



## Translation

### (1) EU-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**

(3) **Certificate Number** TÜV 22 ATEX 327201 X **Issue:** 00

(4) for the product: Positioner type TZIDC V5.01, TZIDC-200 V5.01

(5) of the manufacturer: **ABB AG (Division Measurement and Analytics)**

(6) Address: Schillerstraße 72  
32425 Minden  
Germany

Order number: 8003047787

Date of issue: See date of signature

(7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential ATEX Assessment Report No. 22 203 327201.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:


**EN IEC 60079-0:2018/AC:2020-02 EN IEC 60079-7:2015/A1:2018 EN 60079-11:2012**

except in respect of those requirements listed at item 18 of the schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions for Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design, and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the product shall include the following:

 II 2 G Ex ia IIC T6, T4 ... T1 Gb resp. II 2 G Ex ib IIC T6, T4 ... T1 Gb resp.  
II 3 G Ex ic IIC T6, T4 ... T1 Gc resp.  
II 2 D Ex ia IIIC T85 °C bzw. T125 °C Db resp. II 2 D Ex ib IIIC T85 °C bzw. T125 °C Db resp.  
II 3 G Ex ec IIC T6, T4 ... T1 Gc

TÜV NORD CERT GmbH, Am TÜV 1, 45307 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

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(13) **SCHEDULE**

(14) **EU-Type Examination Certificate TÜV 22 ATEX 327201 X Issue 00**

(15) Description of product

The Positioner type TZIDC V5.01 and TZIDC-200 V5.01 is used for the control resp. closed loop control of pneumatic driven valves.

The Positioner type TZIDC V5.01 and TZIDC-200 V5.01 transfers the reference value by means of an impressed signal current of 4...20 mA.

An integrated position sensor measures the current position of the valve drive. An integrated current/pressure transformer (I/P) is used for the pneumatic auxiliary power.

In addition to the integrated version, the TZIDC V5.01 and TZIDC-200 V5.01 positioner is also optionally available with a remote sensor.

Electrical data:

|   |  |
|---|--|
| <b>For type TZIDC V5.01 resp. TZIDC-200 V5.01, type of protection “Intrinsic Safety” with marking Ex ia IIC resp. Ex ib IIC resp. Ex ia IIIC resp. Ex ib IIIC</b> |  |
| Signal circuit<br>(terminals 11(+), 12(-))  | only for the connection to a certified intrinsically safe circuit with the following maximum values:<br>$U_i = 30 \text{ V}$<br>$I_i = 320 \text{ mA}$<br>$P_i = 1.1 \text{ W}$<br>$C_i = 6.6 \text{ nF}$<br>$L_i =$ The effective internal capacitance is negligibly small. |
| Switch input<br>(terminals 81(+), 82(-))  | only for the connection to a certified intrinsically safe circuit with the following maximum values:<br>$U_i = 30 \text{ V}$<br>$I_i = 320 \text{ mA}$<br>$P_i = 1.1 \text{ W}$<br>$C_i = 4.2 \text{ nF}$<br>$L_i =$ The effective internal inductance is negligibly small.  |
| Switch output<br>(terminals 83(+), 84(-))   | only for the connection to a certified intrinsically safe circuit with the following maximum values:<br>$U_i = 30 \text{ V}$<br>$I_i = 320 \text{ mA}$<br>$P_i = 500 \text{ mW}$<br>$C_i = 4.2 \text{ nF}$<br>$L_i =$ The effective internal inductance is negligibly small. |
| Local interface for communication (LCI)   | Only for connection to a programmer outside of the explosive hazardous area. (Look also to the “conditions of certification”)  |

### Schedule to EU-Type Examination Certificate TÜV 22 ATEX 327201 X Issue 00

|  |  |
|--|--|
| Optionally the following modules can be used:  |  |
| Plug-In module for digital feedback<br>(terminals 51(+), 52(-)<br>resp. 41(+), 42(-))        | only for the connection to a certified intrinsically safe circuit with the following maximum values:<br>$U_i = 30 \text{ V}$<br>$I_i = 320 \text{ mA}$<br>$P_i = 250 \text{ mW}$<br>$C_i = 3.7 \text{ nF}$<br>$L_i =$ The effective internal inductance is negligibly small. |
| Mechanical digital feed back<br>(terminals 51(+), 52(-) Limit1<br>resp. 41(+), 42(-) Limit2) | Maximum values see EC-Type Examination Certificate<br>PTB 00 ATEX 2049 X<br>(Slot-type initiators of the company Pepperl & Fuchs)  |
| Plug-In module for analogue position feedback<br>(terminals 31(+), 32(-))                    | only for the connection to a certified intrinsically safe circuit with the following maximum values:<br>$U_i = 30 \text{ V}$<br>$I_i = 320 \text{ mA}$<br>$P_i = 1.1 \text{ W}$<br>$C_i = 6.6 \text{ nF}$<br>$L_i =$ The effective internal inductance is negligibly small.  |

|   |   |
|---|---|
| <b>For type TZIDC V5.01 with marking Ex ec IIC</b>                            |   |
| <b>Type TZIDC V5.01</b>   |   |
| Signal circuit<br>(terminals 11(+), 12(-))                                    | $U = 9.7 \text{ V DC}$<br>$I = 4...20 \text{ mA, max. } 21.5 \text{ mA}$    |
| Switch input<br>(terminals 81(+), 82(-))                                      | $U = 12...24 \text{ V DC};$<br>$I = 4 \text{ mA}$                           |
| Switch output<br>(terminals 83(+), 84(-))                                     | $U = 11 \text{ VDC}$  |
| Optionally the following modules can be used with type TZIDC V5.01:           |   |
| Plug-In module for analogue feedback<br>(terminals 31(+), 32(-))              | $U = 10...30 \text{ VDC}$<br>$I = 4...20 \text{ mA, max. } 21.5 \text{ mA}$ |
| Additionally the following modules are allowed to be used with all types:     |   |
| Mechanical digital feedback<br>(terminals 51(+), 52(-)<br>resp. 41(+), 42(-)) | $U = 5...11 \text{ V DC}$   |

The permissible ambient temperature range, temperature marking in dependence on the type, the type of protection and the Temperature Classes has to be taken from the following table:

| Type               | TZIDC V5.01 resp. TZIDC-200 V5.01         | TZIDC V5.01      | TZIDC V5.01 resp. TZIDC-200 V5.01 |                     |
|--------------------|---|------------------|-----------------------------------|---------------------|
| Type of protection | Ex ia IIC resp. Ex ib IIC resp. Ex ic IIC | Ex ec IIC        | Ex ia IIIC resp. Ex ib IIIC       |                     |
| Temperature Class  | Ambient temperature range                 |                  | Temperature marking               | Ambient temp. range |
| T4 to T1           | -40 °C to +85 °C                          | -35 °C to +85 °C | T 125°C                           | -35 °C to +85 °C    |
| T6*                | -40 °C to +40 °C                          | -35 °C to +50 °C | T 85°C                            | -35 °C to +40 °C    |

\* For use with „ Plug-In module for digital feed back“ in the temperature class T6, the permissible ambient temperature range is -40 °C to +35 °C.

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## Schedule to EU-Type Examination Certificate TÜV 22 ATEX 327201 X Issue 00

(16) Drawings and documents are listed in the ATEX Assessment Report No. 22 203 327201

### (17) Specific Conditions for Use

The "Local communication interface (LCI)" of the TZIDC V5.01 and TZIDC-200 V5.01 may only be used outside of the explosion hazardous area with  $U_m \leq 30$  V DC.

The positioner type TZIDC V5.01 may only be operated as a source of auxiliary energy with gases of the group IIA and the temperature class T1 in outdoor applications or inside of buildings with sufficient ventilation.

The fed gas must be free of air and oxygen insofar as no explosive atmosphere can occur. The exhaust gas must always let outwards.

For use as II 2D apparatus the TZIDC V5.01 and TZIDC200 V5.01 equipment may only be used in areas with low risk of mechanical danger.

Cable entries which meet the requirements of EN 60079-11 for category II 2D; TZIDC V5.01 and TZIDC-200 V5.01, as well as the ambient temperature range have to be used.

TZIDC-200 V5.01 variants, which also comply with the type of protection "Flameproof Enclosure" according to a BVS certificate, may not be operated in the type of protection "Intrinsically Safe" after use as apparatus in the type of protection "Flameproof Enclosure".

The TZIDC V5.01 and TZIDC-200 V5.01 for use in combustible dust an electrostatic charge due to propagating brush discharges has to be avoided, when the equipment is used for Applications involving combustible dust.

### Conditions of TZIDC V5.01 for safe use of Ex ec IIC:

Only devices which are suitable for the operation in potentially explosion hazardous areas, declared as zone 2 and the conditions available at the place of operation are allowed to be connected to circuits in the zone 2 (manufacturer's declaration or certificate from the test centre).

For the circuit "Mechanical digital feedback" measures have to be taken outside the device that the rated voltage is exceeded not more than 40% by transient disturbances.

The connecting and disconnecting as well as the switching of circuits under voltage are only permitted during installation, for maintenance or repair purposes.

Note: The temporal coincidence of explosion hazardous atmosphere and installation, maintenance resp. repair purposes in zone 2 is assessed as improbably.

Only non combustible gases are allowed to be used as pneumatic auxiliary energy.

Only suitable cable entries which meet the requirements of EN 60079-7 are allowed to be used.

### (18) Essential Health and Safety Requirements

no additional ones

- End of EU-Type Examination Certificate -

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