ABB Service Manual

V18345-2010521001

1. Description

V18345-2010521001

3. Product Information

V18345-2010521001 | ABB | TZIDC Electro-Pneumatic Positioner

Manufacturer : ABB

Product No. : V18345-2010521001

Product Type : TZIDC Electro-Pneumatic Positioner

Case / Mounting : 20 = 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

Input / Communication Port : 1 = Input 4 ... 20 mA, two-wire, with connector plug for LKS adapter

Explosion Protection : 0 = Without

Output / Safe Position (in case of an electrical power failure) : 5 = Double acting, fail freeze

Connections : 2 = 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 : 00 = Without

Design (Varnish / Coding) : 1 = Standard

Weight : 1.7 Kg

Monitoring parameters

Various functions for permanent operational monitoring are implemented in the TZIDC operating program. The following states will be detected and indicated:

– 4...20 mA signal out of range

– position out of the adjusted range

– positioning time_x0001_out (adjustable time parameter)

– position controller inactive

– counter limits (settable in the diagnosis phase) exceeded

While automatic commissioning is in progress, the current state is continuously indicated on the integrated LC display.

During operation, the LC display shows the most important pro_x0001_ cess variables:

– current position (in %),

– malfunctions, alarms, messages (as code)

Access to extended monitoring parameters is possible via HART communication.

Diagnosis parameters

The diagnosis parameters of the TZIDC program inform the oper_x0001_ ator about the operating conditions of the valve. From this infor_x0001_ mation the operator can derive which maintenance works are required, and when. Additionally, limit values can be defined for these parameters. When they are exceeded, an alarm is reported.

The following values are e.g. determined:

– Number of movements performed by the valve

– Total travel

The diagnosis parameters and limit values can be called up, set, and reset via HART communication, using the configuration pro_x0001_ gram.

Fig. 6: TZIDC with removed cover, view of the operator panel

Operator panel

The TZIDC positioner’s operator panel with four push_x0001_buttons allows for

– operational monitoring

– manual control

– configuration

– fully automatic commissioning

The operator panel is protected by a cover which avoids unau_x0001_ thorized access to the operating elements.

Single-button commissioning

Commissioning the TZIDC positioner is especially easy. The standard Autoadjust function for automatic adaptation of the device parameters can be started by simply pressing a single front panel button, and without knowing parameterization details.

Depending on the selected actuator type (linear or rotary), the displayed zero position is automatically adapted: turning counter_x0001_clockwise for linear and clockwise for rotary actuators.

Besides this standard function, a customized Autoadjust function is available, which can be started either locally by pressing the respective push_x0001_buttons or via HART communication.

Display

The information indicated by the 2_x0001_line LC display is permanently updated and adapted during operation, to inform the operator in an optimal way.

During control operation (control with or without adaptation) the following TZIDC data can be called up by pressing the push_x0001_but_x0001_tons briefly:

Up arrow button: Current setpoint (mA)

Down arrow button: Internal device temperature

Up + Down arrow buttons: Current control deviation