ABB Service Manual

V18348-10111310110

1. Description

V18348-10111310110

3. Product Information

V18348-10111310110 | ABB TZIDC-200 Digital Positioner V18348

Part Number: V18348-10111310110

Model: TZIDC-200 Digital Positioner V18348

Brand: ABB

Condition: New & Original in Factory Packing

Factory Warranty: 12 Months

Ordering Information

Model V18348 TZIDC-200 Digital Positioner, with flameproof enclosure, intelligent, software-configurable with Local Communication Interface (LKS) and HART communication

Case / Mounting 1 0 Case made of aluminium, varnished, for mounting to linear actuators acc. DIN / IEC 534 / NAMUR or to rotary actuators acc. VDI / VDE 3845

Operation 1 With operator panel and display integrated in the enclosure cover

Explosion Protection 1 ATEX Ex d II C T4/T5/T6 Gb

Output / Safe Position (in case of an electrical power failure) 1 Single acting, fail safe

Connections 3 Cable: Thread 1/2-14 NPT, air pipe: Thread 1/4-18 NPT

Option Modules for Analog or Digital Position Feedback 1 Plug-in module for analog position feedback, signal range 4 ... 20 mA, two-wire

Optional Mechanical Kit for Digital Position Feedback 0 Without

Parameter Setting / Bus Address 1 Factory setting for HART devices

Design (Varnish / Coding) 1 Standard

Device Identification Label 0 Without

General

Microprocessor_x0001_based position control in the TZIDC provides for

optimal results. The positioner features high_x0001_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

– Monitoring parameters

– Diagnosis parameters

– Maintenance parameters

Operating parameters

• Signal range

Minimum signal 4 mA, maximum signal 20 mA (0...100 %)

freely selectable for split_x0001_range operation

minimum range 20 % (3.2 mA),

recommended range > 50% (8.0 mA)

• Action (signal)

Direct: Signal 4...20 mA = position 0...100 %

Reverse: Signal 20...4 mA = position 0...100 %

• Characteristic curve (travel = f {signal})

linear,

equal percentage 1:25 or 1:50 or 25:1 or 50:1,

or user_x0001_configurable with 20 reference points

• Travel limit

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 parameter can be set separately for each end position.

When the respective configured limit value is exceeded, the

shut_x0001_off function causes immediate travel of the actuator until

reaching the set end position.

When the shut_x0001_off value is set to “0”, the position is further con_x0001_

trolled, even in the respective end position.

• Travel time prolongation

With this function the max. travel time for full travel can be in_x0001_

creased. This time parameter can be set separately for each

direction.

• Switching points for the position

This parameter allows you to define two position limits for signalling (see Options: Module for digital position feedback).

• Digital output

The alarms generated in the TZIDC 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 con_x0001_ figuration program. The output can be set to “active high” or “active low”, as required.

• Digital input

One of the following protective functions can be selected for the digital input, either via the local operator panel or remotely via the configuration program:

_x0001_ no function (default setting)

_x0001_ move to 0% position

_x0001_ move to 100 % position

_x0001_ hold last position

_x0001_ disable local configuration

_x0001_ disable local configuration and operation

_x0001_ disable any access (no local or remote access (via a PC))

The selected function is activated once the 24 V DC signal is no longer applied (< 10 V DC).

Adjustment parameters

The TZIDC positioner has a special function for automatic adjust_x0001_ ment 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

When reaching the tolerance band the position is considered as corrected. From this point on, the position is further slowly re_x0001_adjusted until the dead band is reached. The factory setting for this parameter is 0.3 %.

• Dead band

When reaching the dead band, the position is held. The factory setting for this parameter is 0.1 %.

• Actuator spring action

Selection of the sensor shaft rotating sense (looking into the open case), if the valve is moved to the safe position by the ac_x0001_ tuator spring (actuator is depressurized via OUT1). For double_x0001_ acting actuators the actuator spring action corresponds to pressurizing the pneumatic output (OUT2).

• Zero position

Adjusting the display (0...100 %) according to the direction of action for opening or closing the valve.