

System 6000

Electropneumatic Converter for pneumatic signals

Type 6132 p/i Converter

For four-wire connection



Application

Used to convert a pneumatic signal into a standardized electric signal · Particularly suitable as intermediate element between pneumatic and electric measuring and control devices



p/i converters serve as interface between pneumatic and electric measuring and control units, being used for example to connect pneumatic transmitters to electric controllers, computers or process control systems.

The input variable is a pneumatic signal and the output variable an electric DC current signal or DC voltage signal.

The Type 6132 p/i Converters are designed for four-wire connection and are available as rail-mounting units for top hat rails.

Special features

- Low hysteresis
- Good dynamic response due to capacitive pressure transducer in the input



Fig. 1: Type 6132-04 p/i Converter, rail-mounting unit

Principle of operation (see Fig. 1 and Fig. 2)

A capacitive ceramic pressure sensor (1) is used to convert the pressure p of the pneumatic input signal into an electric DC voltage signal.

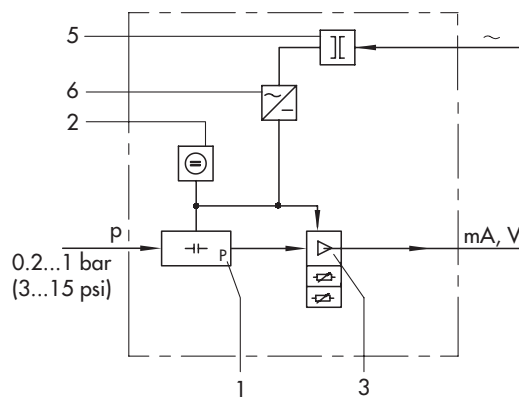
The DC voltage signal which is proportional to the pressure is amplified to a defined level in the measuring amplifier (3). Lower range value and span can be adjusted at the potentiometers located on the front panel (approx. $\pm 10\%$).

The output stage (4) issues a load-independent DC current signal or a DC voltage signal. The type of output signal (mA or V) and the range can be set at the switches.

The power transformer (5) and rectifier (6) provide the converter with energy and isolate it from the power supply network. Converters with 24-V supply are isolated by a DC transducer. It is used instead of the rectifier (6) and the power transformer (5).

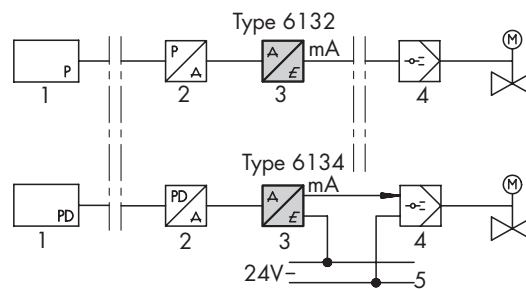
Installation

The valve can be mounted in any desired position.



- p Pneumatic input signal
- 1 Capacitive pressure sensor
- 2 Constant voltage source
- 3 Measuring amplifier and potentiometers for adjusting the measuring span (SPAN) and zero
- 5 Power transformer
- 6 Rectifier

Fig. 2: Schematic diagram of the Type 6132 p/i Converter for four-wire connection



- 1 Sensor
- 2 Pneumatic transmitter
- 3 p/i converter
- 4 Controller
- 5 Two-wire network

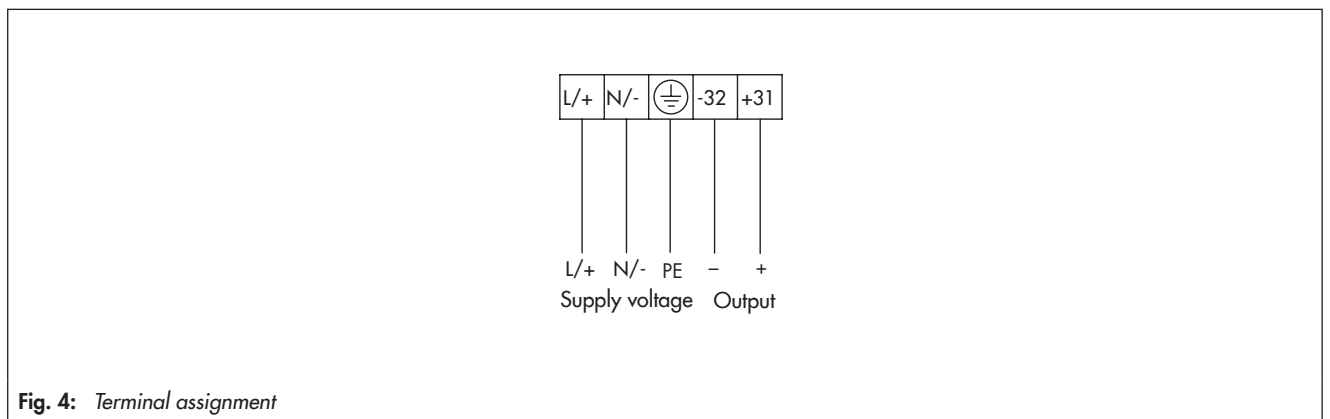
Fig. 3: Sample application for four-wire and two-wire connection

Table 1: Technical data

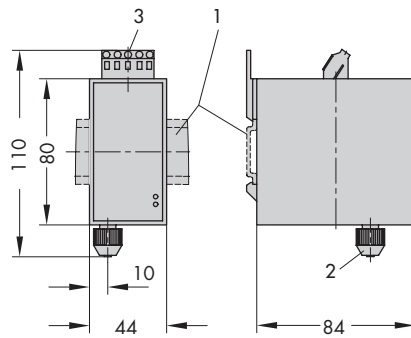
Type	Type 6132-04
Version	Rail-mounting unit
Input	0.2 to 1 bar (3 to 15 psi), overloadable up to 5 bar
Selected using switches inside the device	0 to 20 mA · 4 to 20 mA 0 to 10 V · 2 to 10 V · 0 to 5 V · 1 to 5 V
Permissible load	≤750 Ω at 20 mA
	≥2 kΩ
Voltage supply	24 V DC (18 to 36 V) 1.5 W 230 V AC, 115 V AC 24 V AC (+10/-15 %), 50/60 Hz, 3 VA
Characteristic ¹⁾	Characteristic: Output linear to input
Hysteresis	≤0.05 %
Deviation from terminal-based linearity	≤0.02 %
Dead band	≤0.03 %
Ripple of output signal	≤0.05 %
Temperature influence	≤0.15 %/10 K for zero and span
EMC noise emission	EN 61000-6-3, EN 61326
EMC noise immunity	EN 61000-6-2, EN 61326
Device safety	EN 61010
Class of protection	I
Overvoltage category	II
Degree of contamination	2
Ambient conditions, degree of protection, weight	
Permissible ambient temperature range	-20 to +70 °C
Perm. storage temperature range	-40 to +85 °C
Degree of protection acc. to EN 60529	IP 20
Compliance	CE · EMC
Weights	
AC supply voltage	Approx. 0.32 kg
DC supply voltage	Approx. 0.25 kg
Installation and connections	
Air connection	Connection for hose with 4 mm inside diameter and 6 mm outside diameter
Electrical connection	Terminals for 0.5 to 2.5 mm ² wires Fixed wires 0.2 to 4 mm ² Flexible wires 0.2 to 2.5 mm ²
Installation	35 mm top-hat rail, DIN EN 60715

¹⁾ All errors specified based on output span

Electrical connection



Dimensions in mm



Type 6132-04

- 1 Top-hat rail
- 2 Air connection
- 3 Electrical connection

Fig. 5: Dimensions

Ordering data

Article code		Type 6132-
Explosion protection	Without	0						
Rail-mounting unit		4	0					
Supply voltage	24 V DC						1	
	230 V AC						2	
	115 V AC						3	
	24 V AC						4	
Input	0.2 to 1 bar						1	
	3 to 15 psi						2	
Output ¹⁾	0 to 20 mA							0
	4 to 20 mA							1
	0 to 10 V							2
	2 to 10 V							3

¹⁾ mA or V and ranges can be selected using switches inside the device

Ordering text

Type 6132-040... p/i Converter

Input: ... bar/... psi

Output: ... mA/... V

Supply voltage: 230 V AC, 115 V AC, 24 V AC, 24 V DC

Specifications subject to change without notice



SAMSON AG · MESS- UND REGELTECHNIK
 Weismüllerstraße 3 · 60314 Frankfurt am Main, Germany
 Phone: +49 69 4009-0 · Fax: +49 69 4009-1507
 samson@samson.de · www.samson.de

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