ABB Service Manual

V18345-1010120001

1. Description

Manufacturer : ABB

3. Product Information

Manufacturer : ABB

Product No. : V18345-1010120001

Product type : TZIDC Electro-Pneumatic Positioner

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

Case / Mounting : 1 = 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 also ready for integral mounting

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) : 1 =Single 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

Environmental capabilities

Ambient temperature

For operation, storage and

transport:

-40 ... 85 °C

When using proximity switches

SJ2-S1N (NO):

-25 ... 85 °C

Relative humidity

Operational (with closed housing

and air supply switched on):

95 % (annual average),

condensation permissible

Transport and storage: 75 % (annual average), noncondensing

Housing

Material/Protections

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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.

Electrical connections

Screw terminals: Max. 1.0 mm2 for options,

Max. 2.5 mm2 for analog signal.

Note: Do not expose the terminals to strain.

Cable entry: 2 tap holes 1/2-14 NPT or

M20 x 1.5 (1 x with cable gland and

1 x with pipe plug)

Pneumatic connections

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

Signal

Signal min. 4 mA, max. signal 20 mA (0 ... 100 %)

freely selectable for split-range operation

min. range 20 % (3.2 mA)

recommended range > 50 % (8.0 mA)

Action (positioning signal)

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

Increasing: 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 freely 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-off function causes immediate travel of the actuator until reaching the set end position.

When the shut-off value is set to “0”, the position is further controlled, even in the respective end position.

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.