

# DATA SHEET



## T 7045 EN

### Type 6112 i/p Converter Module

Series 430



#### Application

Electropneumatic converter module for installation in Type 3430 Pneumatic Indicating Controllers

The electropneumatic converter modules convert electric input signals into a pneumatic signal (0.2 to 1.0 bar or 3 to 15 psi). They are designed for a supply pressure of 1.4 bar or 20 psi.

#### Versions

**Type 6112-02** (Fig. 1) · Electropneumatic converter module for installation in Type 3430 Pneumatic Indicating Controllers

#### Input:

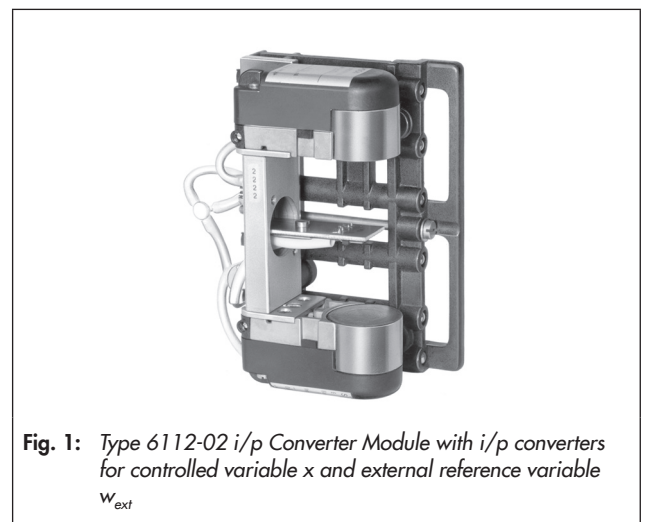
Load-independent direct current signal 4 to 20 mA or 0 to 20 mA

#### Output:

Pneumatic standardized signal 0.2 to 1 bar/3 to 15 psi

The electropneumatic module is available either with an i/p converter for controlled variable  $x$  and/or an i/p converter for external reference variable  $w_{ext}$ . It can only be used in combination with Type 3433 Controller Module.

**Type 6112-22** · Electropneumatic converter module same as Type 6112-02, but with explosion protection certificate Ex II 2G Ex ia IIC T6 according to ATEX.



**Fig. 1:** Type 6112-02 i/p Converter Module with i/p converters for controlled variable  $x$  and external reference variable  $w_{ext}$

#### Ordering text

#### Type 6112-02/6112-22 i/p Converter Module

For controlled variable  $x$  and/or  $w_{ext}$

Input: 4 to 20 mA, 0 to 20 mA

Output: 0.2 bar to 1 bar/3 to 15 psi

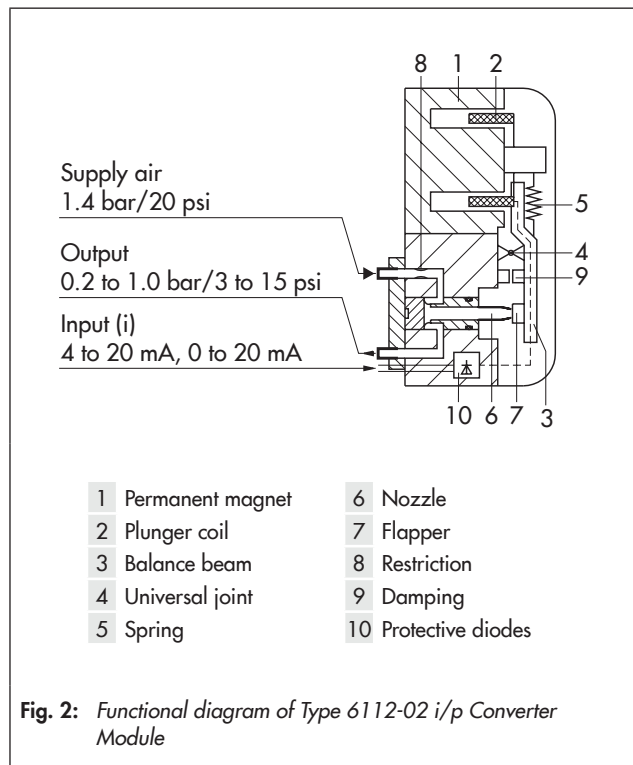
Supply pressure: 1.4 bar/20 psi

## Principle of operation

### Type 6112-02 i/p Converter Module (Fig. 2)

The input direct current  $i$  supplied over the male connector flows through a plunger coil (2) located in the field of a permanent magnet (1). At the balance beam (3), 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 (7) by the air jet leaving the nozzle (6). The supply air flows through the restriction (8) and nozzle (6) onto the flapper (7).

As the input current and the forces acting on the plunger coil increase, the flapper (7) moves closer to the nozzle (6). As a result, the back pressure and output pressure increase as well. The back pressure continues to rise until a new equilibrium is achieved and the output pressure corresponds to the input current.



**Table 1:** Technical data

i/p converter module		
Type 6112-02	No explosion protection	Input impedance 200 $\Omega$ and $\sim$ 5.9 mH
Type 6112-22	With explosion protection	Intrinsically safe input current circuit <sup>1)</sup> · Input impedance 200 $\Omega$ and $\sim$ 0 mH <sup>1)</sup>
Explosion protection		II 2 G Ex ia IIC T6 Gb (ATEX)
Input		4 to 20 mA or 0 to 20 mA
Output		0.2 to 1 bar (max. 0.02 to 1.35 bar) or 3 to 15 psi (max. 0.3 to 18 psi)
Supply air		1.4 $\pm$ 0.1 bar/20 $\pm$ 1.5 psi · Air consumption <0.1 m <sub>n</sub> <sup>3</sup> /h
Characteristic Effects		Characteristic: Output linear to input Hysteresis $\leq$ 0.3 % · Deviation from terminal-based conformity $\leq$ 0.1 %
	Supply air	0.1 %/0.1 bar
	Ambient temperature	<0.03 %/°C
Permissible ambient temperature range		-20 to +60 °C <sup>1)</sup>

<sup>1)</sup> For details (e.g. on permissible temperatures, effective internal capacitance and inductance) refer to EC type examination