

CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**

2. **Certificate No:** FM20US0122X
3. **Equipment:** TZIDC Digital Positioner
(Type Reference and Name)

4. **Name of Listing Company:** ABB AG

5. **Address of Listing Company:** Schillerstraße 72
Minden 32425
Germany

6. The examination and test results are recorded in confidential report number:

PR454390 dated 30th March 2022

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2022, FM Class 3610:2021; FM Class 3611:2021, FM Class 3615:2022,
FM Class 3810:2021, ANSI/UL 61010-1:2012, ANSI/UL 60079-0:2019, ANSI/UL 60079-1:2015,
ANSI/ISA 60079-11:2018, ANSI/UL 121201:2017, ANSI/NEMA 250:1991 and ANSI/IEC 60529:2014

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

Certificate issued by:

J.E. Marquardt
VP, Manager - Electrical Systems

24 October 2022

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com



SCHEDULE



US Certificate Of Conformity No: FM20US0122X

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10. Equipment Ratings:

Intrinsically safe for Class I, II, III, Division 1, Groups A, B, C, D, E, F and G, T6, T4 Ta = -40°C to +85°C ; Class I, Zone 1, AEx ia IIC T6...T4 Gb Ta = -40°C to +85°C; Zone 21, AEx ia IIIC T85°C...T125°C Db Ta = -40°C to +85°C; Non-Incendive for use in Class I Division 2 Groups A, B, C and D, T6, T4 Ta = -40°C to +85°C; suitable for Class II and III, Division 2, Groups E, F and G, T6, T4 Ta = -40°C to +85°C; Hazardous (Classified) Locations indoor and outdoor (Type 4X, IP65).

Explosionproof for Class I, Division 1 Groups C & D, T5 Ta= -40°C to +82°C; Flameproof for Class I, Zone 1, AEx db IIC T6...T4 Gb Ta = -40°C to +85°C T6 Ta = -40°C to +85°C, T5 Ta = -40°C to +80°C, T4 Ta = -40°C to +85°C; Dust-ignitionproof for Class II, III, Division 1, Groups E, F and G T5 Ta = -40°C to +82°C; Hazardous (Classified) Locations indoor and outdoor (Type 4X).

Temperature classification depends on variant and ambient temperature.

11. The marking of the equipment shall include:

Class I Division 1, Groups C, D; T5 Ta = -40°C to +82°C; Type 4X

Class II, Division 1, Groups E, F, G, Class III, Division 1; T5 Ta = -40°C to +82°C; Type 4X

Class I, Zone 1, AEx db IIB T6...T4 Gb; Type 4X

T6 Ta = -40°C to +65°C,

T5 Ta = -40°C to +80°C

T4 Ta = -40°C to +85°C

IS Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; T6, T4: Type 4X, IP65

T6 Ta = -40°C to +65°C,

T4 Ta = -40°C to +85°C

Class I, Zone 1, AEx ia IIC T6...T4 Gb Ta = -40°C to +85°C; Type 4X, IP65

T6 Ta = -40°C to +65°C,

T5 Ta = -40°C to +55°C

T4 Ta = -40°C to +85°C

Zone 21, AEx ia IIIC T85°C...T125°C Db; Type 4X, IP65

T85°C Ta = -40°C to +65°C,

T125°C Ta = -40°C to +85°C

Class I, II, III, Division 2, Groups A, B, C, D, F, G; T6, T4; Type 4X, IP65

T6 Ta = -40°C to +65°C,

T4 Ta = -40°C to +85°C

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

SCHEDULE



US Certificate Of Conformity No: FM20US0122X

12. Description of Equipment:

General – The Model TZIDC is an electronically configurable positioner with communication capabilities designed for mounting to linear or rotary actuators. The positioners feature 4-20mA and/or pulse outputs. Optional modules are available for analog and digital feedback.

Construction - The Model TZIDC is available with two different variants of aluminum enclosures. Both enclosures variants are single compartment for the electronics with bolt on cover. One variant is for intrinsically safe which has either a blank cover or two windows for position indication and an electronic display, the other is for Flameproof/Explosionproof which has a single window for position indication. The enclosure is provided with two (2) ½ inch NPT openings.

Ratings - The Model TZIDC operate at 11-30 Vdc; 4-20 mA. The transmitters are rated for use in an ambient temperature range of -40°C to +85°C. Intrinsically safe connections for Entity and FISCO are per Control Drawing 901265.

TZIDC Positioner. V18345-10b2c2de0f.

TZIDC Positioner. V18345-30b2c2de0f

IS / I, II, III / 1 / ABCDEFG / T6, T4 Ta = 40°C, 85°C - 901265; Entity

NI / I, II, III / 2 / ABCDEFG / T6, T4 Ta = 40°C, 85°C

Type 4X; IP65

Max Entity Parameters: Per Control Drawings

b = Input/communication port: 1 or 2.

c = Output/safe protection: 1, 2, 4 or 5.

d = Option modules for analog or digital position feedback: 0, 1, 3 or 5.

e = Mechanical kit (proximity switches) for digital position feedback (option): 0, 1 or 2.

f = Design (varnish/coding): 1, H, P or S or 2.

TZIDC Positioner. V18345-20b2c2de0f

TZIDC Positioner. V18345-40b2c2de0f

IS / I / 1 / ABCD / T6, T4 Ta = 40°C, 85°C - 901265; Entity

IP65

Max Entity Parameters: Per Control Drawings

b = Input/communication port: 1 or 2.

c = Output/safe protection: 1, 2, 4 or 5.

d = Option modules for analog or digital position feedback: 0, 1, 3 or 5.

e = Mechanical kit (proximity switches) for digital position feedback (option): 0, 1 or 2.

f = Design (varnish/coding): 1, H, P or S or 2.

TZIDC Positioner. V18345-10bQc2de0f

TZIDC Positioner. V18345-30bQc2de0f

I / 1 / AEx ia IIC / T6...T4 Gb

21 / AEx ia IIIC / T85°C...T125°C Db

IS / I, II, III / 1 / ABCDEFG / T6, T4 Ta = 40°C, 85°C - 901265; Entity

NI / I, II, III / 2 / ABCDEFG / T6, T4 Ta = 40°C, 85°C

Type 4X; IP65

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

SCHEDULE



US Certificate Of Conformity No: FM20US0122X

Max Entity Parameters: Per Control Drawings

- b = Input/communication port: 1 or 2.
- c = Output/safe protection: 1, 2, 4 or 5.
- d = Option modules for analog or digital position feedback: 0, 1, 3 or 5.
- e = Mechanical kit (proximity switches) for digital position feedback (option): 0, 1 or 2.
- f = Design (varnish/coding): 1, H, P or S or 2.

TZIDC Positioner. V18345-20bQc2de0f

TZIDC Positioner. V18345-40bQc2de0f

I / 1 / AEx ia IIC / T6...T4 Gb

IS / I / 1 / ABCD / T6, T4 Ta = 40°C, 85°C - 901265; Entity

IP65

Max Entity Parameters: Per Control Drawings

- b = Input/communication port: 1 or 2.
- c = Output/safe protection: 1, 2, 4 or 5.
- d = Option modules for analog or digital position feedback: 0, 1, 3 or 5.
- e = Mechanical kit (proximity switches) for digital position feedback (option): 0, 1 or 2.
- f = Design (varnish/coding): 1, H, P or S or 2.

TZIDC-110 Positioner. Model V18346-1032b20c0d

TZIDC-110 Positioner. Model V18346-3032b20c0d

TZIDC-110 Positioner. Model V18346-5032b20c0d

TZIDC-120 Positioner. Model V18347-1042b20c0d

TZIDC-120 Positioner. Model V18347-3042b20c0d

TZIDC-120 Positioner. Model V18347-5042b20c0d

IS/ I, II, III / 1 / ABCDEFG / T6,T4 Ta = 40°C, 85°C – 901265; Entity, FISCO

NI / I / 2 / ABCDEFG / T6,T4 Ta = 40°C, 85°C

Type 4X; IP65

Max Entity Parameters: Per Control Drawings

- b = Output/safe protection: 1, 2, 4 or 5
- c = Optional mechanical kit for digital position feedback: 0, 1 or 2
- d = Design (varnish/coding): 1, H or S

TZIDC-110 Positioner. Model V18346-2032b20c0d

TZIDC-110 Positioner. Model V18346-4032b20c0d

TZIDC-110 Positioner. Model V18346-6032b20c0d

TZIDC-120 Positioner. Model V18347-2042b20c0d

TZIDC-120 Positioner. Model V18347-4042b20c0d

TZIDC-120 Positioner. Model V18347-6042b20c0d

IS/ I / 1 / ABCD / T6,T4 Ta = 40°C, 85°C – 901265; Entity, FISCO

IP65

Max Entity Parameters: Per Control Drawings

- b = Output/safe protection: 1, 2, 4 or 5
- c = Optional mechanical kit for digital position feedback: 0, 1 or 2
- d = Design (varnish/coding): 1, H or S

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

SCHEDULE



US Certificate Of Conformity No: FM20US0122X

TZIDC-110 Positioner. Model V18346-103Qb20c0d
TZIDC-110 Positioner. Model V18346-303Qb20c0d
TZIDC-110 Positioner. Model V18346-503Qb20c0d
TZIDC-120 Positioner. Model V18347-104Qb20c0d
TZIDC-120 Positioner. Model V18347-304Qb20c0d
TZIDC-120 Positioner. Model V18347-504Qb20c0d
I / 1 / AEx ia IIC / T6...T4 Gb
21 / AEx ia IIC / T85°C...T125°C Db
IS/ I, II, III / 1 / ABCDEFG / T6, T4 Ta = 40°C, 85°C – 901265 - Entity, FISCO
NI / I / 2 / ABCDEFG / T6, T4 Ta = 40°C, 85°C
Type 4X; IP65
Max Entity Parameters: Per Control Drawings

b = Output/safe protection: 1, 2, 4 or 5
c = Optional mechanical kit for digital position feedback: 0, 1 or 2
d = Design (varnish/coding): 1, H or S

TZIDC-110 Positioner. Model V18346-203Qb20c0d
TZIDC-110 Positioner. Model V18346-403Qb20c0d
TZIDC-110 Positioner. Model V18346-603Qb20c0d
TZIDC-120 Positioner. Model V18347-204Qb20c0d
TZIDC-120 Positioner. Model V18347-404Qb20c0d
TZIDC-120 Positioner. Model V18347-604Qb20c0d
I / 1 / AEx ia IIC / T6...T4 Gb
IS/ I / 1 / ABCD / T6, T4 Ta = 40°C, 85°C – 901265 - Entity, FISCO
IP65
Max Entity Parameters: Per Control Drawings

b = Output/safe protection: 1, 2, 4 or 5
c = Optional mechanical kit for digital position feedback: 0, 1 or 2
d = Design (varnish/coding): 1, H or S

TZID-C200 Positioner. V18348-a0b2d3efghi.
XP / I / 1 / CD / T5 Ta = -40°C to +82°C;
DIP / II, III / 1 / EFG / T5 Ta = -40°C to +82°C;
Type 4X

a = Case/ Mounting: 1, 2, 3 or 4
b = Operator panel and display: 0 or 1
d = Output/ Safe protection: 1, 2, 3 or 4
e = Option modules for analog or digital position feedback: 0, 1, 3, or 4
f = Mechanical kit (proximity switches) for digital position feedback/ Microswitches: 0, 1, 2, 3
g = Parameter setting/ bus address: 1 or 2
h = Design (varnish/ coding): 1, H, P or 2
i = Device identification label: 0, 1 or 2

TZID-C200 Positioner. V18348-a0bQd3efghi.

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

SCHEDULE



US Certificate Of Conformity No: FM20US0122X

I / 1 / AEx db IIC / T6...T4 / Gb
T6 Ta = -40°C to +65°C,
T5 Ta = -40°C to +80°C
T4 Ta = -40°C to +85°C
Type 4X

a = Case/ Mounting: 1, 2, 3 or 4
b = Operator panel and display: 0 or 1
d = Output/ Safe protection: 1, 2, 3 or 4
e = Option modules for analog or digital position feedback: 0, 1, 3, or 4
f = Mechanical kit (proximity switches) for digital position feedback/ Microswitches (only for XP) 0, 1, 2, 3
g = Parameter setting/ bus address: 1 or 2
h = Design (varnish/ coding): 1, H, P or 2
i = Device identification label: 0, 1 or 2

TZIDC-210 Positioner. Model V18349-a0b2c3d3ef.

TZIDC-220 Positioner. Model V18350- a0b2c3d4ef.

XP / I / 1 / CD / T5 Ta = -40°C to +82°C
Type 4X

a = Case/mounting: 1, 2, 3, 4, 5 or 6
b = Operator panel and display: 0 or 1
c = Output/safe protection: 1, 2, 3 or 4
d = Optional mechanical kit for digital position feedback: 0, 1, 2 or 3
e = Design (varnish/coding): 1, H, P or 2
f = Device identification label: 0, 1 or 2

TZIDC-210 Positioner. Model V18349-a0bQc3d3ef

TZIDC-220 Positioner. Model V18350- a0bQc3d4ef.

I / 1 / AEx db IIC / T6...T4 Gb
T6 Ta = -40°C to +65°C,
T5 Ta = -40°C to +80°C
T4 Ta = -40°C to +85°C
Type 4X

a = Case/mounting: 1, 2, 3, 4, 5 or 6
b = Operator panel and display: 0 or 1
c = Output/safe protection: 1, 2, 3 or 4
d = Optional mechanical kit for digital position feedback: 0, 1, 2 or 3
e = Design (varnish/coding): 1, H, P or 2
f = Device identification label: 0, 1 or 2

13. Specific Conditions of Use:

1. Flameproof joints are not to be repaired. For information about the flameproof joints or their maintenance, contact the ABB AG.
2. Only fasteners with a property class of 10.12, A2-70, or A2-80 must be used for closing the flameproof enclosure.

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

SCHEDULE



US Certificate Of Conformity No: FM20US0122X

- 3. Refer to the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the equipment enclosure.
- 4. Acceptance for use with air or natural gas (IS version only). Reference Installation Drawing, SD-10-4099.

14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
30 th March 2022	Original Issue.
3 rd October 2022	Supplement 1: Report Reference: RR234100 dated 3 rd October 2022. Description of the Change: Editorial correction.

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE