Data Sheet
10/18-0.24 EN

Field^{IT}

TZIDC-120 Electro-Pneumatic Positioner

for FOUNDATION Fieldbus^{TM}

Industrial^{IT} enabled

- **Compact and efficient**
  - through well-proven technology and intelligence
- **Communication based on FOUNDATION Fieldbus™**
  - fieldbus connection to IEC 61158-2
  - current consumption 11.5 mA, 9...32 V DC
- **Simple commissioning procedure, user-friendly**
  - fully automatic *Autoadjust* function
  - adjustment via the built-in operator panel or remotely
  - mechanical position indicator
- **Complies with the EC directives for EMC and CE**
- **Explosion protection certificates, intrinsically safe**
- **Robust and environmentally ruggedized**
  - influence of shock and vibration < 1%
  - aluminum case, IP 65 (NEMA 4X)
- **Wide operating temperature range**
  - - 40 °C to + 85 °C (- 40 to + 185 °F)
- **Attachment to linear or rotary actuators**
- **Optional pressure gauge block and filter regulator**
- **Low operating cost**
  - air consumption of less than 0.03 kg/h

FOUNDATION

Smart
Compact and efficient

ABB

Concept

The TZIDC-120 positioner is an intelligent and electronically configurable instrument with communication capabilities, mounting to pneumatic actuators. The TZIDC-120 stands out for a small and compact design, a modular construction, and an excellent cost-performance ratio.

The functional heart of the TZIDC-120 positioner is its microprocessor-controlled CPU where the operating system is running. The position feedback signal is polled with a sampling rate of 20 ms and an A/D resolution of 16,000 steps. This ensures a rapid and high-precision signal processing for the input and the position feedback. The power for the CPU is derived from the bus.

The operating program includes functions for fully automatic adjustment in the commissioning phase. These functions provide for optimal control of the position to minimize control deviation.

The pneumatic actuator is driven by an I/P module with subsequent 3/3-way valve. The electrical positioning signal from the CPU is proportionally converted into a pneumatic signal which, in turn, adjusts the 3/3-way valve. The cross-sectional area of the valve air channels for filling the actuator with air or evacuating air from it is changed in proportion with the adjustment. When reaching the set point, the 3/3-way valve is closed in center position.

The positioner has an operating panel consisting of a 2-line LCD and 4 push-buttons. The operating panel has the perfect design for optimal local configuration, commissioning, and operational monitoring. Alternatively, the TZIDC-120 can be configured, commissioned and monitored via the fieldbus, by using the appropriate configuration program.

The modular design of the positioner allows you to add further functionality at a later time. Assembly kits for mechanical position indication for digital position feedback using proximity switches or 24 V microswitches are available. Additionally, the plug-in module for the shutdown function is available.

Various TZIDC-120 features ensure safe valve operation on site:

- Compliance with the EMC Directive
- Robust aluminum case, protection IP 65 (NEMA 4X)
- High resistance to shock and vibration up to 10 g
- Operational reliability through permanent internal monitoring
- Message generation
- Operation at ambient temperatures of - 40 to + 85 °C (- 40 to + 185 °F).

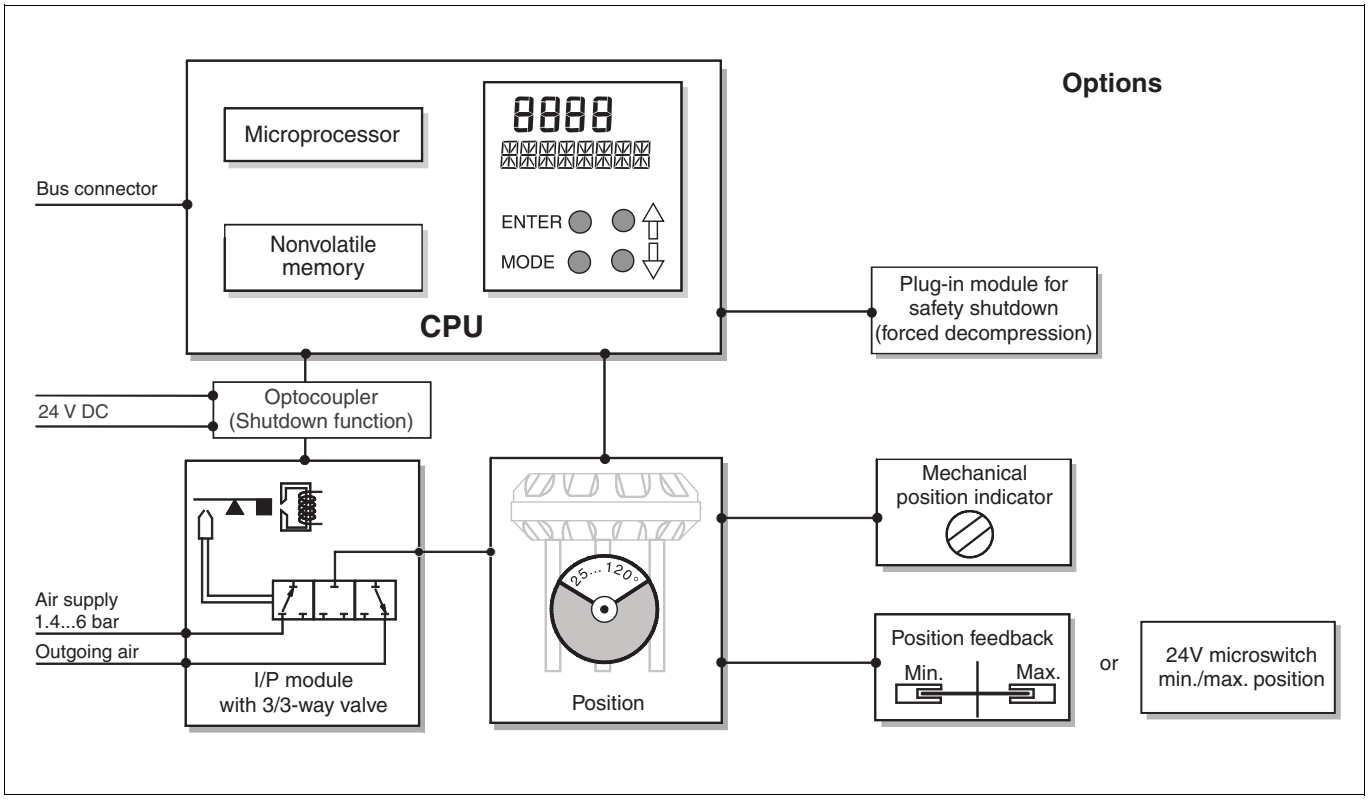

Fig. 1: TZIDC-120 schematic diagram

Mounting

To linear actuators in accordance with the standard

Lateral attachment is in accordance with DIN/IEC 534 (lateral attachment to NAMUR). The required attachment kit is a complete set of attachment material, but does not include the screwed pipe connections and air pipes.

To rotary actuators in accordance with the standard

Attachment to rotary actuators is in accordance with VDI/VDE 3845. The attachment kit contains the adapter for coupling the positioner feedback shaft to the actuator shaft, and mounting brackets for mounting the positioner to the actuator. Screwed pipe connections and air pipes are not included in the kit and have to be provided by the customer.

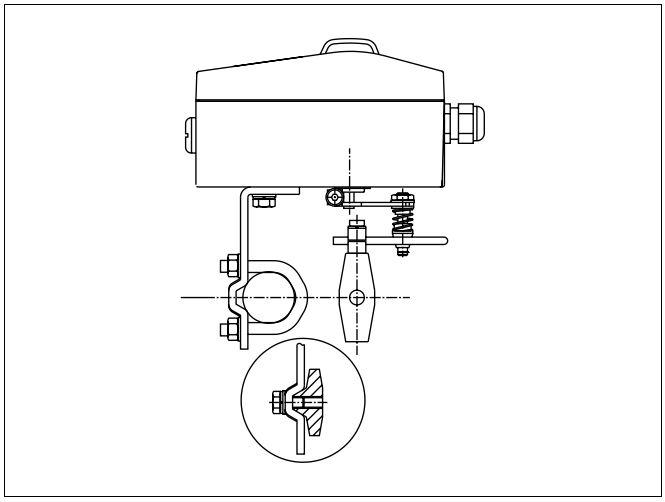

Fig. 2: Mounting to linear actuators to DIN/IEC 534

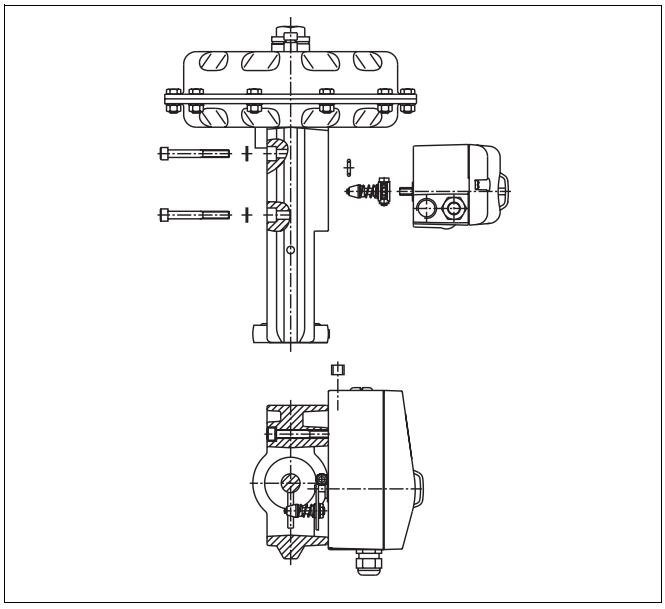

Fig. 3: Integral mounting to control valves

Integral mounting to control valves

The TZIDC-120 positioner is ready for integral mounting. The appropriate threaded holes are available at the positioner's back. The benefit of this design is that the point for mechanical stroke measurement is inside the yoke and, thus, protected by it. No external tubing is required, since the air flow from the positioner to the actuator is guided through an internal channel bore.

Special actuator-specific mounting

In addition to the mounting methods described above, there are special actuator-specific attachments.

Please contact us for details.

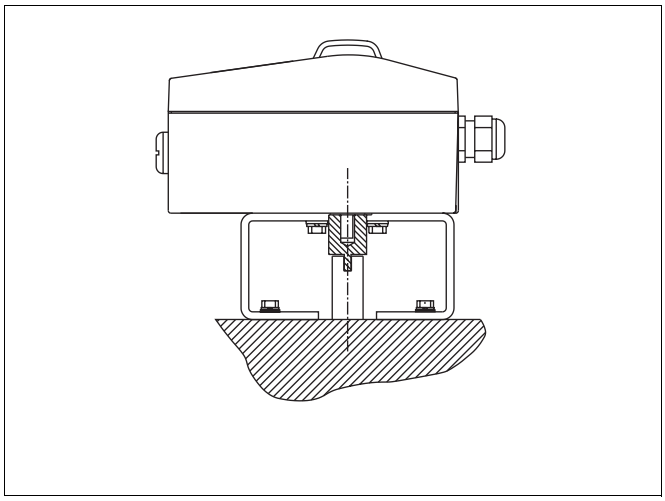

Fig. 4: Mounting to rotary actuators to VDI/VDE 3845

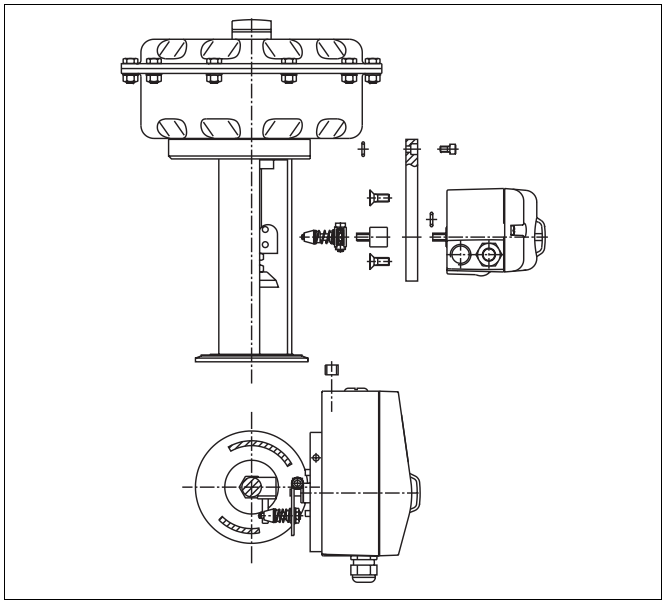

Fig. 5: Integral mounting to control valves by using an adapter panel

Operation

General

The intelligent microprocessor-controlled TZIDC-120 positioner is designed for achieving optimal results. Its stands out for quick and precise control until reaching the set point and for high operational reliability. The activation and adjustment of parameters necessary to achieve this goal is done automatically by the *Autoadjust* function. If required, the settings can be changed manually.

The total range of parameters includes:
- Operating parameters
- Adjustment parameters
- Monitoring parameters

Operating parameters

The following operating parameters can be activated and adjusted:
- **Characteristic curve (travel = f {pos. signal})**
  linear,
  equal percentage 1:25 or 1:50 or 25:1 or 50:1,
  or user-configurable with 20 reference points
- **Tolerance band**
  When reaching the tolerance band the position is considered as having reached the setpoint. From this point on, the position is further slowly re-adjusted until the dead band is reached. The factory setting for this parameter is 0.3 %.
- **Dead band (sensitivity)**
  When reaching the dead band, the position is held. The factory setting for this parameter is 0.1 %.
  Both the tolerance band and the dead band are automatically determined during the positioner's self-optimization.
- **Travel limiting**
  The positioning travel, i.e. the stroke or angle of rotation, can be reduced as required within the full range of 0...100%, provided that a minimum value of 20% is observed.
- **Shut-off function**
  This function can be selected separately for each end position. When the respective configured limit value is exceeded, the shut-off function causes immediate travel of the actuator until reaching the set end position.
- **Travel time prolongation**
  With this function the max. travel time for full travel can be increased. This time parameter can be set separately for each direction
- **Control in the end position**
  Here you can define whether the pneumatic actuator shall be fully pressurized or the position shall be further controlled in the end position. This parameter can be set separately for each end position.

Adjustment parameters

The smart TZIDC-120 positioner has a special function (*Autoadjust*) for automatic adjustment of all relevant parameters. The *Autoadjust* function can be started by pressing the respective push-buttons on the device's front panel or by using the configuration program on a remote PC.

The following parameters can be activated and adjusted:
- **Control parameters**
  To adapt the TZIDC-120 positioner to the control action of the valve, the control parameters can be adjusted individually to achieve optimal control until reaching the set point.
- **Valve range 0...100 %**
  Valve end positions, start of range "0 %" and end of range "100 %"
- **Effective direction of the actuator**
  Adjustment to either of the two possible directions:
  Air to open/spring force to close
  or
  Air to close/spring force to open
- **Display 0...100 %**
  Adjusting the display (0...100 %) to the direction of action for opening or closing the valve.

Monitoring parameters

Various functions for permanent device monitoring are implemented in the operating program of the TZIDC-120 positioner:
- Internal output circuit monitoring
- Sensor monitoring
- Memory monitoring

While automatic commissioning is in progress, the current state is continuously indicated on the integrated LC display. All other messages can be called up for display via the graphical user interface.

Extended monitoring from the open control system is possible via the fieldbus. Important process variables like the output signal (in %), the position (in %), the deviation (in %), and messages related to operation can be indicated in a special window in ONLINE mode.

Operator panel

The TZIDC-120 positioner's operator panel allows for
- monitoring
- manual control
- TZIDC-120 configuration
- fully automatic commissioning

Operation

The panel's four push buttons (see illustration) are used for selecting the individual operating levels, parameterizing the device, and saving the settings. In addition to the already known operating functions there is a special feature: a simplified auto-adjustment routine can be started easily through only few operator actions, and without knowing parameterization details.

When the positioner is changed over from a linear to a rotary actuator, the zero position of the display is changed automatically. As a result, 0% is indicated in the display for a valve that is closed by turning clockwise.

Display

The information indicated by the 2-digit LC display is permanently updated and adapted during operation, to inform the operator in an optimal way.

In bus mode (REMOTE), the software revision number can be called up from the TZIDC-120 positioner by briefly pressing the ENTER button.

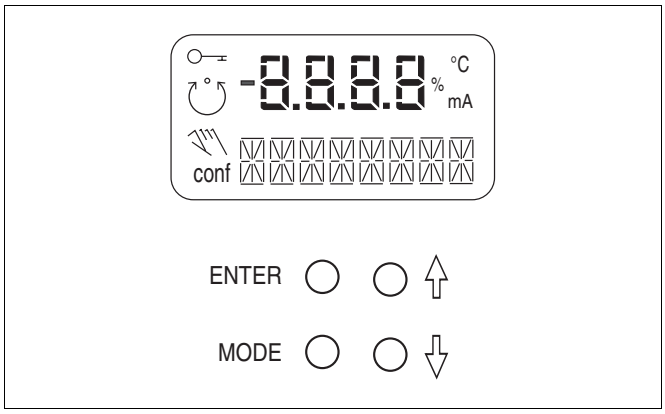

Fig. 6: TZIDC-120 operating elements

Configuration program

General

Communication is realized via the positioner's fieldbus connector. According to the bus conventions, reading the device data is possible during cyclic operation (in modes AUT, MAN and RCAS), and writing the data is possible in the O/S (Out of Service) mode. After the newly set parameters have been downloaded into the device, they are directly saved in the non-volatile memory and become immediately active.

Parameter setting

The program for setting the TZIDC-120 parameters is integrated in the open control system. With this program, the positioner can be conveniently monitored, parameters can be set, and data can be read via the fieldbus, in the commissioning phase or during operation or maintenance.

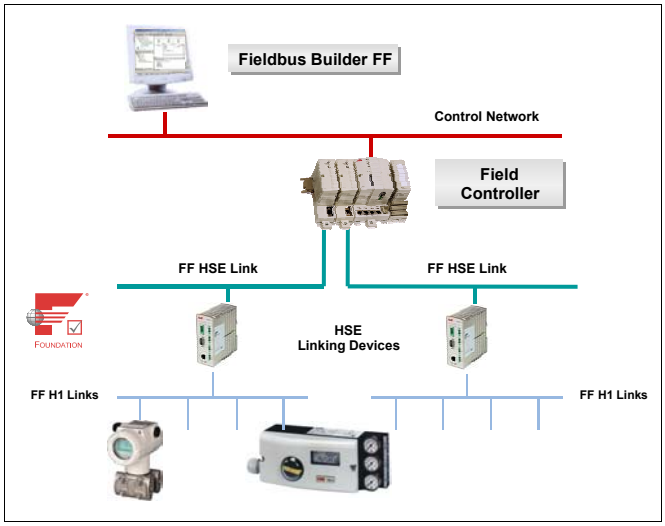

Fig. 7: Communication via the fieldbus

Technical data

Communication

Specification
Foundation™ Fieldbus, Rev. 1.4

Physical Layer
compliant with IEC 61158-2

Transmission rate
31.25 Kbit/s

Block types
1 AO Function Block, 1 Transducer Block, 1 Resource Block

Max. block execution time
AO block: 50 milliseconds

Power supply
Bus-powered, 9.0 V DC - 32.0 V DC

Max. voltage
35 V DC

Current consumption
11.5 mA

Fault current
15 mA (11.5 mA + 3.5 mA)

Conformity certificate
FF Conformance Test ITK 4

Name

Device tag
ABB TZID-C120-TAG

Device ID
0003200028-TZID-C120XXXXXXXXXX

Device address
Between 10 and 247, standard node address 23

Output

Range
0...6 bar (0...90 psi)

Air capacity
at supply pressure of 1.4 bar (20 psi)
5,0 kg/h = 3.9 Nm3/h = 2.3 scfm
at supply pressure of 6 bar (90 psi)
13 kg/h = 10 Nm3/h = 6.0 scfm
(Booster, for increasing air capacity, on request)

Function
for single or double acting actuators, air is vented from actuator or actuator is blocked in case of an electrical power failure

Shut-off value
When the setpoint exceeds or falls below the defined limit value, the actuator immediately moves to the 0% or 100 % position.

Travel

Angle of rotation

Used range	25...120° (rotary actuators, optionally 270°) 25...60° (linear actuators)

Travel time prolongation
Range 0...200 seconds, individually configurable for each direction

Air supply

Instrument air
free of oil, water and dust to DIN/ISO 8573-1
pollution and oil contents according to Class 3
(Purity: max. particle size 5 µm, max. particle density 5mg/m^3;
Oil contents: max. concentration 1 mg/m^3;
Dew point at least 10 °C below operating temperature)

Supply pressure
1.4...6 bar (20...90 psi)
Caution: Do not exceed the max. operating pressure of the actuator!

Air consumption
< 0.03 kg/h (0.08 scfm) (independent of supply pressure)

Transmission data and influences

Action (output signal or pressure in the actuator)

Direct:	Increasing signal 0...100 mA Increas. pressure OUT1 in the actuator
Reverse:	Increasing signal 0...100 mA Decreas. pressure OUT1 in the actuator

Characteristic deviation
< 0.5 %

Tolerance band
0.3...10 %, adjustable

Dead band
0.1... 5 %

Resolution (A/D conversion)
16.000 steps

Sample rate
20 milliseconds

Influence of ambient temperature
< 0.5 % for every 10 °C change in temperature

Influence of vibration
≤ +/-1 % up to 10 g and 80 Hz

Seismic requirements
Meets requirements of DIN/IEC 68-3-3 Class III for strong and strongest earthquakes

Influence of mounting orientation
No effect

Meets the following requirements
EMC Directive 89/336/EEC as of May 1989
EC Directive for the CE conformity marking

Environmental capabilities

Ambient temperature

-40 to +85 °C (- 40 to + 185 °F)
for operation, storage and transport

Relative humidity

Operational (with closed housing and air supply switched on):
100 %, condensation permissible
Transport and storage:
75 % (annual average), non-condensing

Case

Material/protection

Aluminum, protection IP 65 (NEMA 4X)

Surface/Color

Electrostatic dipping varnish with expoxy resin, stove-enamelled
Bottom part of case varnished black, RAL 9005, matt,
Cover white aluminum, RAL 9006

Electrical connections

Screw terminals
max. 1.0 mm^2 for options, max. 2.5 mm^2 for bus connection
Caution: Do not expose the terminals to strain!
Cable entry
2 threads Pg. 13.5, 1/2-14 NPT or M20x1.5
for cable diameter 6...12 mm
1 with cable gland and 1 with pipe plug

Pneumatic connections

Threads G 1/4 or 1/4-18 NPT

Weight

1.7 kg

Mounting orientation

any orientation allowed

Dimensions

see dimensional drawings

Explosion protection

FM/CSA

(pending)

ATEX ⟨Ex⟩

	II 2G EEx ia II C T6
Type examination certificate	TÜV 02 ATEX 1834 X
Type:	Intrins. safe equipment
Device class:	II 2G (EEx ia IIC)
Temperature class:	T4, T5, T6
Permissible ambient temperature:	T4: -40 °C ≤ T_{amb} ≤ 85 °C T5: -40 °C ≤ T_{amb} ≤ 55 °C T6: -40 °C ≤ T_{amb} ≤ 40 °C

ATEX ⟨Ex⟩

	II 3G EEx n A II T6
Type examination certificate	TÜV 02 ATEX 1943 X
Type:	Explosion-proof equipment for zone 2
Device class:	II 3G (EEx n A II)
Temperature class:	T4, T5, T6
Permissible ambient temperature:	T4: -40 °C ≤ T_{amb} ≤ 85 °C T5: -40 °C ≤ T_{amb} ≤ 65 °C T6: -40 °C ≤ T_{amb} ≤ 50 °C

Signal current circuit for FOUNDATION Fieldbus™, only for connection to a certified intrinsically safe circuit (e.g. FISCO power unit or barrier) with the following max. values:

FISCO ia/ib for group IIB/IIC	**FISCO ia/ib for group IIB/IIC**	**Barrier or power supply unit ia/ib for group IIB/IIC**
Vi = 17.5 V	Vi = 17.5 V	Vi = 24 V
Ii = 380 mA	Ii = 360 mA	Ii = 250 mA
Pi = 5.32 W	Pi = 2.52 W	Pi = 1.2 W
rectangular	trapezoidal	linear

Options

Module for the shutdown function

Supply voltage	V_{min} = 20 V, V_{max} = 30 V
Safe pos. is activated when	V < 5 V
AK approval	AK 4 to DIN V 19250
Test report No.	101/S01/148
Explosion protection	EEx ia IIC

In case of a 24 V DC power failure, the positioner can let the valve move to the safe position by depressurizing the actuator independently of the processor. To achieve this, the I/P module power supply is separated by an optocoupler. Both the communication and feedback are still active, since the positioner is powered via the bus line. The shutdown input is electrically isolated from the control signal.

Due to the shutdown function no additional solenoid valves are required. It has a safety certificate from TÜV Rheinland in accordance with AK4. The plug-in module also has an Ex certificate for use in intrinsically safe current circuits.

Mechanical position indicator

Indicator disk
Cover with transparent dome
Symbol stickers
Extension for the feedback shaft

Digital position feedback with proximity switches*

2 proximity switches for min. and max. position
(position adjustable within range of 0...100%)
Current circuit to DIN 19234
Supply voltage 5...11 V DC
Control current < 1 mA = logical switching state “0“
Control current > 3 mA = logical switching state “1“
(works independently of the software and the electronics of the positioner)

Direction of action (logical state))

Proximity switch	Position			
	< Min.	> Min.	< Max.	> Max.
SJ2-SN (NC)	0	1	1	0
SJ2-S1N (NO)	1	0	0	1

Digital position feedback with 24 V microswitches*

Two 24 V DC/AC microswitches for the min. and max. position.
Switching points adjustable between 0 and 100 %
Not approved for use in the hazardous area!

Voltage	max. 24 V AC / DC
Current load	max. 2 A
Contact surface	10 µm Gold (AU)

* The “digital position feedback“ option is directly actuated by the rotating shaft of the positioner and can only be used together with the mechanical position indicator described above.

Accessories

Mounting material

Attachment kit for linear actuators to DIN/IEC 534
(lateral attachment to NAMUR)
Attachment kit for rotary actuators to VDI/VDE 3845
Attachment kit for integral mounting
Attachment kit for actuator-specific attachment on request

Pressure gauge block

With pressure gauges for supply and output pressure,
Pressure gauges with plastic case ∅ 28 mm,
with connection block made of aluminum, varnished black
inclusive of mounting material for attachment to TZIDC-120.

Filter regulator

All metal version, brass varnished black
Bronze filter element, 40 µm, with condensate drain
Max. pre-pressure 16 bar, output adjustable to 1.4...6 bar

Spare parts kit

Wiring diagrams

1. Not used
2. Service switch for the plug-in module with shutdown function
3. Terminals for the plug-in module for the shutdown function
4. Kit for digital position feedback, either proximity switches or 24 V microswitch (first connector)
5. Kit for digital position feedback, either proximity switches or 24 V microswitch (second connector)
6. Bus terminals
7. Enclosure ground

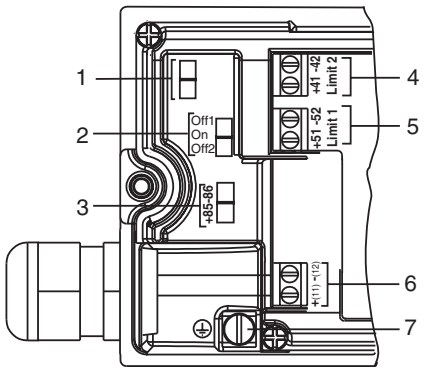

Fig. 8: Electrical connections

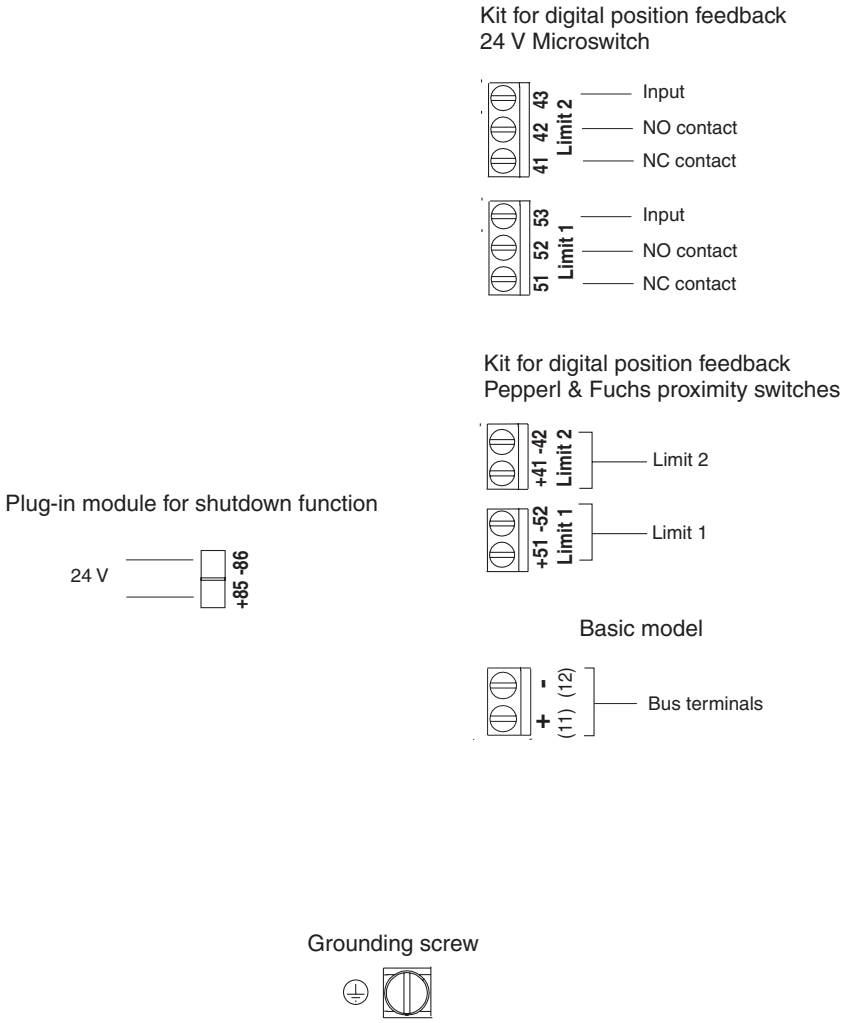

Fig. 9: Terminal assignment

Dimensional drawings (all dimensions in mm)

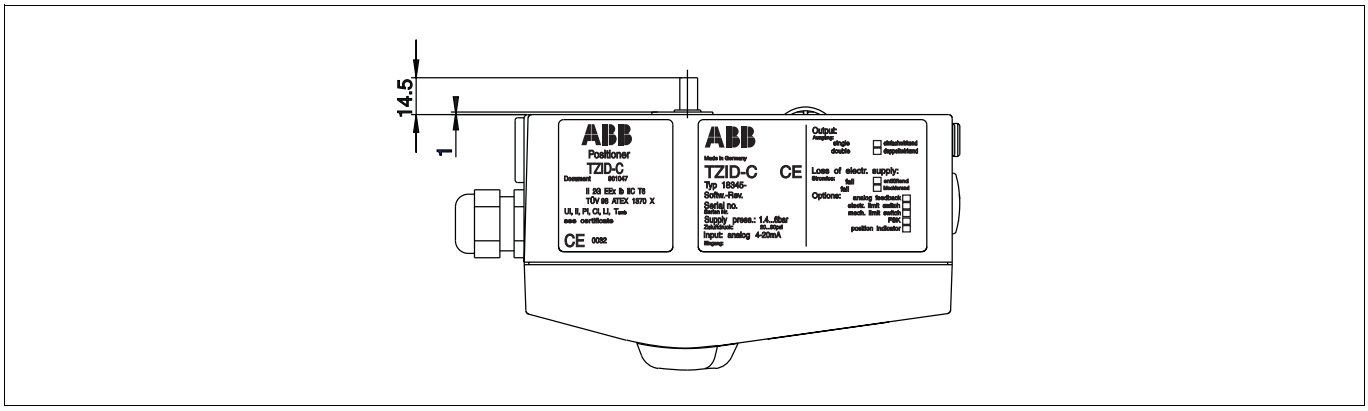

Fig. 10: Top view

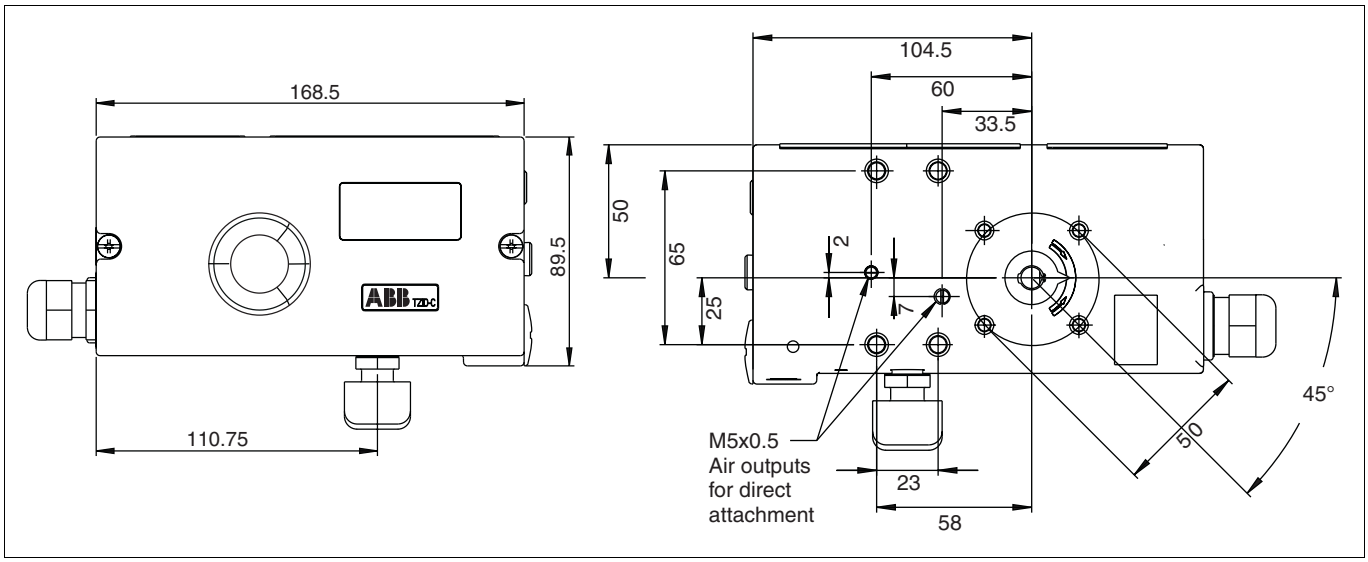

Fig. 11: Front view and rear view

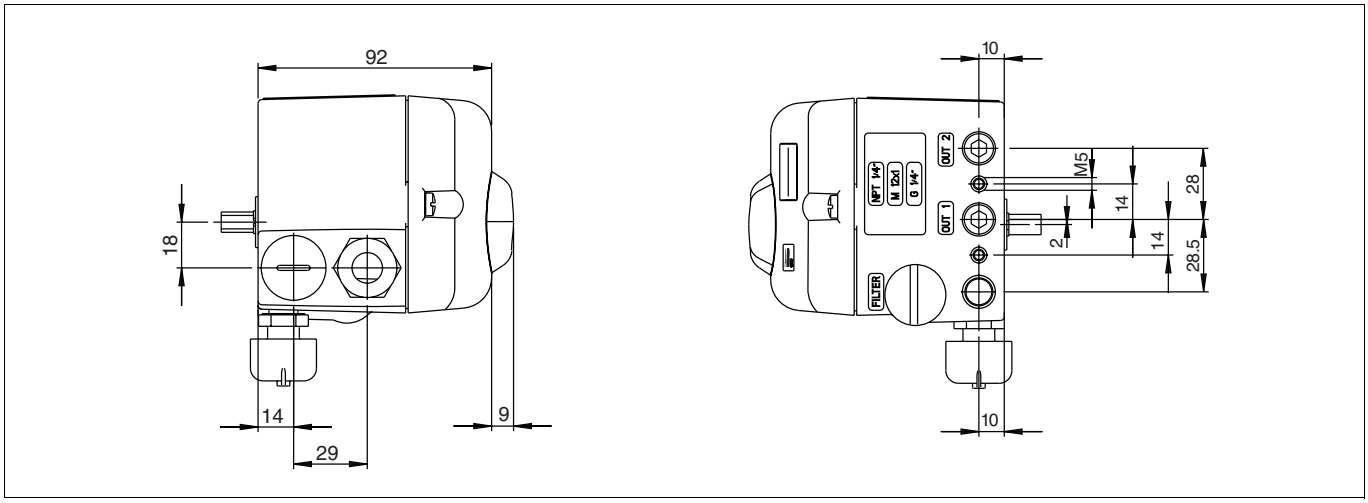

Fig. 12: Side view (from the left and from the right side)

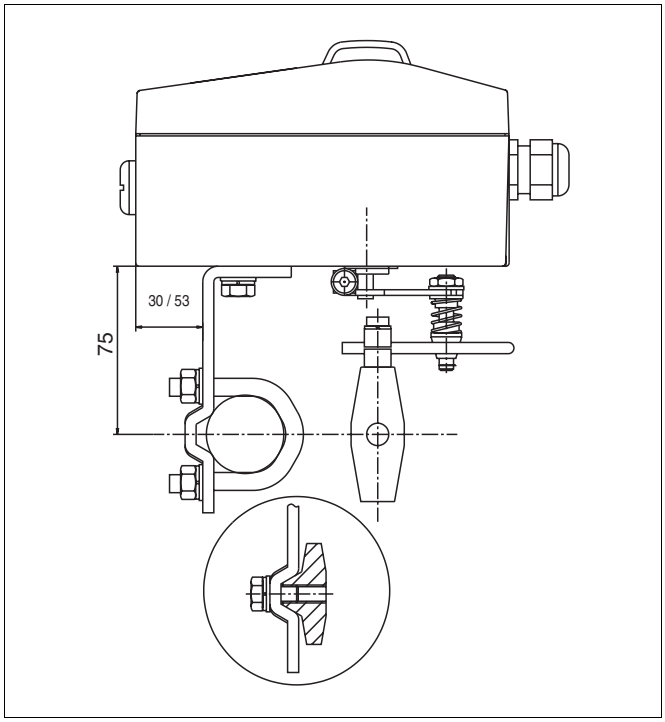

Fig. 13: Mounting to linear actuators to DIN/IEC 534

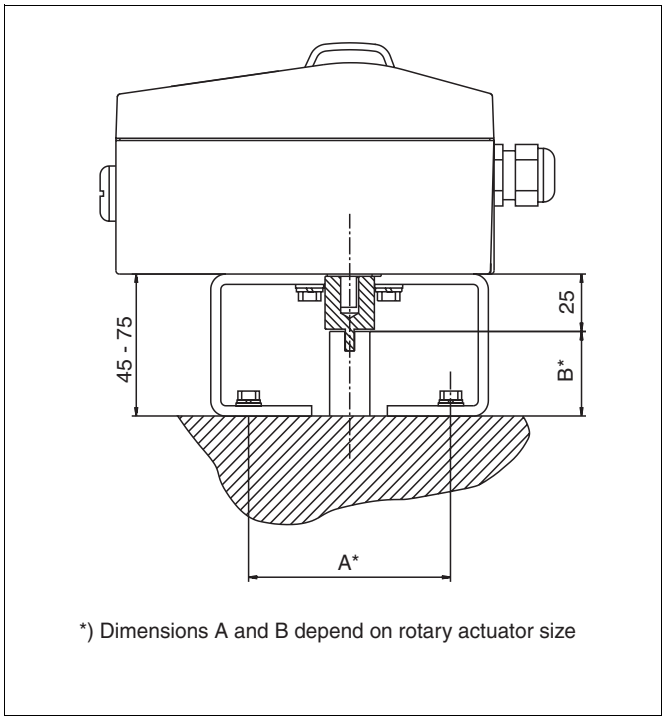

Fig. 14: Mounting to rotary actuators to VDI/VDE 3845

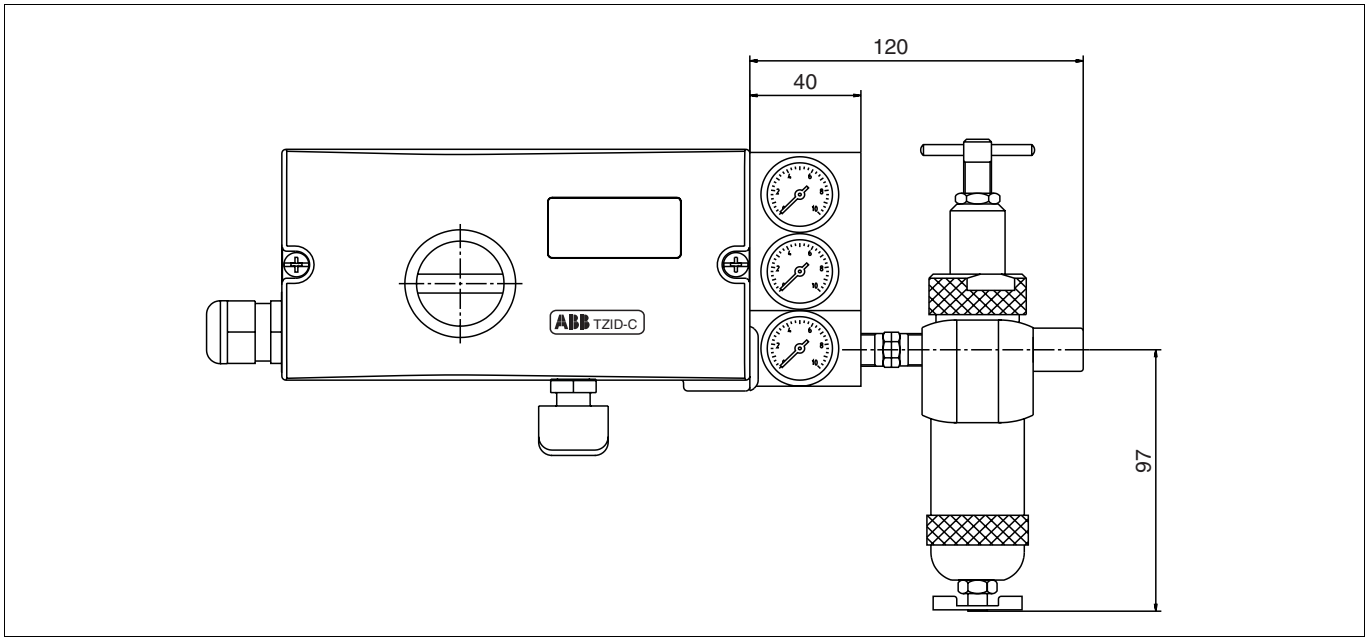

Fig. 15: Positioner TZIDC-120 with pressure gauge block and filter regulator

Ordering information

	Catalog No											
TZIDC-120 Intelligent Positioner electro-pneumatic, configurable with indicator and operator panel	**V18347-**		**0**						**0**			
Case/Mounting Case made of aluminium, varnished, protection IP 65 (NEMA 4X) For mounting to linear actuators acc. to DIN/IEC 534 or to rotary actuators acc. to VDI/VDE 3845, also ready for integral mounting As above, but with mechanical position indicator For mounting to rotary actuators acc. to VDI/VDE 3845 with extended rotation angle up to 270° As above, but with mechanical position indicator **Note:** Special mounting material as specified under "Accessories" is required		1 2 5 6										
Input/communication port FOUNDATION Fieldbus™				4								
Explosion protection without ATEX EEx ia IIC T6 FM/CSA ATEX EEx n A II T6 Explosion protection certificate upon special agreement (on request)					0 1 2 4							
Output/safe position (in case of an electrical power failure) Single acting, fail safe fail freeze Double acting, fail safe fail freeze						1 2 4 5						
Connections Cable: Thread Pg. 13.5 Air pipe: Thread G 1/4 Cable: Thread 1/2-14 NPT Air pipe: Thread 1/4-18 NPT Cable: Thread Pg 13.5 Air pipe: Thread 1/4-18 NPT Cable: Thread M20 x 1,5 Air pipe: Thread M12 x 1 Cable: Thread M20 x 1,5 Air pipe: Thread 1/4-18 NPT Cable: Thread M20 x 1,5 Air pipe: Thread G 1/4							1 2 3 4 5 6					
Option modules for analog or digital position feedback Without Plug-in module for shutdown module (temperature: -30°…+60°)								0 4				
Mechanical Kit for digital position feedback (option) Without Mechanical kit for digital feedback of minimum and maximum position[1)] With proximity switches SJ2-SN (NC or logical 1) With proximity switches SJ2-S1N (NO or logical 0) With 24 V DC/AC microswitches (change-over contacts)									0 1 3 5			

[1)] only for model with mechanical position indicator

Continued on the next page

Ordering information (continued)

	Catalog No		
TZIDC-120 Intelligent Positioner electro-pneumatic, configurable with indicator and operator panel	**V18347-**		
Design (varnish/coding)			
Standard	1		
Special version chemistry (details on request)	E		
As specified (on request)			
Device identification label			
incudes lettering (plain text, max. 16 letters)			
stainless steel 11.5 x 60 mm			
sticker 41 x 32 mm			
sticker 11 x 25 mm			
Note: The kit for digital position feedback (proximity switches) is identical for positioners with or without explosion protection. The 24V microswitches **must not** be used in hazardous areas.			

Accessories

		Catalog No		
Mounting material and cost				
Attachment kit for linear actuators (lateral attachment to DIN/IEC 534 or Namur)				
Stroke 10... 35 mm		18391-7959125		
Stroke 20 ... 100 mm		18391-7959126		
Attachment kit for integral mounting to				
23/24 and 23/25 cont. valve	DN 15 up to DN 100, stroke 10...35 mm	18391-7959106		
	DN 125 up to DN 150, stroke 25...65 mm	18391-7959107		
23/26 control valve	DN 25 up to DN 100, stroke 10...35 mm	18391-7959108		
	DN 125 up to DN 162, stroke 25...65 mm	18391-7959109		
Attachment kit for rotary actuators (mounting to VDI/VDE 3845), consisting of				
a) Adapter (shaft coupler)		18391-7959110		
b) Mounting bracket, dimensions	A/B = 80/20 mm	18391-0319603		
	A/B = 80/30 mm	18391-0319604		
	A/B = 130/30 mm	18391-0319605		
	A/B = 130/50 mm	18391-0319606		
Mounting cost, material and adjustment				
for mounting to linear actuators to DIN/IEC 534				
or to rotary actuators to VDI/VDE 3845				
External tubing with	Plastic tube	18391-0319628		
	Copper pipe	18391-0319629		
	Stainless steel pipe	18391-0319630		
for integral mounting to 23/24, 23/25 or 23/26 control valves				
Internal tubing		18391-0319627		
External tubing[1)] with	Copper pipe	18391-7959015		
	Stainless steel pipe	18391-7959016		

[1)] External tubing only for 23/24 and 23/25 control valves with "air to close/spring to open" action, otherwise internal tubing only.

Accessories

	Catalog No		
Pressure gauge block			
Pressure gauge block, including attachment material			
for single acting TZIDC-120, with 2 pressure gauges Ø 28 mm			
(1 x for air supply and 1 x for output pressure)			
G 1/4 connections Supply pressure range 0...10 bar/ 0...140 psi			
Output pressure range 0...4 bar/ 0...60 psi	18381-7959111		
Output pressure range 0...10 bar/ 0...140 psi	18381-7959112		
1/4-18 NPT connections Supply pressure range 0...10 bar/ 0...140 psi			
Output pressure range 0...4 bar/ 0...60 psi	18381-7959113		
Output pressure range 0...10 bar/ 0...140 psi	18381-7959114		
for double acting TZIDC-120, with 3 pressure gauges Ø 28 mm			
(1 x for air supply and 2 x for output pressure)			
G 1/4 connections Supply pressure range 0...10 bar/ 0...140 psi			
Output pressure range 0...4 bar/ 0...60 psi	18381-7959115		
Output pressure range 0...10 bar/ 0...140 psi	18381-7959116		
1/4-18 NPT connections Supply pressure range 0...10 bar/ 0...140 psi			
Output pressure range 0...4 bar/ 0...60 psi	18381-7959117		
Output pressure range 0...10 bar/ 0...140 psi	18381-7959118		
(Pressure gauge blocks are delivered as separate units for mounting by the customer)			
Filter regulator			
Brass filter regulator, incl. material for mounting to pressure gauge block			
Connections Thread G 1/4	18381-7959119		
Thread 1/4-18 NPT	18381-7959120		
(Filter regulators are delivered as separate units for mounting by the customer)			
Option Modules (can be added later)			
Plug-in module for shutdown function	18391-7959199		
Kit for Mechanical position indicator (including front cover with glass)	18391-7959130		
Kit for Digital feedback of minmum and maximum position (including front cover with mechanical position indicator)			
with 24 V DC/AC microswitches (change-over contacts)	18391-7959191		
with proxim. switches SJ2 - SN (NC or logical 1)	18391-7959131		
SJ2 - S1N (NO or logical 0)	18391-7959132		
Kit for digital feedback of minimum and maximum position[1)]			
with 24 V DC/AC microswitches (change-over contacts)	18391-7959190		
with proxim. switches SJ2 - SN (NC or logical 1)	18391-7959133		
SJ2 - S1N (NO or logical 0)	18391-7959134		
Spare parts			
Spare parts kit	18391-7959198		
I/P-Module (single acting, fail safe) (explosion-proof model, only)	18391-7958510		
I/P-Module (single acting, fail freeze) (explosion-proof model, only)	18391-7958511		
I/P-Module (double acting, fail safe) (explosion-proof model, only)	18391-7958512		
I/P-Module (double acting, fail freeze) (explosion-proof model, only)	18391-7958513		

[1)] Only fits for basic model with mechanical position indicator

Your notes

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