

Electropneumatic units

as I/P converters and positioners



- I/P converter TEIP 11, millionfold approved
- Analogue positioner TZIM, robust and low-cost concept
- Intelligent positioner
 - TZID for top level demands
 - TZID-C for compact and powerful applications
 - TZID-F for fieldbus communications

Field^{IT}

Analyze^{IT} Control^{IT} Engineer^{IT} Field^{IT} Inform^{IT} Operate^{IT} Power^{IT} **Industrial^{IT}**

ABB

Electropneumatic Units

Electropneumatic units serve as a link between control rooms and pneumatic actuators (positioners). At its core is the signal conversion principle with Sensycon's I/P converter, a module which has been in production for the past 16 years, and which has cornered an important market share with over 1.000.000 units installed worldwide.

Signal conversion takes place in analog fashion with a patented force balance system. The main characteristics of the system are its small dimensions and the unbeaten immunity to shocks and vibrations with an effect $< 1\%$ for loads up to 10 g and 10 ... 80 Hz. This performance guarantee highest system reliability.



0/4...20 mA

0,2...1 bar/3...15 psi



0/4...20 mA



Sensycon Positioners TZID + TZID-F + TZID Exd + TZID-C + TZIM

Positioners are auxiliary units for final control elements, used for bringing the present output signal into the precise control position. The devices presented here are of electropneumatic nature, which means that they require final control elements equipped with pneumatic actuators.

The devices can be attached to linear drives according to DIN/IEC 534, and to rotary actuators according to VDI/VDE 3845. Special attachment-kits for valve-specific drives can also be supplied.



TZID
TZID-F for fieldbus
TZID with stainless steel housing
TZID Exd
TZID-C, compact and powerful



Positioners of the new generation of microprocessor-controlled instruments

- Various types of housings, rate of protection IP 65
 - aluminium coated
 - stainless steel
 - explosionproof for Exd operation
- Communication capability based on the HART-protocol
- Input signal
 - analog 4...20 mA in two-wire technique
 - or for PROFIBUS-PA (Foundation Fieldbus in preparation)
- Optimum self adaption to operating conditions thanks to infinitely variable electronic setting of parameters
- Auto-tune function for automatic parameter setting during commissioning
- Built-in operator panel for activating of parameters for commissioning
- Remote setting of parameters with the software IBIS or SMART VISION
- Various characteristics available:
 - linear
 - equal-percentage
 - freely definable with 20 reference points
- Robust in design and in function due to
 - metal housing with rate of protection IP 65
 - contactless position sensing concept (for TZID-C: with potentiometer of advanced technology)
- Stable control loop due to
 - continuous self adaption
 - constant modulation of control output (no switching valves)
- Low operating costs, air consumption amounts to 0.03 kg/h only



- **Precise control position modulation**
Continuous pressure control in the actuator
- **High shock and vibration immunity**
Effect < 1% for load up to 10 g and 10...80 Hz
- **Reliable unit**
Manufactured in accordance with
DIN EN ISO 9001 quality standard

- **European guidelines are met**
EMC guideline 89/336/EEG of May 1989
EU guideline for CE conformity marking
- **Various ex-protections available**
For intrinsic or explosion-proof operation,
with international approval certifications
- **Wide temperature range**
-40 to +85 °C



TZIM

The positioner which concentrates on the essentials

- Simple design
- Easy to understand
- User-friendly operation
- Low-cost concept
- Reliable and proven concept
- TEIP 11 conversion-principle used in more than 1.000.000 installations
- Input signal 0...20 or 4...20 mA, 4...20 mA or splitrange operation, input resistance 260 Ohms
- Suitable for field installation, IP 65 rate of protection for housing, base plate made of aluminium with plastic cover
- Mechanical position indicator
- Stable control loop due to constant modulation of the pressure in the actuator
- Adaption to actuators of various sizes and varying supply pressures



I/P Converter Sensycon TEIP 11

- **Small dimensions, variable mounting orientation**

Patented force balance system

- **High immunity to shocks and vibrations**

Effect < 1% for load up to 10 g and 10 ... 80 Hz

- **European guidelines are met**

EMC guideline 89/336/EEG of May 1989,

EC guideline for CE conformity marking

- **Various ex-protections available**

For intrinsic or explosion-proof operation, with international approval certifications

- **Wide temperature range**

-40 (optionally -55) to +85 °C

- **Different signal ranges**

Input 0 ... 20 mA, 4 ... 20 mA or split-range

Output 0,2 ... 1 bar or 3 ... 15 psi (others on request)



For control room installation

TEIP 11 with control room housing

- Aluminium housing, plastic cap
- IP 20 type of protection
- For rail mounting installation (top-hat or G-rail)
- Screw terminals for electrical connection, tapped hole 1/8 NPT for air connection
- Suitable for block-mounting installation

TEIP 11 as 19" slide-in module

- Slide-in module with 3 HU and DU
- IP 20 type of protection (front), IP 00 (rear)
- With one or two I/P converters
- Separate connection plate with screw terminal for electrical connection, tapped hole 1/8 NPT for air connection



For field mounting

TEIP 11 with metal housing

- Aluminium or stainless steel housing, with screw-on cover
- IP 65 type of protection
- For wall- or 2"-pipe mounting
- Internal screw terminal for electrical connection, external tapped hole 1/4 NPT for air connection

TEIP 11 with plastic housing

- Polyester housing, with removable screw-on cover
- IP 54 type of protection
- For wall- or 2"-pipe mounting
- Internal screw terminal for electrical connection, external tapped hole 1/8 NPT for air connection
- Suitable for operation with natural gas



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