ABB Service Manual

V18345-2010420001

1. Description

V18345-2010420001

3. Product Information

V18345-2010420001 | ABB | TZIDC Electro-Pneumatic Positioner

Manufacturer : ABB

Product No. : V18345-2010420001

Product type : TZIDC Electro-Pneumatic Positioner

V18345 : TZIDC = intelligent, configurable with indicator and operator panel

Case / Mounting : 2 = Case made of aluminium, varnished,protection IP 65 (NEMA 4X) for mounting to linear actuators acc. to DIN/IEC 534 / NAMUR or to rotary actuators acc. to VDI/VDE 3845 as above, but with mechanical position indicator

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

Explosion protection : 0 = without

Output / safe position (in case of an electrical power failure) : 4 = Double acting, fail safe

Connections : 2 = Cable: Thread 1/2-14 NPT, Air pipe: Thread 1/4-18 NPT

Option modules for analog or digital position feedback : 0 = without

Optional mechanical kit for digital position feedback : 0 = without

Design (varnish / coding) : 1 = Standard

Output signal (two-wire technology) Nominal range : 4 ... 20 mA

Digital input : Control voltage 0 ... 5 V DC logical switching state "0" 11 ... 30 V DC logical switching state "1"

Digital output (control circuit to DIN 19234/NAMUR) Supply voltage : 5 ... 11 V DC

Supply pressure : 1.4 ... 6 bar (20 ... 90 psi)

Air consumption : < 0.03 kg/h / 0.015 scfm (independent of supply pressure)

Housing Material/Protections : Aluminum, protection class IP 65 / NEMA 4X

Surface/color : Electrostatic dipping varnish with epoxy resin, stove-hardened. Case varnished black, RAL 9005, matte, housing cover Pantone 420.

Pneumatic connections : Threads G 1/4 or 1/4-18 NPT

Weight : 1.7 Kg

Air supply

Instrument air free of oil, water and dust acc.

to DIN / ISO 8573-1

pollution and oil content

according to Class 3 (purity:

max. particle size: 5 µm, max.

particle density: 5 mg / m3; oil

content: max. concentration: 1

mg / m3; pressure dew point: 10

K below operating temperature

Supply pressure 1.4 ... 6 bar (20 ... 90 psi)

Note: Do not exceed the max.

operating pressure of the

actuator!

Air consumption < 0,03 kg/h / 0,015 scfm

(independent of supply

pressure)

5.5 Transmission data and influences

Output Y1

Increasing Increasing output signal 0 ... 100 %

Increasing pressure at output

Decreasing Increasing output signal 0 ... 100 %

Decreasing pressure at output

Action (positioning signal)

Increasing Signal 4 ... 20 mA =

actuator position 0 ... 100 %

Decreasing Signal 20 ... 4 mA =

actuator position 0 ... 100 %

Characteristic curve (travel = f {signal})

Linear, equal percentage 1:25 or 1:50 or 25:1 or 50:1 and freely

configurable with 20 reference points.

Characteristic deviation < 0,5 %

Tolerance band 0.3 ... 10 %, adjustable

Dead band 0,1 ... 10 %, adjustable

Resolution (A/D conversion) > 4000 steps

Sample rate 20 ms

Influence of ambient temperature < 0.5 % per 10 K

Influence of vibration < ± 1 % 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

Not measurable.

Meets the requirements of the following directives

- EMC Directive 89 / 336 / EWG as of May 1989
- EC Directive for CE conformity marking

Communication

- HART Protocol 5.1
- Local connector for LKS (local communication interface) adapter
- HART communication via 20 mA signal line with (optional) FSK modem