ABB MEASUREMENT & ANALYTICS | DATA SHEET

TZIDC

Digital Positioner



For highly accurate and reliable positioning of valves in all sectors

Easy Set-up
- Automatic adjustment function
- Straightforward initialization

Wide temperature range
- −40 to 85 °C (−40 to 185 °F)

HART Communication

Control Adaptive function
- Automatic adjustment of control parameters during operation

Increased shock and vibration resistance
- Gearless sensor activation

Fail Save and Fail Freeze function
- Selectable safety position of the fitting

Low air consumption
- Highly efficient I/P converter

Brief description

The TZIDC is an electronically configurable positioner with communication capabilities designed for mounting on pneumatic linear or rotary actuators. It features a small and compact design, a modular construction, and an excellent cost-performance ratio.
Fully automatic determination of the control parameters and adaptation to the positioner allow for considerable time savings as well as optimum control behavior.

Pneumatics
An I/P module with subsequent pneumatic amplifier is used to control the pneumatic actuator. The well-proven I/P module proportionally converts the permanent electrical setpoint signal from the CPU into a pneumatic signal used to adjust a 3/3-way valve.
Dosing of the air flow for pressurizing or depressurizing the actuator is continuously adjusted. As a result, excellent control results are achieved. When reaching the setpoint, the 3/3-way valve is closed in center position to minimize the air consumption.
The pneumatic system can be supplied in four versions: for single acting and double acting actuators and each with the 'fail-safe' / 'fail-freeze' safety function.

'Fail-safe' safety function
If the electric power supply fails, the positioner output 1 is depressurized and the return spring in the pneumatic actuator moves the valve to the safe position. In case of a 'double-acting' version, output 2 is additionally pressurized.

'Fail-freeze' function
If the electric power supply fails, the positioner Output 1 (and Output 2 if applicable) is closed and the pneumatic actuator blocks the valve in the current position. If the compressed air supply power fails, the positioner depressurizes the actuator.

Use
The positioner has a built-in operating panel providing a 2-line LCD indicator and 4 operating buttons for commissioning, configuration and monitoring during live operation.
Alternatively, the appropriate configuration program can be used via the available communication interface.

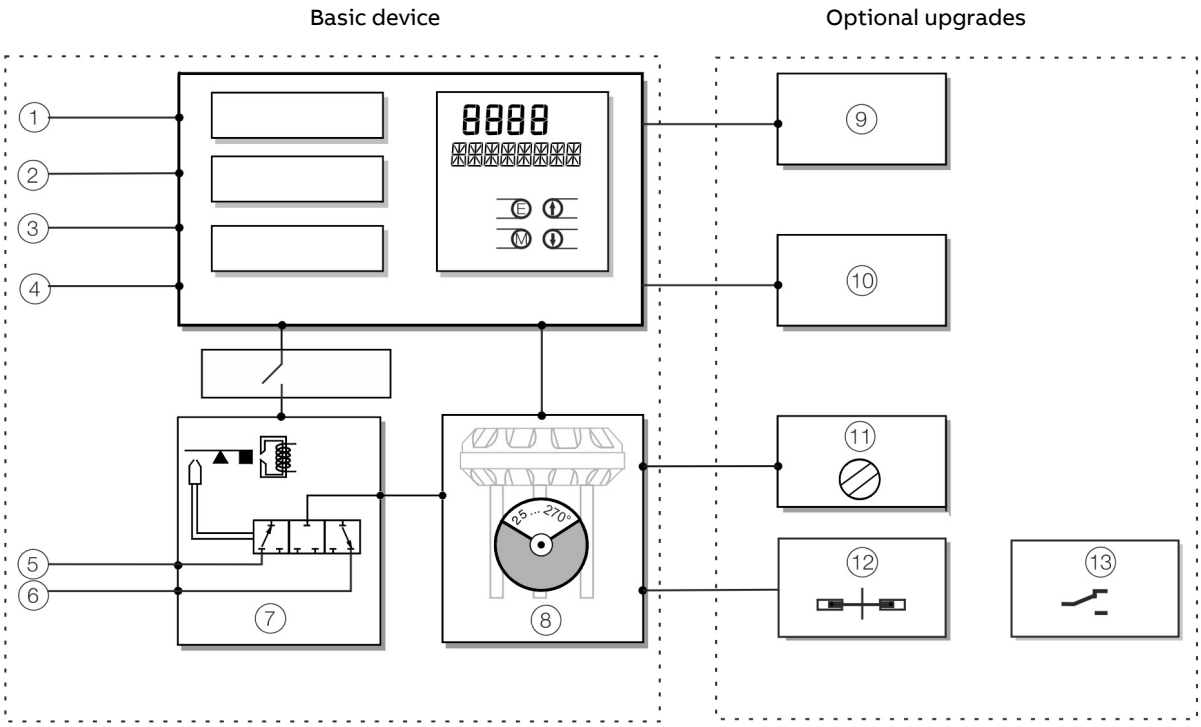
Communication
The positioner has a local communication interface (LCI) as standard. Additionally, a 'HART® communication' option for communication via the 20 mA signal is available. Both communications are based on the HART® Protocol.
Alternatively, HART®5 or HART®7 are available.

Inputs / Outputs
In addition to its input for the analog position setpoint, the positioner is equipped with a digital input which can be used to activate control system functions in the device. A digital output allows you to output collective messages (alarms / faults).

Modular design
The basic model can be enhanced at any time by retrofitting optional equipment.
Option modules can be installed for analog and digital position feedback.
Additionally, a mechanical position indicator, proximity switches or 24 V microswitches are available for indicating the position independently of the mother board function.

… Brief description

Schematic diagram



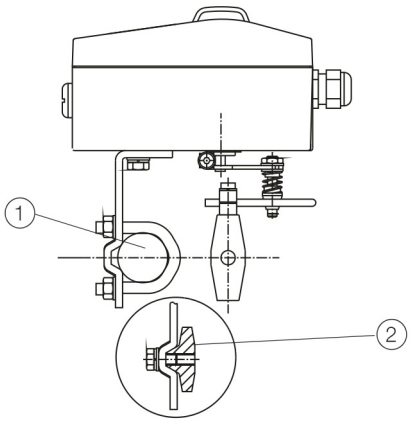
① LCI plug
② Setpoint signal 4 to 20 mA
③ Binary input
④ Binary output
⑤ Supply air: 1.4 to 6 bar (20 to 90 psi)
⑥ Exhaust
⑦ I/P module with 3/3-way valve
⑧ Position sensor
⑨ Plug-in module analog feedback (4 to 20 mA)
⑩ Plug-in module digital feedback
⑪ Installation kit for mechanical position indication
⑫ Limit value monitor with proximity switches
⑬ Limit value monitor with 24 V-microswitches

Figure 1: Schematic diagram of the positioner

Note
With optional extensions, either the 'Limit value monitor with proximity switches' ⑫ or the 'Limit value monitor with 24 V-microswitches' ⑬ can be used. In both cases though, the mechanical position indication ⑪ must be installed.

Mounting versions

Standardized mounting on pneumatic linear actuators
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 pipe fittings and air pipes.



① Columnar yoke ② Cast iron yoke

Figure 2: Mounting on linear actuators in accordance with DIN / IEC 534

Standardized mounting on pneumatic rotary actuators
This attachment is designed for mounting according to the standard VDI / VDE 3845. The attachment kit consists of a console with mounting screws for mounting on a rotary actuator. The corresponding feedback shaft adapter has to be ordered separately. Screwed pipe connections and air pipes have to be provided on site.

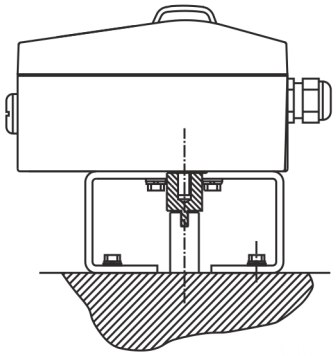


Figure 3: Mounting on rotary actuators in accordance with VDI / VDE 3845

Integral mounting to control valves
The positioner featuring standard pneumatic action is available as an option for integral mounting.
The required holes are found at the back of the device.
The advantage of integrated mounting is that the point for mechanical stroke measurement is protected and that the positioner and actuator are linked internally. No external tubing is required.

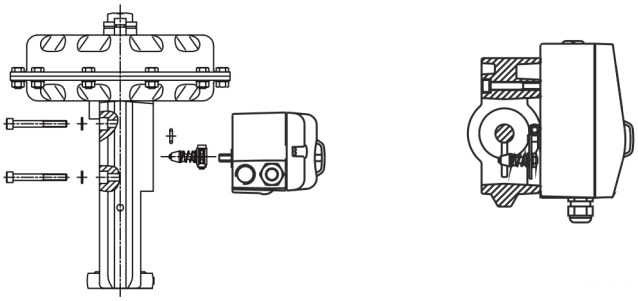


Figure 4: Integral mounting on control valves

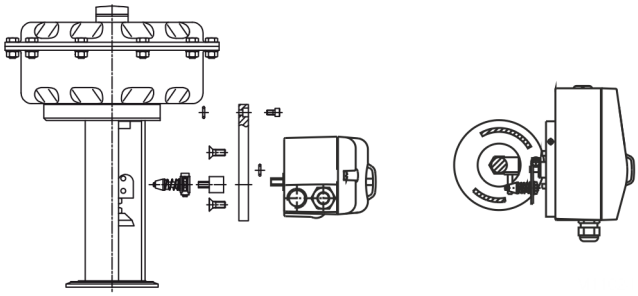
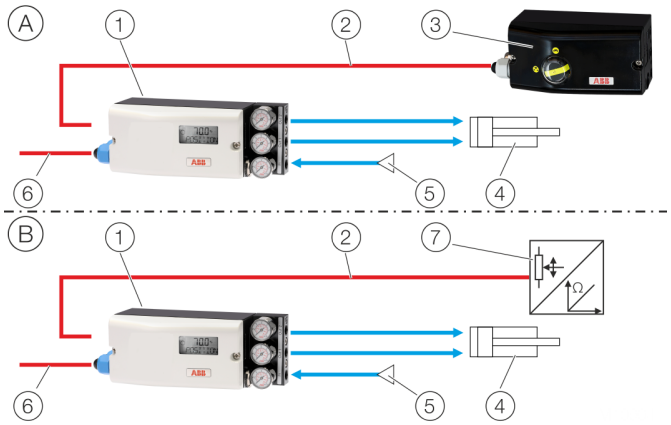


Figure 5: Integral mounting on control valves with adapter plate

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

… Mounting versions

External position sensors



1 TZIDC Control Unit
2 Connection cable
3 TZIDC Remote Sensor
4 Actuator
5 Compressed air supply
6 Set point signal
7 Remote position sensor

Figure 6: TZIDC with external position sensors

Note
If the device is being operated on a cylinder, for reasons associated with linearity you should run the Auto Adjust function for rotary actuators

(A) TZIDC Control Unit with TZIDC Remote Sensor*
In this version, the components are supplied in two housings, which together form one harmonized unit.
The following points should be observed during installation:

- Housing 1 (TZIDC Control Unit) contains the electronics and pneumatics and is mounted separately from the actuator.
- Housing 2 (TZIDC Remote Sensor) contains the position sensor and is mounted on the linear and rotary actuator.

* The TZIDC Remote Version is temporarily not available for the marine version.

Note
To connect the TZIDC Remote Sensor, a cable with the following specifications needs to be used:

- 3-wire, cross-section 0.5 to 1.0 mm^2
- shielded, with at least 85 % coverage
- Temperature range up to at least 100 °C (212 °F)

The cable glands must also be approved for a temperature range up to at least 100 °C (212 °F). The cable glands require a mounting for the shielding and strain relief for the cable in addition.
ABB optionally offers a cable gland and cable for the TZIDC Remote Version.

(B) TZIDC Control Unit for remote position sensor
In this version the positioner is supplied without a position sensor.
The following points should be observed during installation:

- Housing 1 (TZIDC Control Unit) contains the electronics and pneumatics and is mounted separately from the actuator.
- The remote position sensor is mounted on the linear and rotary actuator. Follow the operating instructions for the remote position sensor for mechanical mounting!

Device parameters

General

Microprocessor-based position control in the positioner optimizes control. The positioner features high-precision control functions and high operational reliability. Due to their elaborate structure and easy accessibility, the device parameters can be quickly adapted to the respective application.

The total range of parameters includes:

- Operating parameters
- Adjustment parameters
- Operation monitoring parameters
- Diagnosis parameters
- Maintenance parameters

Operating parameters

The following operating parameters can be set manually if required:

Setpoint signal
0 to 100 % freely selectable for split-range operation

For 4 to 20 mA and HART version:

- Signal min. 4 mA, max. 20 mA (0 to 100 %)
- Minimum range 20 % (3.2 mA)
- Recommended range > 50 % (8.0 mA)

Action (set point signal)
Increasing:

- Position value 0 to 100 % = direction 0 to 100 %

Decreasing:

- Setpoint signal 100 to 0 % = direction 0 to 100 %

Characteristic curve (actuator travel = f {set point signal})
Linear, equal percentage 1:25 or 1:50 or 25:1 or 50:1 or freely configurable with 20 reference points.

Actuator travel limit
The actuator travel, i.e. the stroke or angle of rotation, can be reduced as needed within the full range of 0 to 100 %, provided that a minimum value of 20 % is observed.

Shut-off function

This parameter can be set separately for each end position. When the associated limit value is up-scaled, the function causes immediate travel of the actuator to the selected end position.
If the value ‘0’ is entered for the corresponding parameter, the position is further controlled, even in the respective end position.

Actuator travel time prolongation
This function can be used to increase the max. travel time for full travel. This time parameter can be set separately for each direction.
This function can only be used with the pneumatics with the safety function ‘fail-safe’.

Switching points for the position
You can use these parameters to define two position limit values for signaling, see option ‘Module for digital position feedback’.

Digital output
The alarms generated in the positioner can be polled via the digital output as a collective alarm.
The desired information can be selected via the operator panel or remotely via the configuration program.
The output can be set to ‘active high’ or ‘active low’, as required.

Digital input
For the digital input, one of the following safety options can be selected. You may use the operator’s panel or configuration program to select an option.

- No function (standard setting)
- Move to position 0 %
- Move to position 100 %
- Hold previous position
- Block local parameterization
- Block local parameterization and operation
- Block all access (no local or remote access via a PC)

The selected function is activated when the 24 V signal is no longer connected to the digital input (< 11 V DC).

… Device parameters

Adjustment parameters

The positioner has a special function for automatic adjustment of the parameters. Additionally, the control parameters can be set automatically (in adaptive control mode) or manually to optimally adapt them to the process requirements.

Tolerance band
Upon reaching the tolerance band, the position is re-adjusted more slowly until the dead band has been reached.

Dead band (sensitivity)
When reaching the dead band, the position is held. The factory setting for this parameter is 0,1 %.

Actuator spring action
Selection of the direction of rotation of the sensor shaft (looking at the open housing), if the safe position is approached as a result of the spring force in the actuator (actuator is depressurized via Y1 / OUT1).
For double-acting actuators, the actuator spring action corresponds to pressurizing the pneumatic output (Y2 / OUT2).

Display 0 to 100 %
Adjust the display 0 to 100 % in accordance with the direction for opening or closing the final control element.

Operations monitoring parameters

Various functions for continuous device monitoring are implemented in the operating program for the positioner. The following states will be detected and indicated, e.g.:

- Setpoint signal out of range 4 to 20 mA
- Position out of the adjusted range
- Positioning time up-scaled (adjustable time parameter)
- Positioner inactive
- Counter limits up-scaled (adjustable in diagnosis)

While automatic commissioning is in progress, the current state is continuously indicated on the integrated LCD display. During operation, the LCD shows the most important process variables:

- Current position in %
- Faults, alarms, messages (coded)

Access to extended monitoring parameters is possible via HART communication and the DTM.

Diagnosis parameters

The diagnostics parameters in the positioner's operating program provide information about the operating conditions of the valve.
From this information the operator can derive what maintenance work is required, and when.
Additionally, limit values can be defined for these parameters. When they are exceeded, an alarm is reported.
So, for example, the following operating values are determined:

- Number of movements of the final control element
- Sum of individual actuator travel events

The diagnosis parameters and limit values can be called up, set, and reset via HART communication, using the configuration program.

Operator panel

The integrated operating panel of the positioner has four operating buttons which allow the device to be operated with an open housing cover. The following functions can be controlled via the function keys:

- Observe live operation
- Manual intervention during live operation
- Parameterization of the device
- Fully automatic commissioning

The operating panel has a cover to protect against unauthorized operation.



Figure 7: Open TZIDC with a view of the operating panel

'One-button' commissioning
Commissioning the positioner is especially easy. Standard Auto Adjust is triggered by pressing a single operating button. Detailed configuration knowledge is not necessary in order to start the device.
Depending on the selected actuator type (linear or rotary actuator), the displayed zero position is automatically adapted:

- for linear actuators counter-clockwise (CTCLOCKW)
- for rotary actuators clockwise (CLOCKW).

Besides this standard function, a customized 'Autoadjust' function is available. The function is launched either via the operator's panel or HART communication.

LCD display
The multi-line LCD indicator is automatically updated during operation to provide the user with relevant information as necessary.
During control operation (control with or without adaptation) the following data can be called up by pressing the pushbuttons briefly:

- Current set point SP [mA] (up button)
- Electronics temperature [°C, °F, °R, K] (down button)
- Current control deviation DEV [%]
  (both direction buttons)

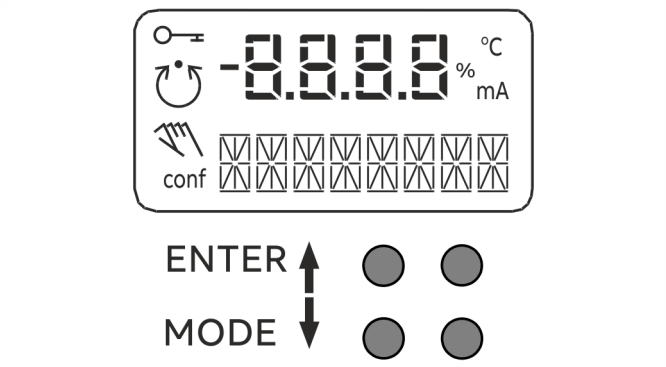


Figure 8: LCD display with operating buttons

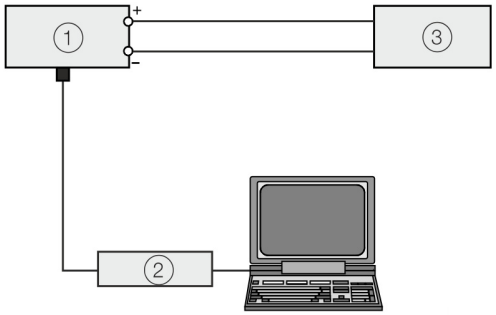
Communication

DTM

The DTM (Device Type Manager) for the positioner **TZIDC** is based on FDT/DTM technology (FDT 1.2/1.2.1) and can be either integrated into a control system or loaded on a PC with DAT200 Asset Vision Basic. This allows you to work with the same user interface in the commissioning phase, during operation, and for service tasks involving monitoring the device, setting parameters, and reading out data.
Communication is based on the HART protocol.
Communication with the device can take place optionally via an LCI adapter with USB interface or an FSK modem at any point on the 20 mA signal line. Reading out data from the device has no effect on the operation in progress. Newly set parameters are saved in the non-volatile memory directly upon download to the device, and become active immediately.

LCI Adapter

You can easily connect your positioner to a PC, e.g., in the workshop or in the commissioning phase, by using the LCI adapter.
The signals at the USB output of the PC are translated via an LCI adapter to the level of the local communication interface (LCI) of the positioner.

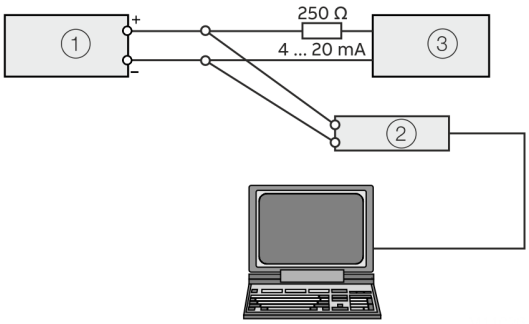


1 TZIDC
2 LCI Adapter
3 Controller

Figure 9: Local communication with LCI adapter

FSK modem

The FSK modem establishes digital frequency-modulated communication (Frequency Shift Keying) with the positioner. Tapping is possible at any chosen point of the 20 mA signal line.
We recommend a modem with electrical isolation. This modem is bus-compatible when used with isolating amplifiers. The connection of Ex-field devices is also possible provided the modem is operated outside the Ex area or it corresponds to the Ex approval requirements and the Ex connection data of our device.



1 TZIDC
2 Modem
3 Controller

Figure 10: HART communication with modem via 20 mA signal line

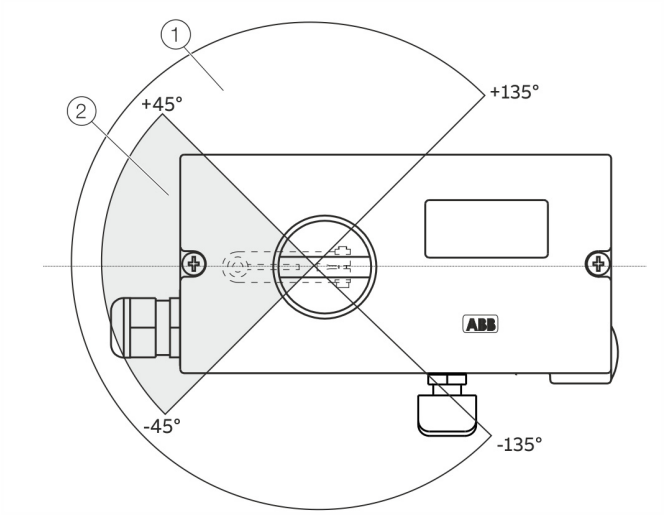
SQUAWK

SQUAWK is a standardized command of the HART®7 communication standard. If a SQUAWK command is sent to the device after connection (HART® command ‘0’), the flashing of the lower menu line in the display makes it easier to visually identify the affected device in an installation.

Specification

Actuator travel

Rotation angle	
Measuring range	270°
Working range	Linear actuators min. 25°, max. 45° Rotary actuators min. 25°, max. <270° (cf. **Figure 11**)
Actuator travel limit	Min. and max. limits, freely configurable in range of 0 to 100 % of total travel (min. range > 20 %)
Actuator travel time prolongation	Setting range of 0 to 200 seconds, separately for each direction
Dead band time limit	Setting range 0 to 200 seconds (monitoring parameter for the control deviation until the dead band is reached)



① Measuring range ② Operating range

Figure 11: Measuring and operating ranges of the positioner

Pneumatic connections

Cable	**Air Pipe**
Thread ½-14 NPT	Thread ¼-18 NPT
Thread M20 × 1.5	Thread ¼-18 NPT
Thread M20 × 1.5	Thread G ¼
Thread G ½	Thread Rc ¼
(Optional: with cable gland(s) and blind plugs as necessary)	

Compressed air output	
Range	Standard design: 0 to 6 bar (0 to 90 psi) Marine version: 0 to 5.5 bar (0 to 80 psi)
Air capacity	> 5 kg/h = 3.9 Nm3/h = 2.3 scfm at 1.4 bar (20 psi) supply air pressure > 13 kg/h = 10 Nm3/h = 6 scfm at 6 bar (90 psi) supply air pressure
Output function	For single acting or double acting actuators Air is vented from actuator / actuator is blocked in case of (electric) power failure
Shut-off values	End position 0 % = 0 to 45 % End position 100 % = 55 to 100 %

Instrument air*	
Purity	Maximum particle size: 5 µm Maximum particle density: 5 mg/m^3
Oil content	Maximum concentration 1 mg/m^3
Pressure dew point	10 K below operating temperature
Supply pressure**	Standard design: 1.4 to 6 bar (20 to 90 psi) Marine version: 1.6 to 5.5 bar (23 to 80 psi)
Air consumption***	< 0.03 kg/h / 0.015 scfm

* Free of oil, water and dust in accordance with DIN / ISO 8573-1. Pollution and oil content n accordance with Class 3

** Do not exceed the maximum output pressure of the actuator

*** Independent of supply pressure

… Specification

Accessories

Mounting material

- Attachment kit for linear actuators in accordance with DIN / IEC 534 / NAMUR
- Attachment kit for rotary actuators in accordance with VDI / VDE 3845
- Attachment kit for integral mounting
- Attachment kit for actuator-specific mounting

Pressure gauge block

- With pressure gauges for supply air and output pressure. Pressure gauges with housing ø 28 mm (1.10 in), with connection block in aluminum, black
- Installation material in black for mounting on positioner

Filter regulator

All metal version in brass, varnished black, bronze filter element (40 µm), with condensate drain.
Max. pre-pressure 16 bar (232 psi).
Output can be adjusted to:

- 1.4 to 6 bar (20 to 90 psi)

Marine version:

- 1.6 to 5.5 bar (23 to 80 psi)

The filter regulator may only be installed in combination with the pressure gauge block (accessory).

PC adapter for communication

- LCI adapter (HART – USB) for plug connection to positioner
- HART – USB modem for HART communication

Control program for operation and parameterization on a PC

DAT200 Asset Vision Basic with DTM for TZIDC / TZIDC-200 on CD-ROM.

Housing

Material / IP rating	
Aluminum with ≤ 0.1% copper	
IP rating	IP 65 / NEMA 4X (NEMA 4X does not permit overhead mounting), (IP 66, optional)

Surface/color	
Dipping varnish	With epoxy resin, stove-hardened
Housing varnished matt black	RAL 9005
Case cover	Pantone 420

Weight	
Aluminum	1.7 kg (3.75 lb)

Mounting orientation

Any

Transmission data and contributing factors

Output Y1	
Increasing set point signal	0 to 100 %
	Increasing pressure at output
Decreasing set point signal	0 to 100 %
	Decreasing pressure at output

Action (set point signal)	
Increasing set point	4 to 20 mA
	= actuator position 0 to 100 %
Decreasing set point	20 to 4 mA
	= actuator position 0 to 100 %

Characteristic curve (actuator travel = f {set point signal})	
Linear	Equal percentage 1:25 or 1:50 or 25:1 or 50:1*
Deviation	≤ 0.5 %
Tolerance band	0.3 to 10 %, adjustable
Configurable dead zone	0.1 to 10 %, adjustable
Resolution (AD-conversion)	> 16,000 steps
Sampling frequency	20 ms
Ambient temperature effect	≤ 0.5 % per 10 K
Reference temperature	20 °C
Influence of vibration	≤ 1 % to 10 g and 80 Hz

* freely configurable with 20 reference points

Seismic vibration

Meets requirements of DIN / IEC 60068-3-3 Class III for strong and strongest earthquakes.

Influence of mounting orientation

Not measurable.

Noise emissions

Max. 100 db (A)
Noise-reduced version max. 85 db (A)

Communication

- HART® protocol 5.9 (standard); optionally HART®7.4
- Local connector for LCI adapter (not in explosion protection area)
- HART® communication via 20 mA signal line with ABB LCI adapter with Um ≤ 30 V DC.

Ambient conditions

Ambient temperature range	
During operation, storage, and transport	−40 to 85 °C (−40 to 185 °F)
Limit monitor with proximity switches SJ2-SN	−25 to 85 °C (−13 to 185 °F)
TZIDC remote sensor	−40 to 100 °C (−40 to 212 °F)

* Increased temperature range only with TZIDC Remote Sensor.

Relative humidity	
During operation with housing closed and air supply switched on	95 % (annual average), condensation permissible
Transport and storage	75 % (annual average)

Safety Integrity Level

Applies to applications with single-acting and depressurizing pneumatics.

The positioner meets the following requirements:

- functional safety in accordance with IEC 61508
- Explosion protection (depending on the version)
- Electromagnetic compatibility in accordance with EN 61000

Without the input signal, the pneumatic module in the positioner vents the actuator and the spring installed in it moves the valve to a predetermined end position (OPEN or CLOSED).
SIL specific safety-related characteristics:

Product	**SSF**	**PFDav**	**λdd + λs**	**λdu**
TZIDC with supply current 0 mA	94 %	1.76 * 10-4	651 FIT	40 FIT

For details refer to the Management Summary in the SIL Safety Instructions 37/18-79XA.

… Specification

Electromagnetic compatibility

Component / Connection	Disturbance variable	EMC basic standard	Test value	Assessment criteria	
				Required	Complied
Housing	Discharge of static electricity (ESD)	IEC 61000-4-2	4 kV Contact discharge	B	A
			8 kV Air discharge	B	A
	Electromagnetic fields*	IEC 61000-4-3	10 V/m (80 MHz to 1 GHz)	A	A
			3 V/m (1.4 GHz to 2 GHz)	A	A
			1 V/m (2.0 GHz to 2.7 GHz)	A	A
	Supply frequency magnetic fields	IEC 61000-4-8	30 A/m (50 Hz, 60 Hz)	A	A
Input / Output signals	Fast transients (burst)	IEC 61000-4-4	2 kV (5 / 50 ns, 5 kHz)	B	A
	Impulse voltage (surge)	IEC 61000-4-5	1 kV (wire / wire), 2 kV (wire / PE)	B	A
	Conducted HF signals	IEC 61000-4-6	10 V (150 kHz to 80 MHz)	A	A

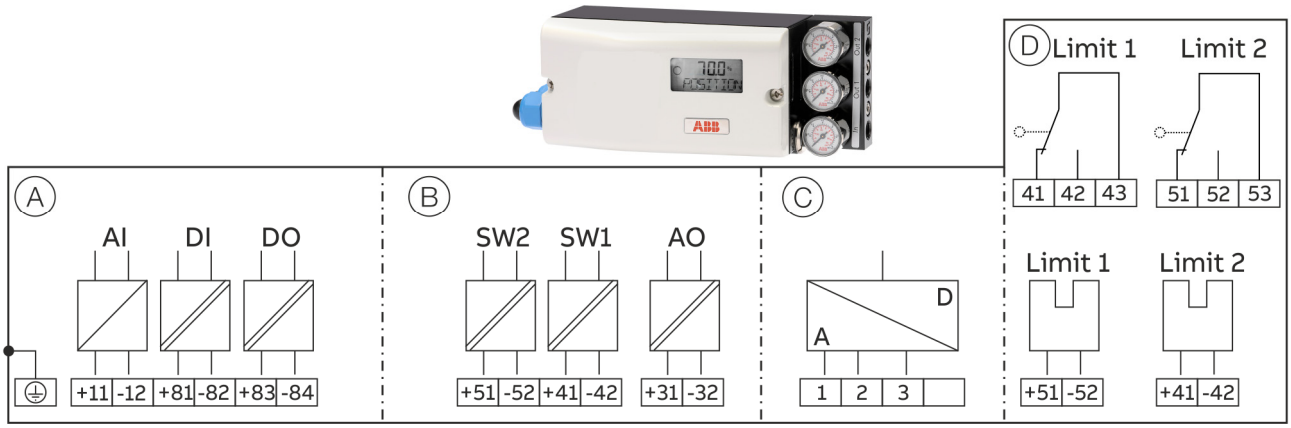
* The digital positioner meets the requirements of Class 3 for environments with heavy electromagnetic radiation. The distance between radio transmitters (e.g. mobile telephones) and the digital positioner, as well as its input and output signals must be at least 1 m (3.3 ft).

Assessment criteria A:
The device must work as intended during and after the test.

Assessment criteria B:
Impairment in operating performance of the device is permitted during the test. The device must continue to work as intended after the test.

Electrical connections

Positioner / TZIDC Control Unit Electrical Connection



(A) Basic device
(B) Options
(C) Connection TZIDC Remote Sensor / remote position sensor (only for TZIDC Control Unit version)
(D) Options, limit value monitor with proximity switches or microswitches (not for TZIDC Control Unit version)

Figure 12: TZIDC Electrical connection

Connections for inputs and outputs

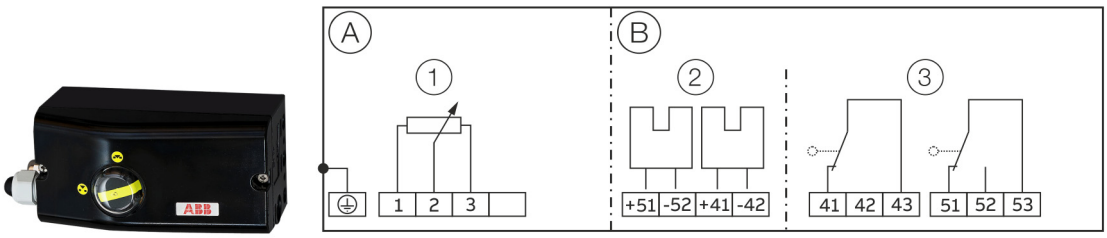
Terminal	Function / comments
+11 / −12	**Analog input**
+81 / −82	**Binary input DI**
+83 / −84	**Binary output DO2**
+51 / −52	**Digital feedback SW1** (Option module)
+41 / −42	**Digital feedback SW2** (Option module)
+31 / −32	**Analog feedback AO** (Option module)
1 / 2 / 3	**TZIDC remote sensor** (Only for options TZIDC Remote Sensor or TZIDC for remote position sensor)

Terminal	Function / comments
+51 / −52	**Limit switch Limit 1 with proximity switch** (optional)
+41 / −42	**Limit switch Limit 2 with proximity switch** (optional)
41 / 42 / 43	**Limit switch Limit 1 with microswitch** (optional)
51 / 52 / 53	**Limit switch Limit 2 with microswitch** (optional)

Note
The TZIDC can be fitted either with proximity switches or microswitches as limit switches. It is not possible to combine both variants. For the version TZIDC Control Unit with TZIDC Remote Sensor, the limit switches are located in the TZIDC Remote Sensor.

… Electrical connections

TZIDC Remote Sensor Electrical connection



Ⓐ Basic device
Ⓑ Options
① Position sensor
② Limit monitor with proximity switches (optional)
③ Limit monitor with microswitches (optional)

Figure 13: TZIDC Remote Sensor Electrical Connection

Connections for inputs and outputs

Terminal	Function / comments
1 / 2 / 3	**TZIDC control unit**
+51 / −52	**Proximity switches Limit 1** (Option)
+41 / −42	**Proximity switches Limit 2** (Option)
41 / 42 / 43	**Microswitches Limit 1** (Option)
51 / 52 / 53	**Microswitches Limit 2** (Option)

Note

The TZIDC Remote Sensor can be fitted either with proximity switches or microswitches as limit switches. It is not possible to combine both variants.

Electrical data for inputs and outputs

Analog input

Set point signal analog (two-wire technology)	
Terminals	+11 / −12
Nominal operating range	4 to 20 mA
Split range configuration between	20 to 100 % of the nominal operating range can be parameterized
Maximum	50 mA
Minimum	3.6 mA
Starting at	3.8 mA
Load voltage	9.7 V at 20 mA
Impedance at 20 mA	485 Ω

Digital input

Input for the following functions:

- no function
- move to 0 %
- move to 100 %
- Hold previous position
- block local configuration
- block local configuration and operation
- block any access (local or via PC)

Binary input DI	
Terminals	+81 / −82
Supply voltage	24 V DC (12 to 30 V DC)
Input ‘logical 0’	0 to 5 V DC
Input ‘logical 1’	11 to 30 V DC
Input Current	Maximum 4 mA

Binary output

Output configurable as alarm output by software.

Binary output DO	
Terminals	+83 / −84
Supply voltage	5 to 11 V DC (Control circuit in accordance with DIN 19234/NAMUR)
Output ‘logical 0’	> 0.35 mA to < 1.2 mA
Output ‘logical 1’	> 2.1 mA
Direction of action	Configurable ‘logical 0’ or ‘logical 1’

Module for analog feedback AO*

Without any signal from the positioner (e.g. 'no power' or 'initializing') the module sets the output to > 20 mA (alarm level).

Terminals	+31 / −32
Signal range	4 to 20 mA (split ranges can be parameterized)
• in the event of an error	> 20 mA (alarm level)
Supply voltage, two-wire technology	24 V DC (11 to 30 V DC)
Characteristic curve	rising or falling (configurable)
Deviation	< 1 %

Module for digital feedback SW1, SW2*

Terminals	+41 / −42, +51 / −52
Supply voltage	5 to 11 V DC (Control circuit in accordance with DIN 19234 / NAMUR)
Output 'logical 0'	< 1.2 mA
Output 'logical 1'	> 2.1 mA
Direction of action	Configurable 'logical 0' or 'logical 1'
Description	2 software switches for binary position feedback (position adjustable within the range of 0 to 100 %, ranges cannot overlap)

* The module for analog feedback and the module for digital feedback have separate slots and can be used together.

Assembly kits for limit monitor

Two proximity switches or microswitches for independent signaling of the actuator position, switching points are adjustable between 0 to 100%

Limit monitor with proximity switches Limit 1, Limit 2

Terminals	+41 / −42, +51 / −52	
Supply voltage	5 to 11 V DC (Control circuit in accordance with DIN 19234/NAMUR)	
Direction of action	Metal tag in proximity switch	Metal tag outside proximity switch
Type SJ2-SN (NC; log 1)	< 1.2 mA	> 2.1 mA

Limit monitor with 24 V microswitches Limit 1, Limit 2

Terminals	+41 / −42, +51 / −52
Supply voltage	maximum 24 V AC/DC
Load rating	Maximum 2 A
Contact surface	10 µm Gold (AU)

Mechanical position indicator

Indicator disk in enclosure cover linked with device feedback shaft.

These options are also available for retrofitting by Service.

… Electrical connections

Wire cross-sectional areas

Basic device

Electrical connections	
4 to 20 mA input	Screw terminals max. 2.5 mm^2 (AWG14)
Options	Screw terminals max. 1.0 mm^2 (AWG18)

Cross section	
Rigid / flexible wires	0.14 to 2.5 mm^2 (AWG26 to AWG14)
Flexible with wire end sleeve	0.25 to 2.5 mm^2 (AWG23 to AWG14)
Flexible with wire end sleeve no plastic sleeve	0.25 to 1.5 mm^2 (AWG23 to AWG17)
Flexible with wire end sleeve with plastic sleeve	0.14 to 0.75 mm^2 (AWG26 to AWG20)

Multi-wire connection capacity (two wire with the same cross-section)	
Rigid / flexible wires	0.14 to 0.75 mm^2 (AWG26 to AWG20)
Flexible with wire end sleeve no plastic sleeve	0.25 to 0.75 mm^2 (AWG23 to AWG20)
Flexible with wire end sleeve with plastic sleeve	0.5 to 1.5 mm^2 (AWG21 to AWG17)

Option modules

Cross section	
Rigid / flexible wires	0.14 to 1.5 mm^2 (AWG26 to AWG17)
Flexible with wire end sleeve no plastic sleeve	0.25 to 1.5 mm^2 (AWG23 to AWG17)
Flexible with wire end sleeve with plastic sleeve	0.25 to 1.5 mm^2 (AWG23 to AWG17)

Multi-wire connection capacity (two wire with the same cross-section)	
Rigid / flexible wires	0.14 to 0.75 mm^2 (AWG26 to AWG20)
Flexible with wire end sleeve no plastic sleeve	0.25 to 0.5 mm^2 (AWG23 to AWG22)
Flexible with wire end sleeve with plastic sleeve	0.5 to 1 mm^2 (AWG21 to AWG18)

Limit switch with proximity switches or 24 V microswitches	
Rigid wire	0.14 to 1.5 mm^2 (AWG26 to AWG17)
Flexible wire	0.14 to 1.0 mm^2 (AWG26 to AWG18)
Flexible with wire end sleeve no plastic sleeve	0.25 to 0.5 mm^2 (AWG23 to AWG22)
Flexible with wire end sleeve with plastic sleeve	0.25 to 0.5 mm^2 (AWG23 to AWG22)

Dimensions

All dimensions in mm (in)

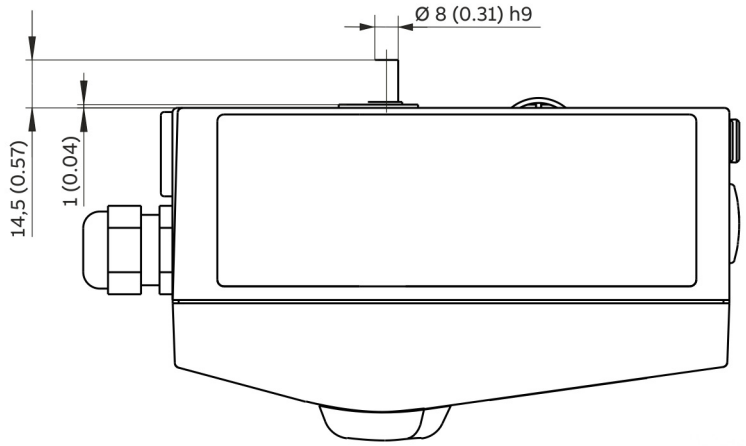
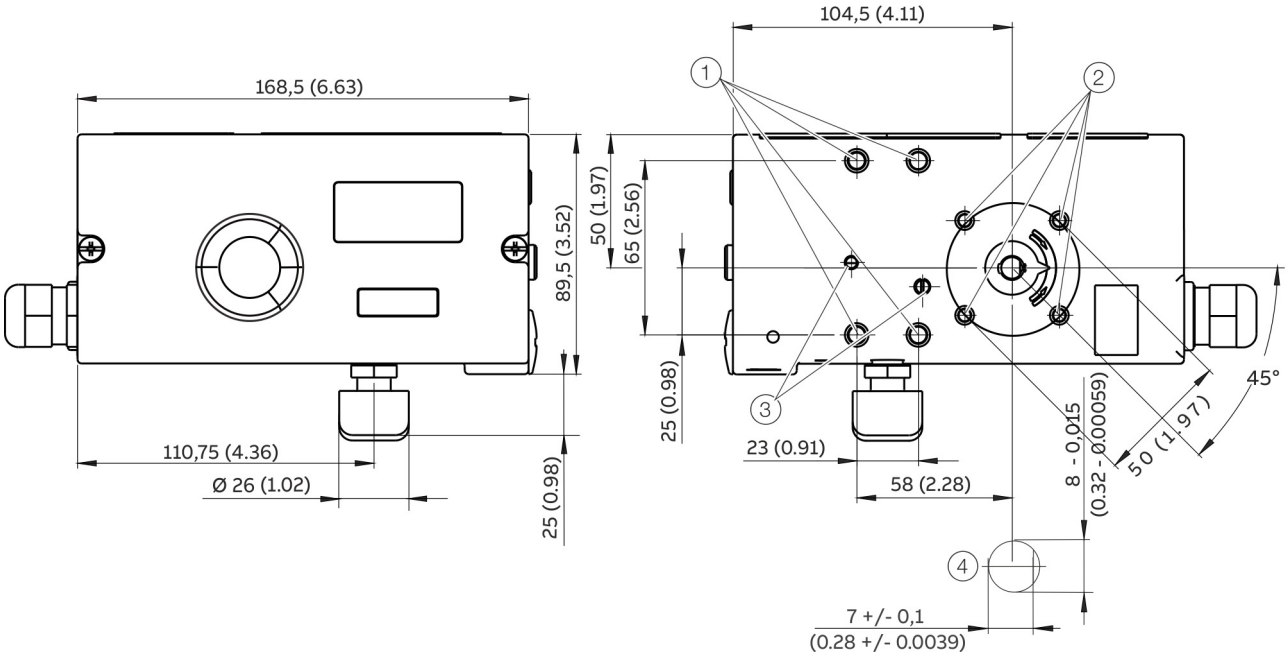


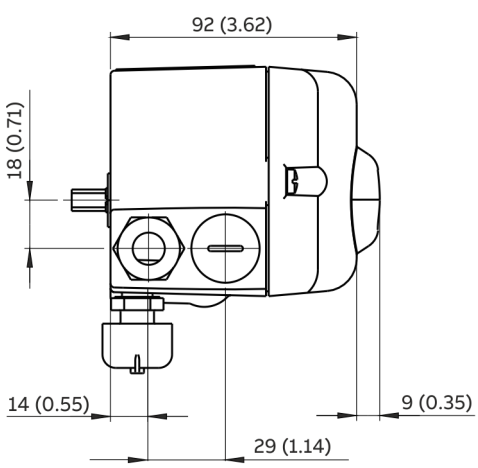
Figure 14: Top view

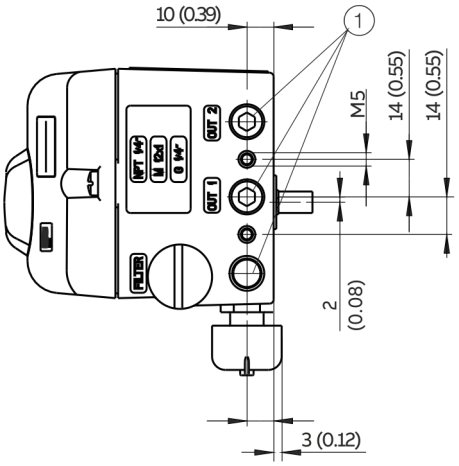


1. Threaded hole M8 (10 mm [0.39 in] deep)
2. Threaded hole M6 (8 mm deep [0.31 in])
3. Threaded hole M5 × 0.5 (air outputs for direct mount)
4. Sensor shaft (shown larger than scale)

Figure 15: Front and rear view

… Dimensions





① Pneumatic connections, NPT ¼ in-18 oder G¼

Figure 16: Side view (from left to right)

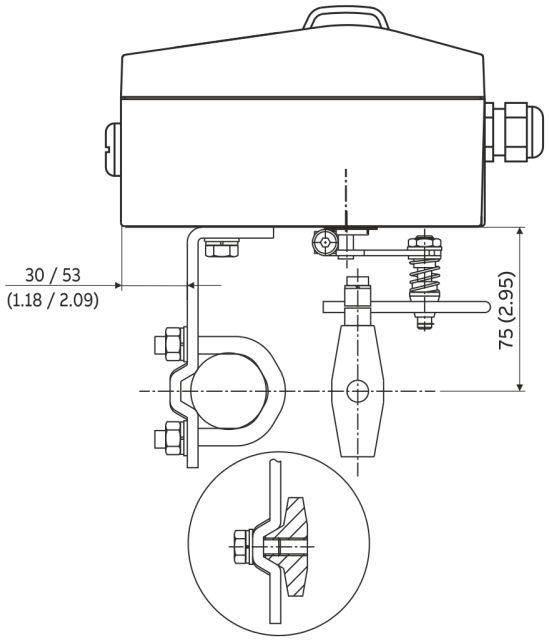
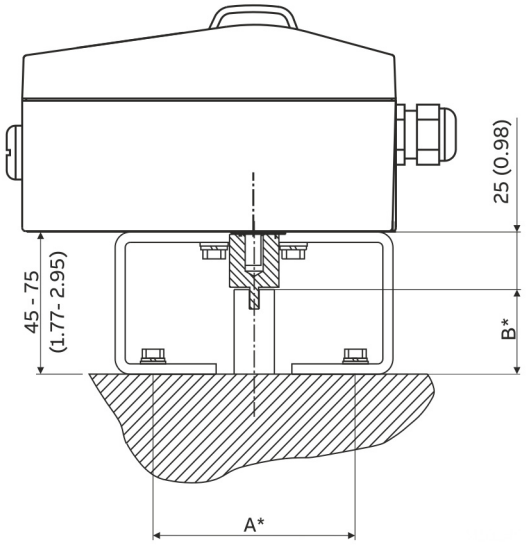


Figure 17: Mounting to linear actuators in accordance with DIN / IEC 534



* Dimensions A and B depend on the rotary actuator

Figure 18: Mounting on rotary actuators in accordance with VDI / VDE 3845

All dimensions in mm (in)

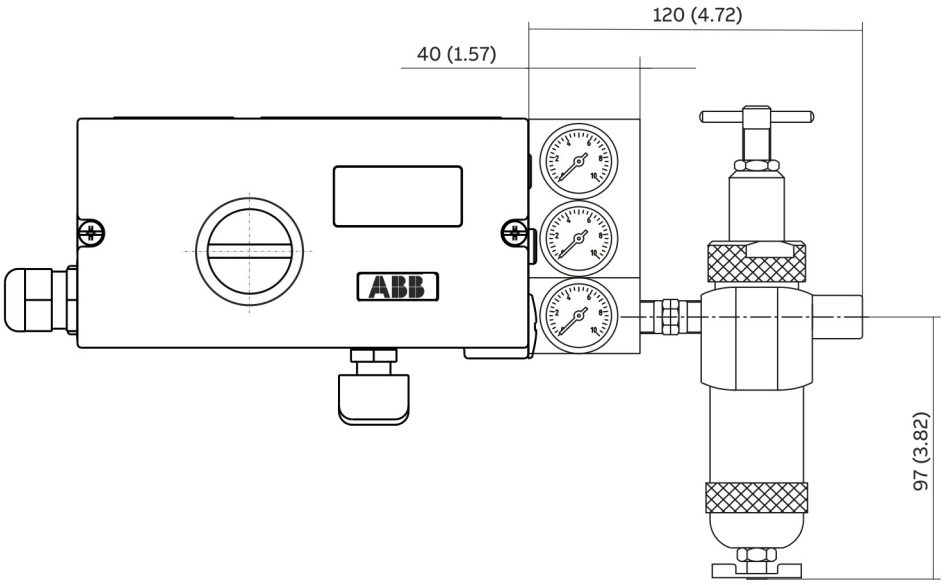


Figure 19: Positioner TZIDC with mounted pressure gauge block and filter regulator

Use in potentially explosive atmospheres

General requirements

- The ABB positioner has been approved only for appropriate and intended use in standard industrial atmospheres. Any breach of this rule leads to a cancellation of warranty and manufacturer's responsibility!
- Make sure that only devices which comply with the types of protection relevant to the applicable zones and categories are installed.
- All electric equipment has to be suited for the respective intended use.

Commissioning, Installation

The ABB positioner has to be mounted in a major system. Depending on the degrees of IP-protection, an interval for cleaning the equipment (dust settlement) has to be defined. Strict care has to be taken that only devices which comply with the types of protection relevant to the applicable zones and categories is installed. When installing the device, the locally applicable installation regulations, such as EN 60079-14, must be observed.
Other important facts to be observed:

- The electric circuits of the positioner must be put into operation in all zones by persons qualified in accordance with TRBS 1203. The details on the type label are mandatory for doing this.
- The device has been designed in accordance with IP 65 (optionally IP 66) and must be protected accordingly against adverse ambient conditions.
- The EC Type Examination Certificate has to be taken into account, including any special conditions defined therein.
- The device may only be used in accordance with its intended use.
- The device may only be connected when de-energized.
- The potential equalization of the system must be established in accordance with installation regulations applicable in the respective country (VDE 0100, part 540, IEC 364-5-54)).
- Circulating currents must not be guided through the housing!
- Make sure that the housing is properly installed and that its IP rating has not been compromised.
- In potentially explosive atmospheres, assembly may be conducted only in compliance with locally applicable installation regulations. The following conditions have to be observed (incomplete):
  - Assembly and maintenance may only be conducted if there is no explosion hazard in the area and you have a hot work permit.
  - The TZIDC may be operated in a fully mounted and intact housing only.

Notes for operation

- The positioner must be integrated in the local potential equalization system.
- Only either intrinsically safe or non intrinsically safe circuits may be connected. A combination is not permit - ted.
- If the positioner is operated with non intrinsically safe circuits, later use for the intrinsic safety type of protection is not permitted.

Use, operation

The TZIDC is approved for proper and intended use only. In case of non-compliance, the warranty and manufacturer’s liability do no longer apply!

- Only those auxiliary components which fulfill all the requirements of European and national standards may be used in potentially explosive atmospheres.
- The ambient conditions specified in the operating instruction must be strictly followed.
- The TZIDC is approved for proper and intended use in standard industrial atmospheres only. Where aggressive substances are present in the air, the manufacturer has to be consulted.

Maintenance, repair

Definition of terms according to IEC 60079-17:

Maintenance

Defines a combination of actions performed to maintain or restore the condition of an item such that the item meets the requirements of the relevant specification and performs its required functions.

I ¬Analyzer module without electronics module (power supply):

Defines an action which involves careful inspection of an item (either without disassembly or with partial disassembly, as required) supplemented by measurements, aimed at achieving a reliable conclusion regarding the condition of the item.

Visual inspection

Defines an inspection which identifies defects which are visible to the naked eye, such as missing screws, without the use of access equipment and tools.

Close inspection

Defines an inspection which encompasses the aspects covered by a visual inspection and in addition, identifies defects such as loose screws, which can only be detected with the use of access equipment (e.g. steps) and tools.

Detailed inspection

Defines an inspection which encompasses the aspects covered by a close inspection and in addition, identifies defects, such as loose connections, which can only be detected by opening the housing and / or by using tools and test devices, as needed.

- Maintenance and exchange work may be conducted by qualified specialists only, i.e., qualified personnel in accordance with TRBS 1203 or similar.
- Only those auxiliary components which fulfill all the requirements of European and national guidelines and regulations may be used in potentially explosive atmospheres.
- Maintenance works that require disassembly of the system may only be performed in non-hazardous areas. If that is not possible, however, the usual precautions have to be ensured according to local regulations.
- Components may only be replaced by original spare parts which are therefore approved for use in potentially explosive atmospheres.
- The device must be regularly cleaned when used in potentially explosive atmospheres. The intervals must be defined by the operator in compliance with the ambient conditions present at the operating location.
- After all maintenance and repair work has been completed, any barriers and plates removed for that purpose must be put back in their original place.
- The flameproof joints differ from the tables of IEC 60079-1 and may be repaired by the manufacturer only.

Activity	Visual inspection (every 3 months)	Close inspection (every 6 months)	Detailed inspection (every 12 months)
Visual inspection of the positioner for integrity, removal of dust deposits	●		
Inspection of electric installation for integrity and proper operation			●
Inspection of the entire installation	Responsibility of the operator		

… Use in potentially explosive atmospheres

Product identification

Depending on the type of explosion protection, Ex-marking is attached to the positioner on the right, next to the main name plate.
This indicates the level of explosion protection and the device's relevant Ex certificate.

Marking (name plate)

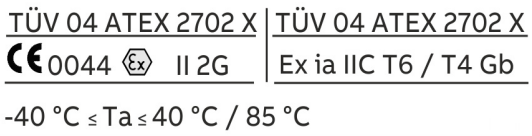


Figure 20: Marking

Note
A legible marking showing the type of protection required for the intended area of application must be affixed to the device before it is put into operation for the first time.

Preconditions for safe operation of the positioner

⚠ DANGER

Risk of explosion due to hot parts
Hot parts inside the device pose an explosion hazard.
- Never open the device immediately after switch-off.
- A waiting time of at least four minutes should be observed before opening the device.

When using in hazardous areas, observe the following points:
- Observe the specification and special conditions applicable for the device in accordance with the relevant valid certificate.
- Manipulation of the device in any form by the user is not permitted. Only the manufacturer or an explosion protection specialist may modify the device
- The IP 65 / NEMA 4x IP rating is only achieved if the splash guard is screwed in place. Operating the unit without splash guard cap is prohibited.
- The device may only be operated using instrument air that is free from oil, water and dust. The use of flammable gas, oxygen, or oxygen-enriched gas is not permitted.

Cable gland
Limited temperature range of the M20 × 1.5 plastic cable gland for explosion protection variants.
The permissible ambient temperature range of the cable gland is −20 to 80 °C (−4 to 176 °F). When using the cable gland, make sure that the ambient temperature is within this range. The cable gland must be installed in the housing with a tightening torque of 3.8 Nm. When installing the connection of the cable gland and cable, check for tightness to ensure that the required IP rating is met.

ATEX / EAC TR-CU-012

(limited functionality with EAC TR-CU-012)

ATEX Ex i

Ex marking	
Marking	II 2 G Ex ia IIC T6 resp. T4 Gb II 2 G Ex ib IIC T6 resp. T4 Gb
Type Examination Test Certificate	TÜV 04 ATEX 2702 X
Type	Intrinsically safe equipment
Device class	II 2 G
Standards	EN 60079-0:2012 EN 60079-11:2012

Temperature Data

Device group II 2 G	
Temperature class	**Ambient temperature Ta**
T4	−40 to 85 °C
T5	−40 to 50 °C
T6*	−40 to 40 °C*

* When using the 'Limit monitor' plug−in module in temperature class T6, the maximum permissible ambient temperature range is −40 to 35 °C.

Electrical Data

In intrinsically safe explosion protection types Ex ib IIC / Ex ia IIC or Ex ia IIIC, only for connection to a certified intrinsically safe circuit.

Current circuit (terminal)	**Electrical information (maximum values)**	
Signal circuit (+11 / −12)	U_i = 30 V I_i = 320 mA P_i = 1.1 W	C_i = 6.6 nF L_i = negligibly small
Contact input (+81 / −82)	U_i = 30 V I_i = 320 mA P_i = 1.1 W	C_i = 14.5 nF L_i = negligibly small
Switch output (+83 / −84)	U_i = 30 V I_i = 320 mA P_i = 500 mW	C_i = 14.5 nF L_i = negligibly small
Mechanical limit monitor, (Pepperl & Fuchs SJ2-SN) (Limit1: +51 / −52), (Limit2: +41 / −42)	U_i = 20 V C_i = ≤ 30 nF L_i = ≤ 100 µH I_i = 25 mA P_i = 1.1 W	
Plug-in module for limit monitor (+51 / −52) (+41 / −42)	U_i = 30 V I_i = 320 mA P_i = 250 mW	C_i = 3.7 nF L_i = negligibly small
Plug-in module for analog position feedback (+31 / −32)	U_i = 30 V I_i = 320 mA P_i = 1.1 W	C_i = 6.6 nF L_i = negligibly small
Interface with the TZIDC Remote Sensor (X2-2: +Uref, X3-2: GND, X3-1: signal)	U_0 = 5.4 V I_0 = 74 mA P_0 = 100 mW C_i = negligibly small L_i = negligibly small	Ex ia or Ex ib type of protection IIC: L_0 = 5 mH C_0 = 2 µF IIB: L_0 = 5 mH C_0 = 10 µF
Local communication interface (LCI)	Only for connection to a programming device using an ABB LCI adapter (Um ≤ 30 V DC) outside the hazardous area.	

Special conditions

- Prevent electrostatic charging due to propagating brush discharge when the equipment is used for applications involving combustible dust.

… Use in potentially explosive atmospheres

IECEx Ex i

Ex marking	
Marking	Ex ia IIC T6 or T4 Gb Ex ib IIC T6 or T4 Gb
Type Examination Test Certificate	IECEx TUN 04.0015X
Type	Intrinsic safety 'i'
Standards	IEC 60079-0:2011 IEC 60079-11:2011

Temperature Data

Temperature class	**Ambient temperature Ta**	
	TZIDC Ex ia IIC	**TZIDC Ex ib IIC**
T4	−40 to 85 °C	−40 to 85 °C
T6*	−40 to 40 °C*	−40 to 40 °C

* When using the 'Limit monitor' plug−in module in temperature class T6, the maximum permissible ambient temperature range is −40 to 35 °C.

Electrical Data

In 'intrinsically safe Ex ib IIC / Ex ia IIC' type of protection, only for connection to a certified intrinsically safe circuit.

Current circuit (terminal)	**Electrical information (maximum values)**	
Signal circuit (+11 / −12)	U_i = 30 V I_i = 320 mA P_i = 1.1 W	C_i = 6.6 nF L_i = negligibly small
Contact input (+81 / −82)	U_i = 30 V I_i = 320 mA P_i = 1.1 W	C_i = 14.5 nF L_i = negligibly small
Switch output (+83 / −84)	U_i = 30 V I_i = 320 mA P_i = 500 mW	C_i = 14.5 nF L_i = negligibly small
Local communication interface (LCI)	Only for connection to a programming device using an ABB LCI adapter (Um ≤ 30 V DC) outside the hazardous area.	

The following modules may be operated as an option:

Current circuit (terminal)	**Electrical information (maximum values)**	
Plug-in module for limit monitor (+51 / −52) (+41 / −42)	U_i = 30 V I_i = 320 mA P_i = 250 mW	Ci = 3.7 nF Li = negligibly small
Plug-in module for analog position feedback (+31 / −32)	U_i = 30 V I_i = 320 mA P_i = 1.1 W	Ci = 6.6 nF Li = negligibly small

Special conditions

- For the 'Limit monitor with proximity switches' circuit, measures outside of the device must be implemented to prevent the rated voltage from being up-scaled by more than 40 % due to transient disturbances.
- It is only permissible to connect, disconnect, and switch live circuits during installation or maintenance, or for the purpose of carrying out repairs. Note: It is considered very unlikely that a hazardous atmosphere would be present in Zone 2 at the same time that installation, maintenance or repair work was being carried out.
- Only non-flammable gases may be used for pneumatic power supply.
- Only use suited cable entries that meet the requirements of EN 60079-15.

Ordering Information

Main ordering information TZIDC

Base model **V18345**	**XX**	**X**	**X**	**X**	**X**	**X**	**XX**	**X**
TZIDC digital positioner, intelligent, configurable, with indicator and operator panel								
Case / Mounting								
Case made of aluminium, varnished, for mounting to linear actuators acc. DIN / IEC 534 / NAMUR or to rotary actuators acc. VDI / VDE 3845	10							
Case made of aluminium, varnished, with mechanical position indicator, for mounting to linear actuators acc. DIN / IEC 534 / NAMUR or to rotary actuators acc. VDI / VDE 3845	20							
Case made of aluminium, varnished, for integral mounting to control valves (see dimensional drawing)	30							
Case made of aluminium, varnished, with mechanical position indicator, for integral mounting to control valves (see dimensional drawing)	40							
Remote sensor control unit	70*							
Input / Communication Port								
Input 4 bis 20 mA, two-wire, with connector plug for LCI adapter		1						
Input 4 bis. 20 mA, two-wire, with connector plug for LCI adapter and FSK module for HART communication		2						
Explosion Protection								
Without			0					
ATEX II 2 G Ex ib IIC T6 resp. T4 Gb			1					
FM / CSA			2**					
IECEx Ex ib IIC T6 resp. T4 Gb			5					
ATEX II 2 G Ex ia IIC T6 resp. T4 Gb			7					
EAC TR-CU-012 Ex ia IIC T6/T4 Gb			H**					
EAC TR-CU-012 Ex ib IIC T6/T4 Gb			J**					
IECEx ia IIC T6 resp. T4 Gb			K					
NEPSI Ex ia II CT4/T5/T6 Gb			U					
NEPSI Ex ib II CT4/T5/T6 Gb			V					
INMETRO Ex ia IIC Gb / Ex ib IIC Gb			P					
Output / Safe Position (in case of an electrical power failure)								
Single acting, fail safe				1				
Single acting, fail freeze				2				
Double acting, fail safe				4***				
Double acting, fail freeze				5***				

* With standard characteristic curve, if delivered without remote sensor

** Reduced Functionality

*** Not for for integral mounting

Continued see next page

… Ordering Information

TZIDC digital positioner, intelligent, configurable, with indicator and operator panel	**X**	**X**	**XX**	**X**
Connections				
Cable: Thread ½-14 NPT, air pipe: Thread ¼-18 NPT	2			
Cable: Thread M20 × 1.5, air pipe: Thread ¼-18 NPT	5			
Cable: Thread M20 × 1.5, air pipe: Thread G ¼	6			
Cable: Thread G ½, air pipe: Thread Rc ¼	7			
Option Modules for Analog or Digital Position Feedback				
Without		0		
Plug-in module for analog position feedback, signal range 4 bis 20 mA, two-wire		1		
Plug-in module for digital position feedback		3		
Plug-in module for analog position feedback, signal range 4 bis 20 mA, two-wire, and digital position feedback		5		
Optional Mechanical Kit for Digital Position Feedback				
Without			00	
Mechanical kit for digital position feedback with proximity switches SJ2-SN (NC or logical 1)			10*	
Mechanical kit for digital position feedback with 24 V AC / DC microswitches (change-over contacts)			50**	
Design (Varnish / Coding)				
Standard				1
Higher Stiffness + Lower Air Capacity				H***
Protection Class IP 66 / NEMA 4X				P
Increased Corrosion Protection				S

* Only for model with mechanical position indicator, no IECEx

** Not for explosion protected version and only for model with mechanical position indicator

*** Only with Type Double Acting

Continued see next page

Additional ordering information TZIDC

Additional ordering information	XX	XXX	XXX
Documentation Language	M1		
German	M2		
Italian	M3		
Spanish	M4		
French	M5		
English	M7		
Swedish	M8		
Finnish	M9		
Polish	MA		
Portuguese	MB		
Russian	MC		
Czech	MD		
Dutch	MF		
Danish	MG		
Greek	MH		
Croatian	ML		
Latvian	MM		
Hungarian	MO		
Estonian	MP		
Bulgarian	MR		
Romanian	MS		
Slovak	MU		
Lithuanian	MV		
Slovenian	M1		
SIL2 - Declaration of Conformity			
SIL2 - Declaration of Conformity		CS2*	
Certificate of Compliance			
Certificate of compliance with the order acc. EN 10204-2.1 (DIN 50049-2.1) with item description			CF2
Test report 2.2 acc. EN 10204 (DIN 50049-2.2)			CF3
Ships Register Certifications DNV_GL			CM1

* With single acting, fail safe pneumatic only

… Ordering Information

Additional ordering information	**XXX**	**XXX**	**XXX**	**XXX**	**XXX**	**XX**	**XX**	**XX**	**XX**	**XX**
Inspection Certificate										
Inspection certificate 3.1 acc. EN 10204	CBA									
Handling of Certificates										
Send via e-mail		GHE								
Send via mail		GHP								
Send via mail express		GHD								
Send with instrument		GHA								
Only archived		GHS								
Certificate preparation										
Per device			GPD							
Per salesorder item			GPP							
Device Identification Label										
Stainless steel 18.5 × 65 mm (0.73 × 2.56 in)				MK1*						
Sticker 11 × 25 mm (0.43 × 0.98 in)				MK3						
Special Option Cable Gland										
With cable gland					ZG1					
Remote Sensor										
Basic unit						RS**				
Basic unit with position indicator						RD**				
Remote Sensor Temperature Range										
Extended ambient temperature range −40 to 100 °C (−40 to 212 °F)							RT**			
Remote Sensor Vibration Resistance										
Advanced vibration range 2 g @ 300 Hz								RV**		
Remote Sensor Protection Class										
Protection class IP 67									RP**	
Remote Sensor Cable										
5 m cable enclosed										R5**
10 m cable enclosed										R6**

* Plain text, max. 16 letters

** Only with remote sensor control unit

Accessories

Accessories	Order number
Communication	
LCI adapter with USB interface – only for TZIDC Rev. 5	3KXE000128U0100
Mounting bracketole	
EDP300 / TZIDC Mounting bracket for rotary actuators (mounting to VDI / VDE 3845), dimension A/B = 80/20 mm	319603
EDP300 / TZIDC Mounting bracket for rotary actuators (mounting to VDI / VDE 3845), dimension A/B = 80/30 mm	319604
EDP300 / TZIDC Mounting bracket for rotary actuators (mounting to VDI / VDE 3845), dimension A/B = 130/30 mm	319605
EDP300 / TZIDC Mounting bracket for rotary actuators (mounting to VDI / VDE 3845), dimension A/B = 130/50 mm	319606
Montage Kit	
EDP300 / TZIDC Mounting Kit Uhde Type 4 Stroke 400 mm cropped	7959500
Attachment kit for linear actuators	
EDP300 / TZIDC Attachment kit for linear actuators, stroke 10 to 35 mm	7959125
EDP300 / TZIDC Attachment kit for linear actuators, stroke 20 to 100 mm	7959126
Lever	
EDP300 / TZIDC Lever 30 mm	7959151
EDP300 / TZIDC Lever 100 mm	7959152
Adapter	
EDP300 / TZIDC Adapter (shaft coupler) for rotary actuators (mounting to VDI / VDE 3845)	7959110
EDP300 / TZIDC Form – locking shaft adapter	7959371
Pressure gauge block	
TZIDC Pressure gauge block, single acting, black, 2 pressure gauges 28 mm, connectors G ¼ in, 1 × 0 to 10 bar / 0 to 140 psi for air supply, 1 × 0 to 10 bar / 0 to 140 psi for output pressure, including attachments	7959112
TZIDC Pressure gauge block, 0.6 MPa, single acting, G ¼ connection	7959364
TZIDC Pressure gauge block, 0.6 MPa, single acting, Rc ¼ connection	7959358
TZIDC Pressure gauge block, 0.6 MPa, single acting, NPT ¼ connection	7959360
TZIDC Pressure gauge block, single acting, black, 2 pressure gauges 28 mm, connectors ¼ in NPT, 1 × 0 to 10 bar / 0 to 140 psi for air supply, 1 × 0 to 10 bar / 0 to 140 psi for output pressure, including attachments	7959114
TZIDC Pressure gauge block, double acting, black, 3 pressure gauges 28 mm, connectors G ¼ in, 1 × 0 to 10 bar / 0 to 145 psi for air supply, 2 × 0 to 10 bar / 0 to 145 psi for output pressure, including attachments	7959116
TZIDC Pressure gauge block, 0.6 MPa, double acting, G ¼ connection	7959365
TZIDC Pressure gauge block, 0.6 MPa, double acting, Rc ¼ connection	7959359
TZIDC Pressure gauge block, 0.6 MPa, double acting, NPT ¼ connection	7959361
TZIDC Pressure gauge block, double acting, black, 3 pressure gauges 28 mm, connectors ¼ in NPT, 1 S 0 to 10 bar / 0 to 140 psi for air supply, 2 × 0 to 10 bar / 0 to 140 psi for output pressure, including attachments	7959118
TZIDC Pressure gauge block, double acting, black, 3 pressure gauges stainless steel 28 mm, connectors ¼ in NPT, 1 × 0 to 10 bar / 0 to 140 psi for air supply, 2 × 0 to 10 bar / 0 to 140 psi for output pressure, incl. attachments	7959185
TZIDC Filter regulator, brass, connections thread G ¼, incl. material for mounting to pressure gauge block	7959119
TZIDC Filter regulator, brass, connections thread ¼-18 NPT, incl. material for mounting to pressure gauge block	7959120
TZIDC Pressure gauge block black, 2 pressure gauges stainless steel 28mm, Connectors G¼ in, 1 × 0 to 10 bar / 0 to 140 psi for air supply, 1 × 0 to 10 bar / 0 to 140 psi for output press, single acting, G ¼, 0 to 10 bar, incl. attachments	7959179
TZIDC Pressure gauge block black, 2 pressure gauges stainless steel 28mm, Connectors G¼in, 1 × 0 to 10 bar / 0 to 140 psi for air supply, 1 × 0 to 10 bar / 0 to 140 psi for output press, double acting, G ¼, 0 to 10 bar, incl. attachments	7959183

… Ordering Information

Accessories	Order number
Attachment kit	
EDP300 / TZIDC Attachment kit for Fisher 1051-30, 1052-30	7959214
EDP300 / TZIDC Attachment kit for Fisher 1061 size 130	7959206
EDP300 / TZIDC Attachment kit for Fisher 471	7959195
EDP300 / TZIDC Attachment kit for Fisher 657 / 667 Size 10 to 90 mm	7959177
EDP300 / TZIDC Attachment kit for Fisher Gulde 32/34	7959344
EDP300 / TZIDC Attachment kit for Gulde DK	7959161
EDP300 / TZIDC Attachment kit for Keystone 79U/E-002(S) … 79U/E-181(S)	7959147
EDP300 / TZIDC Attachment kit for Masoneilan CAMFLEX II, VARIMAX, MINITORK II	7959144
EDP300 / TZIDC Attachment kit for Masoneilan VariPak 28000 series	7959163
EDP300 / TZIDC Attachment kit for MaxFlo MaxFlo	7959140
EDP300 / TZIDC Attachment kit for NAF 791290	7959207
EDP300 / TZIDC Attachment kit for NAMUR stroke 100 to 170 mm	7959339
EDP300 / TZIDC Attachment kit for NELES BC6-20, B1C6-20, BJ8-20, B1J8-20	7959146
EDP300 / TZIDC Attachment kite, lever for linear stroke, length 150 to 250 mm	7959210
TZIDC Attachment kit for Valves Nuovo Pignone, pressure gauge block with 2 manometers, material stainless steel single acting, ¼ in NPT, 0 to 10 bar	7959181
EDP300 / TZIDC Attachment kit for Samson 241, 271, 3271	7959145
EDP300 / TZIDC Attachment kit for Samson 3277	7959136
EDP300 / TZIDC Attachment kit for Schubert&Salzer GS 8020 / 8021 / 8023	7959200
EDP300 / TZIDC Attachment kit for SED SED stroke 100 mm	7959141
EDP300 / TZIDC Attachment for remote sensor control unit (for wall or pipe mounting)	7959381
TZIDC Mounting kit TZIDC-200 Lever 30 mm	7959262
TZIDC Attachment Kent Introl 170 mm	7959376
TZIDC Attachment Kent Introl 250 mm	7959377

Trademarks

HART is a registered trademark of FieldComm Group, Austin, Texas, USA

Sales

Service

Notes



Castel Maggiore (BO) 40013
Via Lirone 60/i

e-mail: info@eurotecsrl.com
Tel: +39 051/6321595
Website: www.eurotecsrl.com

C.F.: 04103780377
P.I.: 01596581205

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