use the device in other applications or conditions than specified, contact SAMSON.

SAMSON does not assume any liability for damage resulting from the failure to use the device for its intended purpose or for damage caused by external forces or any other external factors.

→ Refer to the technical data and nameplate for limits and fields of application as well as possible uses.

Reasonably foreseeable misuse

The device is not suitable for use outside the limits defined by the technical data. Furthermore, the following activities do not comply with the intended use:

- Use of non-original spare parts
- Performing service and repair work not described in these instructions

Qualifications of operating personnel

The device must be mounted, started up, serviced and repaired by fully trained and qualified personnel only; the accepted industry codes and practices must be observed. According to these mounting and operating instructions, trained personnel refers to individuals who are able to judge the work they are assigned to and recognize possible hazards due to their specialized training, their knowledge and experience as well as their knowledge of the applicable standards.

Safety instructions and measures

Personal protective equipment

We recommend checking the hazards posed by the plant and the process medium being used (e.g. ► GESTIS (CLP) hazardous substances database).

- Provide protective equipment (e.g. safety gloves, eye protection) appropriate for the material safety data sheet.
- Check with the plant operator for details on further protective equipment.

Revisions and other modifications

Revisions, conversions or other modifications of the product are not authorized by SAMSON. They are performed at the user's own risk and may lead to safety hazards, for example. Furthermore, the product may no longer meet the requirements for its intended use.

Warning against residual hazards

To avoid personal injury or property damage, operators and operating personnel must prevent hazards that could be caused in the device by the process medium and operating pressure by taking appropriate precautions. Operators and operating personnel must observe all hazard statements, warning and caution notes in these mounting and operating instructions, especially for installation, start-up and service work.

Responsibilities of the operator

The operator is responsible for proper operation and compliance with the safety regulations. Operators are obliged to provide these mounting and operating instructions as well as the referenced documents to the operating personnel and to instruct them in proper operation. Furthermore, the operator must ensure that operating personnel or third parties are not exposed to any danger.

Responsibilities of operating personnel

Operating personnel must read and understand these mounting and operating instructions as well as the referenced documents and observe the specified hazard statements, warnings and caution notes. Furthermore, the operating personnel must be familiar with the applicable health, safety and accident prevention regulations and comply with them.

Referenced standards and regulations

The electropneumatic converters comply with the requirements of the Directives 2014/30/EU and 2011/65/EU. Converters with a CE marking have a declaration of conformity, which includes information about the applied conformity assessment procedure. This declaration of conformity is included in the 'Certificates' section.

Referenced documentation

The following documents apply in addition to these mounting and operating instructions:

- Mounting and operating instructions of the downstream pneumatic controller
- Mounting and operating instructions of the downstream pneumatic control valve (valve, actuator and valve accessories)
- Mounting and operating instructions of the upstream electric measuring equipment

1.1 Notes on possible personal injury

WARNING

Damage to health relating to the REACH regulation.

If a SAMSON device contains a substance which is listed as being a substance of very high concern on the candidate list of the REACH regulation, this circumstance is indicated on the SAMSON delivery note.

- ➔ Information on safe use of the part affected: go to ► www.samsongroup.com > About SAMSON > Material Compliance > REACH.

Risk of personal injury through incorrect operation, use or installation as a result of information on the device being illegible.

Over time, markings, labels and nameplates on the device may become covered with dirt or become illegible in some other way. As a result, hazards may go unnoticed and the necessary instructions not followed. There is a risk of personal injury.

- ➔ Keep all relevant markings and inscriptions on the device in a constantly legible state.
- ➔ Immediately renew damaged, missing or incorrect nameplates or labels.

1.2 Notes on possible property damage

! NOTICE

Risk of personal injury due to exhaust air being vented.

While in operation, the converter vents exhaust air over the vent plug.

- Locate the vent plug on the opposite side to the work position of operating personnel.

A zero shift, malfunction or device damage may occur due to vibration, shocks or jolting.

Vibration, shocks or jolts can cause a zero shift and impair correct functioning. In extreme cases, they may damage the device.

- Protect the device against external influences (e.g. vibrations, impact, jolts or shocks).

Damage to the converter and downstream devices due to failure to meet air quality requirements.

An insufficient air quality may lead to the output signal not being proportional to the input signal.

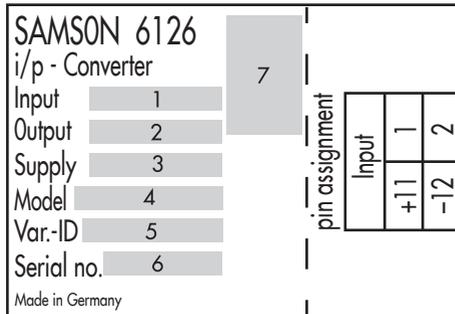
- Only use supply air that is dry and free of oil and dust.
- Comply with air quality requirements for the converter and downstream device (pneumatic controller or pneumatic control valve).
- Blow through all air pipes and hoses thoroughly before connecting them.

2 Marking on the device

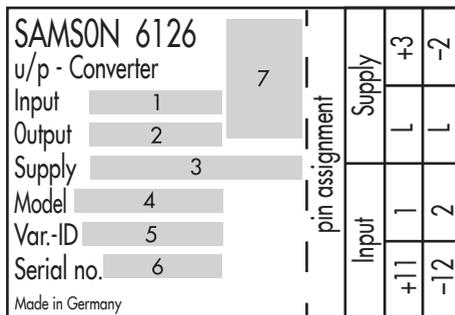
2.1 Nameplate

The nameplate shown was up to date at the time of publication of this document. The nameplate on the device may differ from the one shown.

The nameplate is lasered on the enclosure of the converter.



- 1 Input signal
- 2 Output (pneumatic standardized signal)
- 3 Supply pressure
- 4 Type number
- 5 Configuration ID
- 6 Serial number
- 7 Conformity



2.2 Article code

		Type 6126-	x	x	x	x	x	x	x	x	x	x	x	x	x
Explosion protection	Without	0													
Pneumatic connection	¼ -18 NPT	1													
	ISO-228/1 - G ¼	2													
i/p converter module	Type 6109 ¹⁾	1						0	0						
	Type 6112	2													
Input	4 to 20 mA		1												
	0 to 20 mA, without switch-off electronics ^{2) 5)}		2	2											
	4 to 20 mA, without switch-off electronics ^{2) 5)}			3											
	0 to 10 V, 24 V DC supply			4											
	2 to 10 V, 24 V DC supply			5											
Output	0.2 to 1.0 bar				0	1									
	3 to 15 psi				0	2									
	0.4 to 2.0 bar		2		0	4									
	6 to 30 psi		2		0	5									
	Initial value 0.1 to 0.4 bar; span 0.75 to 1.00 bar		2		1	1									
Special ranges^{3) 4)}	Initial value 0.1 to 0.4 bar; span 1.00 to 1.35 bar		2		1	2									
	Initial value 0.1 to 0.4 bar; span 1.35 to 1.81 bar		2		1	3									
	Initial value 0.1 to 0.8 bar; span 1.81 to 2.44 bar		2		1	4									
	Initial value 0.1 to 0.8 bar; span 2.44 to 3.28 bar		2		1	5									
	Initial value 0.1 to 0.8 bar; span 3.28 to 4.42 bar		2		1	6									
	Initial value 0.1 to 1.2 bar; span 4.42 to 5.94 bar		2		1	7									
	Direction of action	Increasing/increasing							0						
Increasing/decreasing								1							
Degree of protection	IP 54								0						
	IP 65								1						
Output pressure gauge	Without									0					
	With pressure gauge in bar									1					
	With pressure gauge 0 to 0.6 MPa/0 to 6 kg/cm ²									2					
Temperature range	T _{min} ≥ -25 °C											0			

		Type 6126-	x	x	x	x	x	x	x	x	x	x	x	x	x	
Special version	Without													0	0	0
	Type 6109 i/p Module, 4 to 20 mA, without switch-off electronics, 0.2 to 1.0 bar output													0	0	8
	Raised zero (up to max. 1.5 bar)													3	0	0
	Raised zero (up to max. 3.0 bar)													3	0	1

- 1) Only with 0.2 to 1 bar (3 to 15 psi) output
- 2) Without switch-off electronics and without potentiometer for zero point and span correction. Not possible with Type 6109 i/p module, adjusted to 3 to 15 psi
- 3) Raised zero up to 3 bar (45 psi) possible as special version
- 4) Specify setting range, e.g. set to 0.1 to 4 bar; output pressure max. 5 bar, supply air 5.4 bar
- 5) 4 to 20 mA, without switch-off electronics: no longer available since 2020

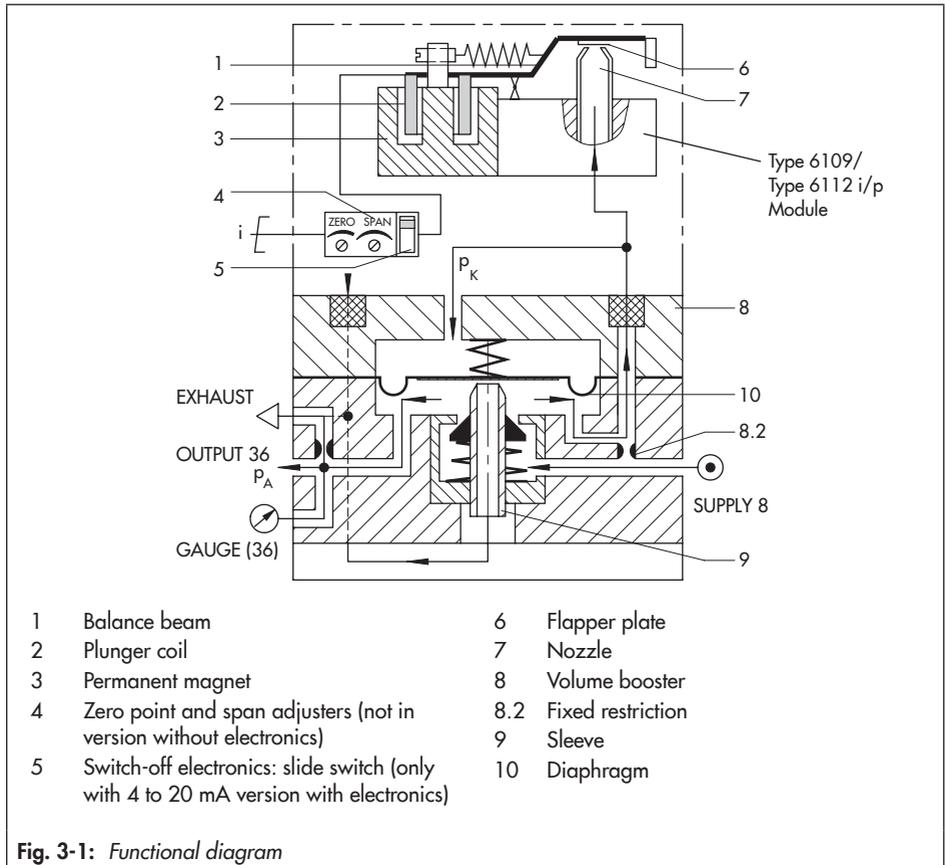
3 Design and principle of operation

The device consists of an i/p converter module and a downstream volume booster.

When operated, the supplied direct current i flows through the plunger coil (2) located in the field of a permanent magnet (3). At the balance beam (1), the force of the plunger coil, which is in proportion to the current, is

balanced against the force of the dynamic backpressure. The backpressure is produced on the flapper plate (6) by the air jet leaving the nozzle (7).

The supply air (SUPPLY 8) flows to the bottom chamber of the volume booster (8). A certain amount of air determined by the diaphragm position flows past the sleeve (9) and leaves through the output (OUTPUT 36).



Design and principle of operation

As the input current and the forces acting on the plunger coil increase, the flapper plate (6) moves closer to the nozzle (7). This causes the backpressure and the cascade pressure p_K upstream of the restriction (8.2) to increase until the cascade pressure corresponds with the input current. The cascade pressure increases until it corresponds with the input current.

The increasing cascade pressure pushes the diaphragm (10) and the plug sleeve (9) downwards. As a result, the supply air causes the output pressure p_A to increase until a new state of equilibrium is reached in the diaphragm chambers.

When the cascade pressure drops, the diaphragm moves upward, releasing the plug sleeve and thus allowing the output pressure p_A to escape through the venting (EXHAUST) until the forces are equal again.

Switch-off electronics (see Fig. 3-2)

Devices with an input range from 4 to 20 mA have a slide switch which activates the switch-off electronics. This function allows the input signal to be set to 0 mA when the signal falls below the switching point of $4.08 \text{ mA} \pm \text{tolerance}$. This causes the pneumatic output to be vented to approximately 100 mbar. This guarantees, for example the tight shut-off function of a valve.

This function requires a characteristic which passes through the zero point, for example for the version with 4 to 20 mA/0.2 to 1 bar.

If the characteristic line does not pass through zero, for example for an allocated

output signal from 0.8 to 2.7 bar, then the pneumatic output is vented to a remaining pressure of approx. 0.3 bar when the switch-off electronics are activated.

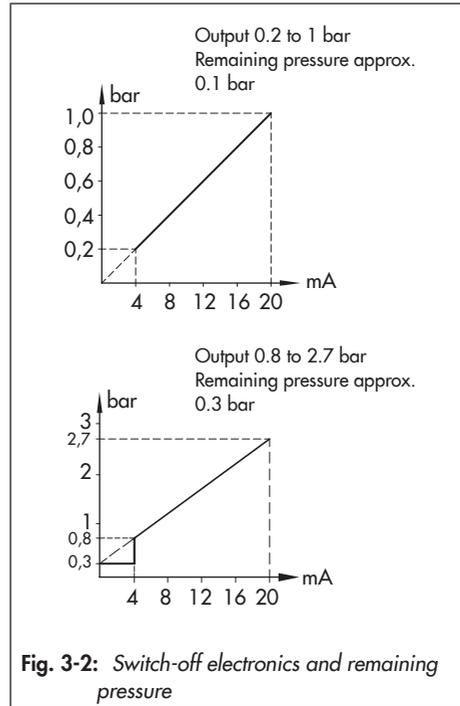


Fig. 3-2: Switch-off electronics and remaining pressure

3.1 Technical data

Type	No explosion protection	Type 6126-0
Input		0/4 to 20 mA or 0/2 to 10 V (30 k Ω input resistance) with 24 V DC power supply; load impedance ≤ 6 V (corresponds to 300 Ω at 20 mA)
Output		0.2 to 1 bar (3 to 15 psi) with Type 6109/6112 i/p Module or 0.4 to 2 bar (6 to 30 psi) with Type 6112 i/p Module Special ranges up to max. 5 bar (75 psi) with Type 6112 i/p Module
	Air output capacity ¹⁾	2.0 m ³ /h at an output of 0.6 bar (0.2 to 1.0 bar) 2.5 m ³ /h at an output of 1.2 bar (0.4 to 2.0 bar)
Supply	Pneumatic	At least 0.4 bar (6 psi) above the upper signal pressure range value, max. 5.4 bar (80 psi) without supply pressure regulator
	Air quality acc. to ISO 8573-1: 2001	Max. particle size and density: Class 4 Oil content: Class 3 Pressure dew point: Class 3 or at least 10 K below the lowest ambient temperature to be expected
	Air consumption ²⁾	0.08 m _n ³ /h at 1.4 bar (20 psi) 0.1 m _n ³ /h at 2.4 bar (35 psi)
	24 V DC (with voltage-to-pressure converter)	10 to 28 V DC 9 to 25 mA (max. 30 mA) for 0/2 to 10 V input
Characteristic		Characteristic: Output linear to input
	Hysteresis	≤ 0.3 % of final value
	Deviation from terminal-based conformity	≤ 1 % of final value
	Effect in % of the upper range value	
		Alternating load, supply air failure, interruption of the input current: <0.3 % Ambient temperature: lower range value <0.03 %/K, measuring span <0.03 %/K
Dynamic response (measured according to IEC 60770-1)		
	Limiting frequency	5.3 Hz
	Phase shift	-130 °
Variable position		Max. 3.5 % depending on how the device is attached: ± 1 % in horizontal position (Type 6109) Max. 1 % depending on how the device is attached: ± 0.3 % in horizontal position (Type 6112)

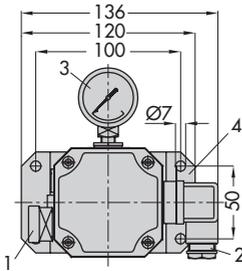
Design and principle of operation

Ambient conditions, degree of protection, compliance and weight	
Ambient temperature	-25 to +70 °C
Degree of protection	IP 54/IP 65
Conformity	CE · ERC
Weight	Approx. 0.6 kg
Materials	
Enclosure	Die-cast aluminum, chromated and plastic coated/glass-fiber-reinforced polyamide
Other parts	Corrosion-resistant material

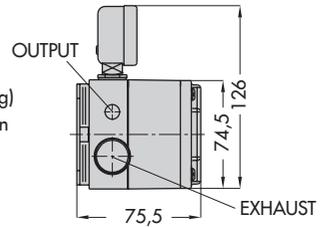
- 1) Measured with 2 m hose with 4 mm inside diameter and 6 mm outside diameter
- 2) Measured with average output pressure

Dimensional drawings

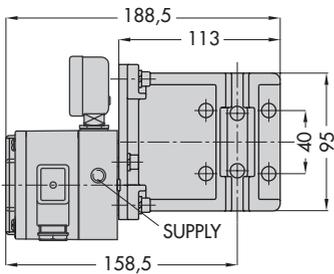
Wall mounting with bracket, order no.: 1 400-7432 (included in scope of delivery)



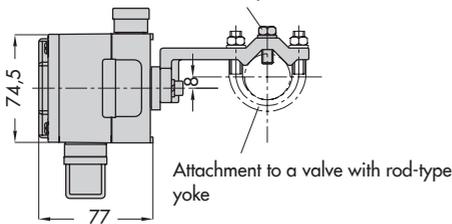
- 1 EXHAUST (vent plug)
- 2 Electrical connection (angle connector)
- 3 Pressure gauge
- 4 Mounting bracket



Mounting on control valves

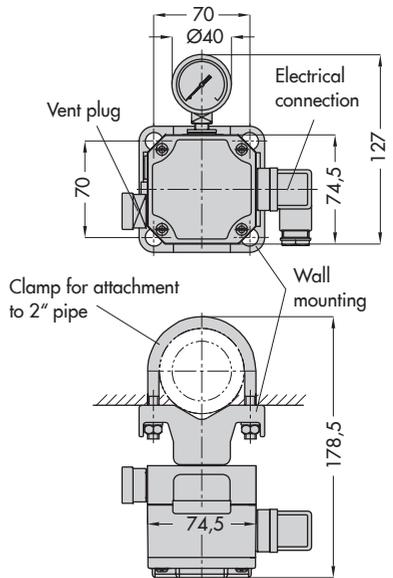


Attachment to a valve with cast yoke



Attachment to a valve with rod-type yoke

Wall and pipe mounting



4 Shipment and on-site transport

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

4.1 Accepting the delivered goods

After receiving the shipment, proceed as follows:

1. Check the scope of delivery. Check that the specifications on the nameplate and on the converter itself match the specifications in the delivery note. See the 'Markings on the device' section for nameplate details.
2. Check the shipment for transportation damage. Report any damage to SAMSON and the forwarding agent (refer to delivery note).

4.2 Remove the packaging from the converter.

Observe the following sequence:

- Do not remove the packaging until immediately before installation.
- Dispose and recycle the packaging in accordance with the local regulations.

4.3 Transporting the converter

Transport instructions

- Protect the converter against external influences (e.g. impact).
- Protect the converter against moisture and dirt.
- Observe transport temperature depending on the permissible ambient temperature (see the 'Design and principle of operation' section).

4.4 Storing the converter

! NOTICE

Risk of device damage due to improper storage.

- *Observe the storage instructions.*
 - *Avoid long storage times.*
 - *Contact SAMSON in case of different storage conditions.*
-

i Note

We recommend regularly checking the converter and the prevailing storage conditions during long storage periods.

Storage instructions

- Protect the converter against external influences (e.g. impact).
- Protect the converter against moisture and dirt. Store it at a relative humidity of less than 75 %. In damp spaces, prevent condensation. If necessary, use a drying agent or heating.

Shipment and on-site transport

- Make sure that the ambient air is free of acids or other corrosive media.
- Observe transport temperature depending on the permissible ambient temperature (see the 'Design and principle of operation' section).
- Do not place any objects on the converter.

5 Installation

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

5.1 Installation conditions

Work position

The work position for the converter is the front view onto the operating controls on the converter seen from the position of operating personnel.

Plant operators must ensure that, after installation of the converter, the operating personnel can perform all necessary work safely and easily access the converter from the work position.

Mounting orientation

- Install the converter horizontally with the pressure gauge (or screw plug) facing upward.

If a different mounting position is used for the 4 to 20 mA version with switch-off electronics, the zero point must be retuned at the ZERO adjuster.

- Install the converter with degree of protection IP 54 in such a way that the connection for the vent plug is always installed facing downward to the floor.

Vent plug

- Locate the vent plug on the opposite side to the work position of operating personnel.

5.2 Preparation for installation

Before installation, make sure the following conditions are met:

- The converter is not damaged.
- The connections of the converter are clean.

Proceed as follows:

- Lay out the necessary material and tools to have them ready during mounting (see section 5.4 for accessories required).
- Check any mounted pressure gauges to make sure they function properly.

5.3 Mounting the converter

The converter can be mounted to a wall, a pipe (\varnothing 2") or directly to a control valve (see Fig. 5-1).

Wall mounting

The converter is delivered with a stainless steel bracket for wall mounting (order no. 1400-7432).

- Fasten the mounting bracket to the back of the converter using two screws.
- Fasten the mounting bracket to the wall using four screws (see Fig. 5-1 for drill pattern).

Pipe mounting (\varnothing 2")

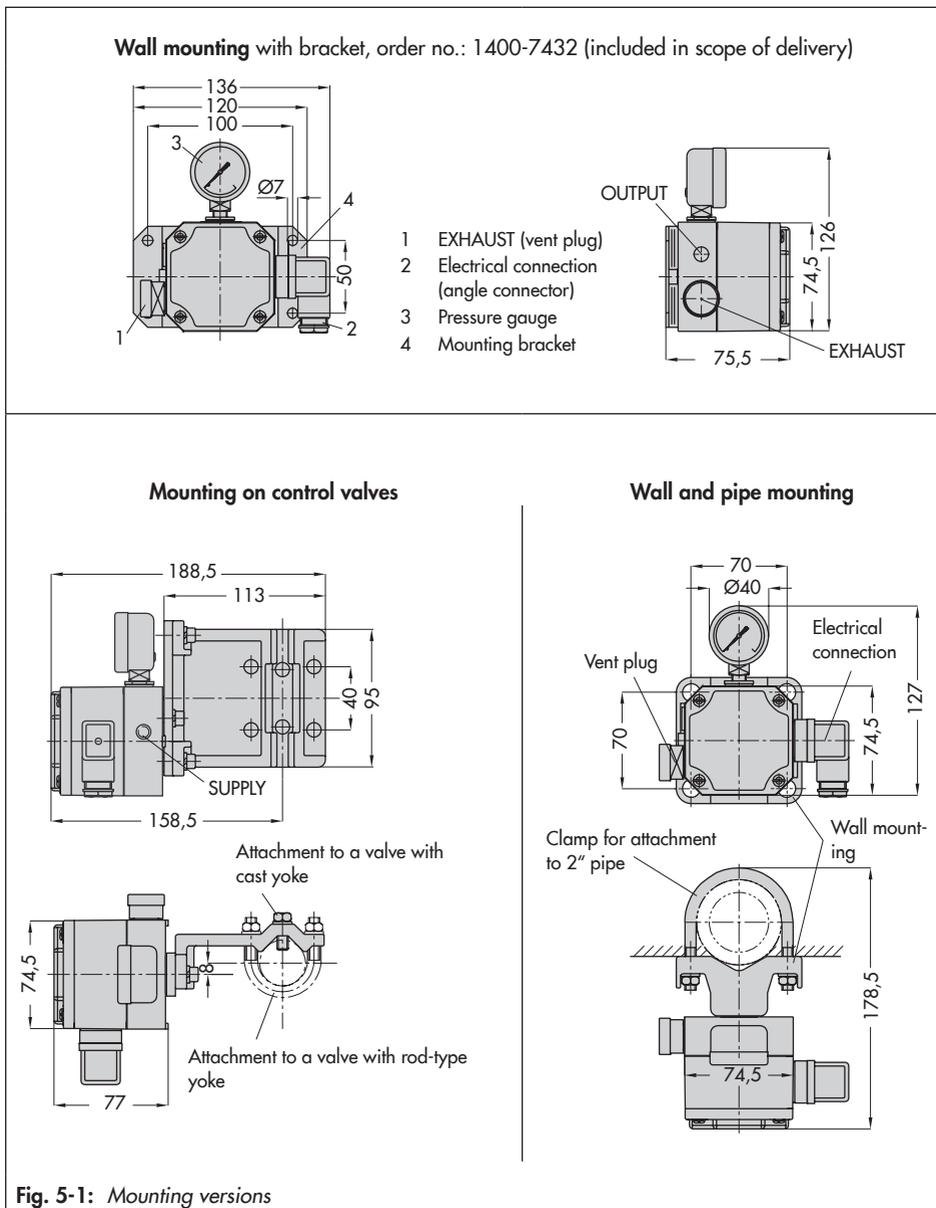
- Required accessories:
Pipe mounting (order no. 1400-6216)
- Unfasten the clamp from the mounting bracket.
- Fasten the mounting bracket to the back of the converter using two screws.
- Place the clamp around the pipe. Hold it in position and fasten it to the mounting bracket.

Mounting on the valve yoke

- Required accessories:
Mounting on cast yoke according to NAMUR (order no. 1400-6217)
- Fasten the adapter block to the back of the converter using two screws.
- Screw the adapter block into yoke boreholes on the valve yoke.

Attachment to valves with rod-type yokes

- Required accessories:
Mounting on rod-type yoke according to NAMUR (order no. 1400-6218)
- Unfasten the clamp from the mounting bracket.
- Fasten the mounting bracket to the back of the converter using two screws.
- Place the clamp around the stem of the control valve. Hold it in position and fasten it to the mounting bracket.



5.4 Mounting accessories

Mounting material for	Order no.
– Bracket for wall mounting, stainless steel (1.4301)	1400-7432 (included in scope of delivery)
– Wall and pipe mounting (2" pipes)	1400-6216
– Mounting on cast yoke according to NAMUR ¹⁾	1400-6217
– Mounting on rod-type yoke according to NAMUR ¹⁾	1400-6218

¹⁾ Only mounting part without assembly and without any possibly required screw fitting. Order together with mounting unit (M6116).

Pressure gauge retrofit

– Pressure gauge: 0 to 1.2 bar pressure range	0080-0185
– Pressure gauge: 0 to 6 bar pressure range	0080-0186
– Pressure gauge: 0 to 10 bar pressure range	8520-0032
– Pressure gauge: pressure range 0 to 0.6 MPa/0 to 6 kg/cm ²	0800-0204
– For each pressure gauge: lock nut G 1/8	0250-1090
– Male screw fitting G 1/4 on hose, 4 mm inside diameter and 6 mm outside diameter, brass	8582-1452
– Male screw fitting 1/4 NPT on hose, 4 mm inside diameter and 6 mm outside diameter, brass	8582-1523
– T-union for hose, 4 mm inside diameter and 6 mm outside diameter, brass	8582-1480

6 Connections

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

6.1 Establishing pneumatic connections

ⓘ NOTICE

Risk of converter damage due to the maximum supply pressure being exceeded.

- Observe the maximum supply pressure (see the 'Design and principle of operation' section).
- Restrict the supply pressure by using a suitable supply pressure reducing station.

ⓘ NOTICE

Risk of damage to the converter and downstream devices due to failure to meet air quality requirements.

- Only use supply air that is dry and free of oil and dust.
- Comply with air quality requirements for the converter and downstream device (pneumatic controller or pneumatic control valve).
- Blow through all air pipes and hoses thoroughly before connecting them.

The pneumatic connections for supply air (SUPPLY 8) and output (OUTPUT 36) are designed as threaded ports with either a G 1/4 or 1/4-18 NPT thread. The customary fittings for metal pipes or plastic hoses can be used.

- Check the supply air quality.
 - Converter: air quality according to ISO 8573-1: 2001 (see the 'Design and principle of operation' section).
 - Downstream device (pneumatic controller or pneumatic control valve): see specifications provided by the device manufacturer
- Connect the supply air line to the SUPPLY connection (8).
- Connect the air line to the downstream device to the OUTPUT (36) connection.

Extension of the venting pipe

The venting pipe can be extended by using a pipe (minimum cross-section 28 mm² = 6 mm inside Ø) connected to the vent elbow connector or connected directly to the G or NPT connection.

- Attach the extension pipe in such a way that no water can enter the end of the extension pipe.

6.2 Establishing electrical connections

For electrical installation, observe the relevant electrotechnical regulations and the accident prevention regulations that apply in the country of use. In Germany, these are the VDE regulations and the accident prevention regulations of the employers' liability insurance.

A male angle connector conforming to DIN EN 175301-803 A is used for electrical connection.

7 Start-up

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

Before start-up or putting the device back into service, make sure the following conditions are met:

- The converter is properly mounted according to the instructions.
- The pneumatic and electrical connections have been properly performed according to the instructions.
- The prevailing conditions in the converter's environment meet the converter's technical specifications. See specifications on the nameplate ('Markings on the device' section) and in the technical data ('Design and principle of operation' section).

Supply air

- Open the supply air line:
 - At least 0.4 bar (6 psi) above the upper signal pressure range value
 - Max. 5.4 bar (80 psi) without supply pressure regulator

7.1 Tuning zero and span

The device converts the input signal proportionally into the output signal. The signal ranges are specified on the nameplate (see the 'Markings on the device' section).

It may be necessary to correct zero and possibly span after vibration, shocks or jolts during transport have occurred, when the

mounting position is not horizontal or when the screw plug does not face upwards. Zero and span can be corrected by approx. 10 % using the electronics. To do this, proceed as follows:

Example

The output signal 0.2 to 1 bar is to be assigned to an input signal of 4 to 20 mA.

1. Unscrew the enclosure cover to access the ZERO and SPAN adjusters on the circuit board (see Fig. 7-1).

Zero:

2. Connect a pressure gauge (minimum accuracy class 1) to the converter output.
3. Set the supply air to at least 0.4 bar above the upper output signal range value and apply it to the device.
4. Deactivate the switch-off electronics in the 4 to 20 mA version at the switch (5).
5. Set the input signal to the lower range value (4 mA) using a suitable ammeter. The output signal at the test pressure gauge should indicate a lower range value of 0.2 bar.

If this is not the case, readjust the zero point accordingly with the ZERO adjuster.

Span:

6. Set the input signal to 20 mA using a suitable ammeter. The output signal at the test pressure gauge should indicate the upper range value of 1.0 bar. If another value is indicated, readjust the span accordingly with the SPAN adjuster.

Start-up

- As the adjustment of zero and span influence each other, recheck both values and correct them, if necessary.
- Reactivate the switch-off electronics in the 4 to 20 mA version at the switch (5), if required.

Voltage signal as input:

For u/p converters (devices with [V] input) proceed in the same way as already described.

The pneumatic output signal, e.g. 0.2 to 1 bar is assigned to the signal range 0 or 2 to 10 V with the ZERO and SPAN adjusters (see nameplate).

i Note

Converters with voltage signal input do not have the switch-off electronic function.

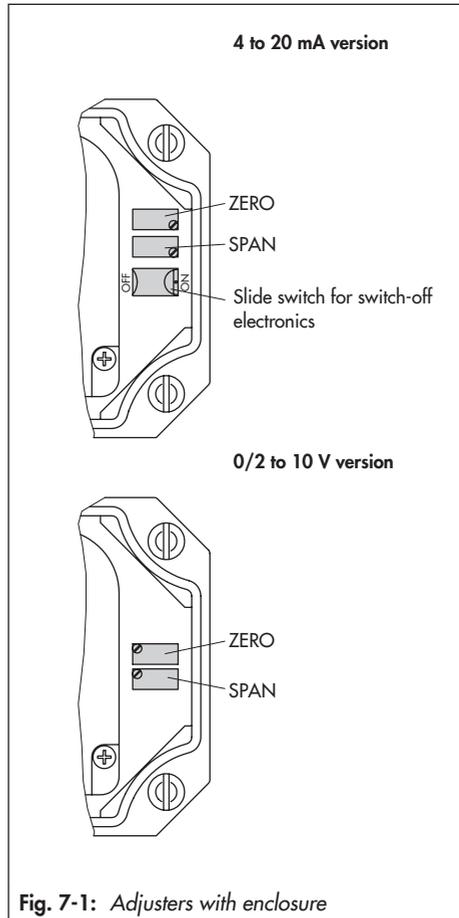


Fig. 7-1: Adjusters with enclosure

8 Operation

The electropneumatic converter starts to operate once start-up is completed.

No further action is necessary if the input signal is converted into the output signal according to specification. If this is not the case, the quality of the output signal can be improved by retuning zero and span (see the 'Start-up' section).

9 Malfunctions

9.1 Troubleshooting

Problem	Possible reasons	Corrective action to be taken
No output signal despite changing the input signal	Supply air not connected	Check the supply air connection (see the 'Connections' section).
	Incorrect terminal assignment	Connect + and – terminals correctly (see the 'Connections' section). NOTICE i/p converters do not need any extra voltage. Do not connect a 24 V supply. The u/p converter (device with [V] input) requires a 24 V DC voltage supply (see the 'Connections' section).
	Incorrect input signal	Connect correct signal (see nameplate): 0 to 20 mA or 4 to 20 mA, 0 to 10 V or 2 to 10 V.
Electropneumatic converter constantly vents off air loudly	Connections for supply and output at the electropneumatic converter inadvertently reversed	Check pneumatic connections (see the 'Connections' section).
Electropneumatic converter does not reach 100 % output Example 20 mA input: output only 70 % instead of 100 %	Supply pressure too low	Set the supply air in such a way that it is 0.4 bar greater than the max. output signal (supply 0.4 bar). See nameplate: Output 0.2 to 1 bar Supply air min. 1.4 bar; max. 6 bar.
	Input signal faulty	Check whether the input signal at the terminals reaches 100 % (100 % is e.g. 20 mA in the standard version).

i Note

Contact SAMSON's After-sales Service for malfunctions not listed in the table.

9.2 Emergency action

The plant operator is responsible for emergency action to be taken in the plant.

In the event of a converter malfunction:

1. Perform troubleshooting.
2. Rectify those malfunctions that can be remedied based on the instructions provided here. Contact our after-sales service in all other cases.

Putting the device back into operation after a malfunction

See the 'Start-up' section.

10 Servicing

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

We recommend inspection and testing according to Table 10-1 which can be performed while the process is running:

The pneumatic connections have filters with plastic rims (order no. 0550-0213) which can be removed for cleaning or replacement.

10.1 Periodic testing

Periodic testing can help prevent possible malfunctions before they occur. Operators are responsible for drawing up an inspection and test plan.

Table 10-1: *Recommended inspection and testing*

Inspection and testing	Action to be taken in the event of a negative result
Check the markings, labels and nameplates on the converter for their readability and completeness.	Immediately renew damaged, missing or incorrect nameplates or labels. Clean any inscriptions that are covered with dirt and are illegible.
Check air connections for leakage.	Tighten air connections. Renew them if need be.
Check air lines for leakage.	Renew air lines.
Check the current or voltage line.	If lines are loose, open the plug connector case and tighten the screws at the terminal (see the 'Connections' section). Renew damaged lines.
Check the quality of the conversion from the input to output.	Tune zero and span (see the 'Start-up' section).
Check the air filter and trap installed in the upstream air reducing station.	Clean the air filter and trap according to the instructions given by the manufacturer of the air reducing station. Renew them if need be.

11 Decommissioning

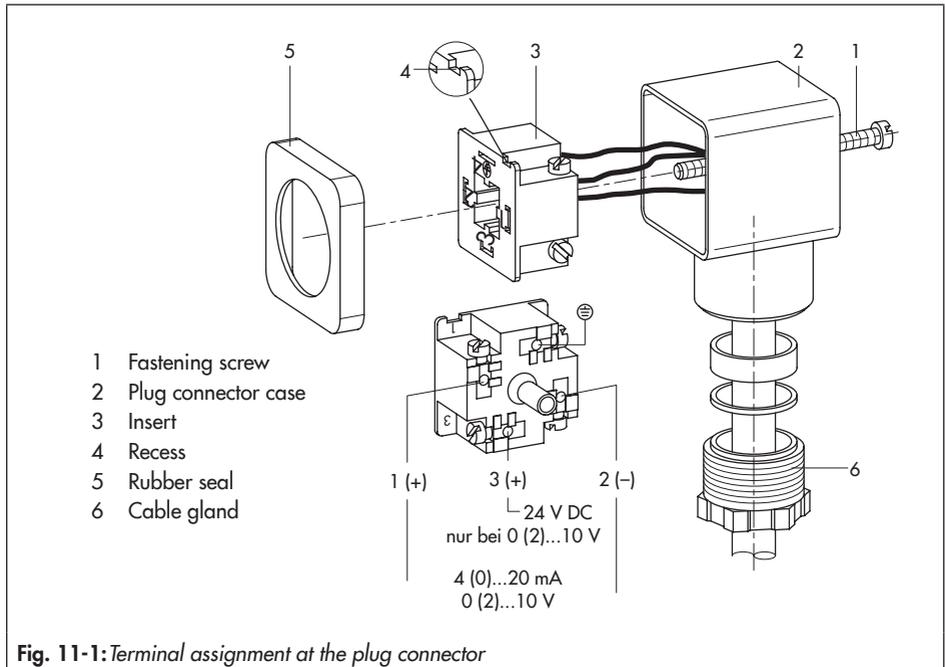
The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

Supply air

- Close and lock the supply air line.

Electrical connections

- Disconnect the electrical supply and protect it against unintentional reconnection.
- Unscrew the fastening screw (1) of the plug connector and pull the plug insert (3) out of the plug base at the housing.
 - Pull the fastening screw out of the plug connector and remove the rubber seal (5).
 - Place a screwdriver at the recess (4) and lever the plug insert (3) out of the plug connector case.
 - Disconnect lines for the input signal from the terminals 1(+) and 2(-).
 - Additionally, disconnect the voltage supply at terminal 3 in u/p converters.
 - Push the insert into the connector housing (2) and push on the rubber seal (5).



Decommissioning

- Plug the plug connector onto the device and tighten the fastening screw (1).

Pneumatic connections

- Disconnect the air lines from the SUPPLY (8) and OUTPUT (36) connections.

12 Removal

The work described in this section is only to be performed by personnel qualified for the assignment accordingly.

Wall mounting

The converter is delivered with a stainless steel bracket for wall mounting (order no. 1400-7432).

- Unscrew the four screws for wall mounting on the bracket.

Pipe mounting

- Unfasten the clamp from the mounting bracket.
- Fasten the clamp onto the mounting bracket of the removed converter to prevent it from being lost.

Mounting on the valve yoke

- Unscrew the yoke fittings on the adapter block and remove the converter.

Attachment to valves with rod-type yokes

- Unfasten the clamp from the mounting bracket.
- Fasten the clamp onto the mounting bracket of the removed converter to prevent it from being lost.

13 Repairs

A defective electropneumatic converter must be repaired or replaced.

NOTICE

Risk of converter damage due to incorrect repair work.

- *Do not perform any repair work on your own.*
 - *Contact SAMSON's After-sales Service for repair work.*
-

13.1 Returning devices to SAMSON

Defective converters can be returned to SAMSON for repair.

Proceed as follows to return devices to SAMSON:

1. Put the converter out of operation (see the 'Decommissioning' section).
2. Remove the converter (see the 'Removal' section).
3. Proceed as described on the Returning goods page of our website
 - ▶ www.samsongroup.com > Service & Support > After-sales Service > Returning goods

14 Disposal



SAMSON is a producer registered at the following European institution
▶ <https://www.ewrn.org/national-registers/national-registers>.
WEEE reg. no.: DE 621 94439/
FR 02566

- Observe local, national and international refuse regulations.
- Do not dispose of components, lubricants and hazardous substances together with your household waste.

i Note

We can provide you with a recycling passport according to PAS 1049 on request. Simply e-mail us at offersaleservice@samsongroup.com giving details of your company address.

💡 Tip

On request, we can appoint a service provider to dismantle and recycle the product as part of a distributor take-back scheme.

15 Certificates

The following certificate is shown on the next page:

- EU declaration of conformity

The certificate shown was up to date at the time of publishing. The latest certificates can be found on our website:

▶ www.samsongroup.com > Products & Applications > Product selector > Signal converters > 6126



EU Konformitätserklärung / EU Declaration of Conformity / Déclaration UE de conformité

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller/
This declaration of conformity is issued under the sole responsibility of the manufacturer/
La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.
Für das folgende Produkt / For the following product / Nous certifions que le produit

i/p-Umformer / i/p-Converter / Convertisseur i/p Typ/Type/Type 6126

wird die Konformität mit den einschlägigen Harmonisierungsrechtsvorschriften der Union bestätigt/
the conformity with the relevant Union harmonisation legislation is declared with/
est conforme à la législation d'harmonisation de l'Union applicable selon les normes:

EMC 2014/30/EU	EN 61000-6-2:2005, EN 61000-6-3:2007 +A1:2011, EN 61326-1:2013
RoHS 2011/65/EU	EN 50581:2012

Hersteller / Manufacturer / Fabricant:

SAMSON AKTIENGESELLSCHAFT
Weismüllerstraße 3
D-60314 Frankfurt am Main
Deutschland/Germany/Allemagne

Frankfurt / Francfort, 2017-07-29

Im Namen des Herstellers/ On behalf of the Manufacturer/ Au nom du fabricant.

Hanno Zager
Leiter Qualitätssicherung/Head of Quality Management/
Responsable de l'assurance de la qualité

Dirk Hoffmann
Zentralabteilungsleiter/Head of Department/Chef de département
Entwicklungsorganisation/Development Organization

16 Annex

16.1 After-sales service

Contact our after-sales service for support concerning service or repair work or when malfunctions or defects arise.

E-mail contact

You can reach our after-sales service at aftersalesservice@samsongroup.com.

Addresses of SAMSON AG and its subsidiaries

The addresses of SAMSON AG, its subsidiaries, representatives and service facilities worldwide can be found on our website (www.samsongroup.com) or in all SAMSON product catalogs.

Required specifications

Please submit the following details:

- Order number and position number in the order
- Specifications on the nameplate:
 - Input signal
 - Output
 - Supply pressure
 - Type number
 - Configuration ID
 - Serial number

EB 6126 EN



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