



Certificado de Conformidade

Certificate of Compliance ♦ Certificado de Conformidad

Certificado N.º: TÜV 13.2464 X

Certificate No. ♦ Certificado N.º:

Revisão: 02

Review ♦ Revisión:

Válido até: February 18, 2023

Valid until ♦ Válido hasta:

Emitido em: February 18, 2020

Issued ♦ Emitido:

Produto:

Product ♦ Producto:

Positioner

Solicitante:

Applicant ♦ Solicitante:

ABB LTDA.

Rodovia Senador José Ermínio de Moraes, km 11 – Aparecidinha
18087-125 – Sorocaba – SP
CNPJ: 61.074.829/0087-01

Fabricante:

Manufacturer ♦ Fabricante:

ABB AUTOMATION PRODUCTS GMBH

Schillerstrasse 72
32425 Minden – Germany

Fornecedor / Representante Legal:

Supplier / Legal Representative ♦ Provedor / Representante Legal:

Não aplicável

Normas Técnicas / Regulamento:

Standards / Regulation ♦ Normas / Reglamento:

**ABNT NBR IEC 60079-0:2013;
ABNT NBR IEC 60079-11:2013;
ABNT NBR IEC 60079-15:2019;
INMETRO Ordinance No. 179, of 05/18/2010.**

Esquema de Certificação:

Certification Scheme ♦ Esquema de Certificación:

Certificate issued based on the model with evaluation of quality management system of the product production process and product tests, according to clause 6.1 of the Conformity Evaluation Rule, attached to the INMETRO administrative rule n° 179, issued on May 18th, 2010.

Laboratório, N.º do Relatório de Ensaios e Data:

Laboratory, Test Report No. and Date ♦ Laboratorio, N.º del Informe de Prueba y Fecha:

TÜV Nord Cert GmbH

**Test Report n° DE TUN 04 551542 of 06/21/2004
Test Report n° 04 YEX 551542 of 06/25/2004
Test Report n° DE/TUN/ExTR08.0040/00 of 11/19/2008
Test Report n° DE/TUN/ExTR08.0040/01 of 06/28/2012
Test Report n° DE/TUN/ExTR08.0040/03 of 02/11/2016**

Relatório de Auditoria e Data:

Audit Report and Data ♦ Informe de Auditoría y Fecha:

Audit held on September 29th, 2019 – PRJC-393347-2012-PRC-BRA

Notas:

Notes ♦ Anotación:

"The validity of this Certificate of Compliance is related to fulfillment of the maintenance assessments and possible non conformities processing, according to OCP's orientation established into specific RAC. To confirm the current status of this Certificate of Compliance the INMETRO's products and services certified database shall be checked".

This certificate is related to offer 27120978 of 04/30/2020.

Igor Moreno
Local Field Manager

"This document consists of 06 pages and is valid when exhibited with all the pas. Further information and notes are contained in subsequent pages"



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List of models

| Marca <i>Brand ♦ Marca</i> | Modelo <i>Model ♦ Modelo</i> | Descrição <i>Description ♦ Descripción</i> | Código de Barras GTIN <i>GTIN Barcode ♦ Código de Barras GTIN</i> |
|-------------------------------|---------------------------------|---|--|
| ABB | TZIDC-xxx | Positioner | Does Not Exist |

Description:

The Positioner type TZIDC-xxx is used for the control resp. closed loop control of pneumatic driven valves.

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

The Positioner type TZIDC-110, TZIDC-210, TZIDC-120 resp. TZIDC-220 transfers the reference value via a field bus signal. An integrated distance sensor measures the current position of the valve drive. An integrated current/pressure transformer (I/P) is used for the pneumatic auxiliary power.

Temperature data:

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

| Type and marking | TZIDC resp. TZIDC-200 Ex ia IIC / Ex ib IIC | TZIDC-110/-210/-120/-220 Ex ia IIC / Ex ib IIC / Ex ic IIC | TZIDC resp. TZIDC-110/120 Ex nA IIC |
|-------------------|--|---|--|
| Temperature class | Ambient temperature range | | |
| T4 | -40 °C ≤ Tamb ≤ +85 °C | -40 °C ≤ Tamb ≤ +85 °C | -40 °C ≤ Tamb ≤ +85 °C |
| T6 | -40 °C ≤ Tamb ≤ +40 °C | -40 °C ≤ Tamb ≤ +40 °C | -40 °C ≤ Tamb ≤ +50 °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.

Electrical parameters:

Types: TZIDC resp. TZIDC-200 with marking Ex ia IIC / Ex ib IIC:

Sinal circuit
(terminals 11(+) e 12(-))
maximum values:

in type of protection "intrinsic safety" Ex ia IIC / Ex ib IIC, only for the connection to a certified intrinsically safe circuit with the following

U_i = 30 V
I_i = 320 mA
P_i = 1.1 W
C_i = 6.6 nF
L_i = negligibly

Switch input
(terminals 81(+), 82(-))

in type of protection "intrinsic safety" Ex ia IIC / Ex ib IIC, only for the connection to a certified intrinsically safe circuit with the following maximum values:

U_i = 30 V
I_i = 320 mA
P_i = 1.1 W
C_i = 4.2 nF
L_i = negligibly



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Switch output
(terminals 83(+), 84(-))

in type of protection "intrinsic safety" Ex ia IIC / Ex ib IIC, only for the connection to a certified intrinsically safe circuit with the following maximum values:

$U_i = 30 \text{ V}$

$I_i = 320 \text{ mA}$

$P_i = 500 \text{ mW}$

$C_i = 4.2 \text{ nF}$

$L_i = \text{negligibly}$

Local interface for communication (LKS)

Only for connection to a programmer outside of the explosive hazardous area. (See more informations on the item 1 of "Remarks")

Optionally the following modules are allowed to be used:

Plug-In module for digital feedback
(terminals +51, -52 / +41, -42)

in type of protection "intrinsic safety" Ex ia IIC / Ex ib IIC, only for the connection to a certified intrinsically safe circuit with the following maximum values:

$U_i = 30 \text{ V}$

$I_i = 320 \text{ mA}$

$P_i = 500 \text{ mW}$

$C_i = 3.7 \text{ nF}$

$L_i = \text{negligibly}$

Plug-In module for analogue feedback
(terminals +31, -32)

in type of protection "intrinsic safety" Ex ia IIC / Ex ib IIC, only for the connection to a certified intrinsically safe circuit with the following maximum values:

$U_i = 30 \text{ V}$

$I_i = 320 \text{ mA}$

$P_i = 1.1 \text{ W}$

$C_i = 6.6 \text{ nF}$

$L_i = \text{negligibly}$

Plug-In module for shutdown function
(terminals +51, -52 / +85, -86)

in type of protection "intrinsic safety" Ex ia IIC / Ex ib IIC, only for the connection to a certified intrinsically safe circuit with the following maximum values:

$U_i = 30 \text{ V}$

$I_i = 320 \text{ mA}$

$P_i = 1.1 \text{ mW}$

$C_i = 3.7 \text{ nF}$

$L_i = \text{negligibly}$

Types: TZIDC-110, TZIDC-210, TZIDC-120 resp. TZIDC-220 with marking Ex ia IIC / Ex ib IIC / Ex ic IIC:

Input circuit
(terminals +11, -12 / +, -)

only for the connection to a certified FISCO-Power supply, a Barrier or Power Supply with a linear characteristic line and following maximum values:

$U_i = 24 \text{ V}$

$I_i = 250 \text{ mA}$

$P_i = 1.2 \text{ W}$

Characteristic = Linear



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Plug-In module for shutdown-function
(terminals +51, -52 / +85, -86)

in type of protection "intrinsic safety" Ex ia IIC / Ex ib IIC, only for the connection to a certified intrinsically safe circuit with the following maximum values:

$U_i = 30 \text{ V}$
 $I_i = 320 \text{ mA}$
 $P_i = 1.1 \text{ mW}$
 $C_i = 3.7 \text{ nF}$
 $L_i = \text{negligibly}$

Types: TZIDC, TZIDC-110 resp. TZIDC-120 with marking Ex nA IIC:

Type TZIDC

Signal circuit
(terminals 11(+), 12(-))

$U = 9.7 \text{ Vdc}; 4...20 \text{ mA}, \text{max. } 21.5 \text{ mA}$

Switch input
(terminals 81(+), 82(-))

$U = 12...24 \text{ Vdc}; 4 \text{ mA}$

Switch output
(terminals 83(+), 84(-))

$U = 11 \text{ Vdc}$

Optionally the following modules are allowed to be used with type TZIDC:

Plug-In module for digital feedback
(terminals +51, -52 / +41, -42)

$U = 5...11 \text{ Vdc}$

Plug-In module for analogue feedback
(terminals +51, -52 / +41, -42)

$U = 10...30 \text{ Vdc}; 4...20 \text{ mA}, \text{max. } 21.5 \text{ mA}$

Type TZIDC-110
Input circuit
(terminals +11, -12)

$U = 9...32 \text{ Vdc}; 10.5 \text{ mA}$

Type TZIDC-120
Input circuit
(terminals +11, -12)

$U = 9...32 \text{ Vdc}; 11.5 \text{ mA}$

Additionally the following modules are allowed to be used with all types:

Plug-In module for shutdown-function
(terminals +51, -52 / +85, -86)

$U_i = 20...30 \text{ Vdc}$

Mechanical digital feedback
(terminals Limit1 +51, -52 / Limit2 +41, -42)

$U = 5...11 \text{ Vdc}$



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Testing and analysis performed:

The testing and analysis performed are described on technical report #CC-132464/02.

Technical Documentation:

| Documento | Páginas | Descrição | Rev. | Data |
|-----------------|---------|--|------|------------|
| 3KXE000007U0101 | 8 | Main Unit PCB Drawing | B | 18/11/2015 |
| 3KXE000008U0109 | 5 | Main Unity Circuit Diagram | 1 | 17/11/2015 |
| 3KXE000008U0209 | 5 | Main Unit Circuit Diagram | 1 | 17/11/2015 |
| 3KXE000009G0109 | 2 | Ex-Block Diagramm | 4 | 19/11/2015 |
| 3KXE000019U0102 | 1 | PCB – Data | D | 04/12/2015 |
| 3KXE000020U0101 | 1 | Assembly Top | C | 30/09/2015 |
| 3KXE000020U0106 | 1 | Coat Drawing | B | 30/09/2015 |
| 3KXE000020U0109 | 1 | Analog Feedback Unit – Circuit Diagram | 1 | 17/11/2015 |
| 3KXE341201R4408 | 36 | CI/TZIDC/ATEX/IECEX-PT | B | 10/2018 |
| 901338 | 1 | Schild Inmetro | 2 | 22/07/2020 |

Marking:

The Positioner type TZIDC-xxx was approved in the tests and analysis, in accordance to the applicable standards and they shall have the following marking, taking into account the item "Remarks".

Ex ia IIC T6...T4 Gb
Ex ib IIC T6...T4 Gb
Ex ic IIC T6...T4 Gc
Ex nA IIC T6...T4 Gc

Remarks:

- The certificate number has the letter X to indicate the following restriction for use:

Special conditions for the safe use of intrinsically safe Positioners:

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

Special conditions for safe use of Positioners marked Ex nA IIC:

Only devices which are suitable for the operation in explosion hazardous areas declared as EPL Gc and the conditions available at the place of operation are allowed to be connected to circuits in areas EPL Gc.

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 is assessed as improbably.

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.

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

Only suitable cable entries which meet the requirements of EPL Gc are allowed to be used.



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2. This certificate is valid for the products with the same model and type number according to the prototype tested. Any modification in the project, as well as the use of components apart from those defined by the product documentation, without previous authorization from TÜV Rheinland, will invalidate this certificate.
3. It is manufacturer responsibility to assure that the manufactured products are in accordance to the tested prototype specification, through of visual, dimensional inspections and routine testing.
4. The products must bear, on the external surface and in a visible place, the conformity marking and the technical characteristics in accordance to the standards ABNT NBR IEC 60079-0 / ABNT NBR IEC 60079-1 and Regulation on Conformity Assessment, attached to INMETRO administrative rule #179, issued on May 18th, 2010. This marking must be legible and durable, taking into account, all possible chemical corrosion.
5. The activities of installation, inspection, maintenance, repair, overhaul and recovery of products are the user's responsibility and must be performed in accordance with the requirements of current technical standards and the manufacturer's recommendations.

Natureza das Revisões / Data

Nature of Reviews/Date ♦

Naturaleza de las Revisiones / Fecha

Review 00: 18/02/2014 – Initial Certification;

Review 01: 24/10/2017 – Revalidation;

Review 02: 24/07/2020 – Revalidation.

Para confirmar sua autenticidade acesse <https://tuv.3dds.digital/check/690845331291557351>



Digitally signed by TÜV RHEINLAND DO BRASIL LTDA:
01950467000165
DN: c=BR, o=ICP-Brasil, st=SP, l=Sao Paulo, ou=Array,
cn=TÜV RHEINLAND DO BRASIL LTDA:01950467000165
Reason: Digital Signature
Location: Sao Paulo/SP/BR
Date: 24.07.2020 18:43:27 +0000