Certificação de Produto
OCP 0004
Acreditado desde 1993

TÜVRheinland®
Precisely Right.

Certificado de Conformidade

Certificate of Compliance ♦ Certificado de Conformidad

Certificado N.º: TÜV 13.2464 X
Certificate No. ♦ Certificado N.º:

Revisão: 01
Review ♦ Revisión:

Válido até: 18/02/2020
Valid until ♦ Válido hasta:

Emitido em: 18/02/2017
Issued ♦ Emitido:

Produto: *Product ♦ Producto:*	**Positioner** **TZIDC-xxx**
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 ♦ Proveedor / Representante Legal:*	**Not applicable.**
Normas Técnicas / Regulamento: *Standards / Regulation ♦ Normas / Reglamento:*	**ABNT NBR IEC 60079-0:2013,** **ABNT NBR IEC 60079-11:2013,** **ABNT NBR IEC 60079-15:2012** **INMETRO Administrative rule # 179 of May 18th, 2010**
Esquema de Certificação: *Certification Scheme ♦ Esquema de Certificación:*	**Scheme 5 of product certification, according to ISO / IEC Guide 67 with evaluation by type test and initial factory audit and evaluation of monitoring every 18 months with factory audit and tests.**
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 nº DE TUN 04 551542 of June 21st, 2004** **Test Report nº 04 YEX 551542 of June 25th, 2004** **Test Report nº DE/TUN/ExTR08.0040/00 of November 19th, 2008** **Test Report nº DE/TUN/ExTR08.0040/01 of June 28th, 2012** **Test Report nº DE/TUN/ExTR08.0040/03 of February 11th, 2016**
Relatório de Auditoria e Data: *Audit Report and Data ♦ Informe de Auditoría y Fecha:*	**Audit carried out on 25/08/2016 PO 562-16**
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 0621913.1 from november 28th, 2013**

Igor Moreno
Gerente de Certificação - Electrical

"This document is composed of 06 pages and is valid when displayed with all your pages. Further information and notes are contained on subsequent pages."

Para confirmar sua autenticidade acesse https://tuv.3dds.digital/check/81105410154458267 9

Conforme art. 10, § 1º da Medida Provisória nº 2.200-2, de 24 de agosto de 2001, as declarações em forma eletrônica produzidas com a utilização de processo de Certificação Digital disponibilizado pela ICP-Brasil presumem-se verdadeiras em relação aos signatários, na forma do art. 219, da Lei 10.406, de 10 de janeiro de 2002 - Código Civil.

Endereço Escritório: Rua Libero Badaró, 293, 9 º andar, Conjunto B, Centro, São Paulo – SP, CEP: 01009-000 / Endereço Sede: Av. Netuno, 32, 2º Andar, Sala 04, Alphaville, Santana de Parnaíba – SP, CEP: 06541-015
CNPJ: 01.950.467/0001-65 – Tel.: 55 11 3514.5700 – www.tuv.com/br – 700-CE-040-00

Certificação de Produto
OCP 0004
Acreditado desde 1993

TÜVRheinland®
Precisely Right.

Certificado de Conformidade

Certificate of Compliance ♦ Certificado de Conformidad

Certificado N.º: TÜV 13.2464 X *Certificate No. ♦ Certificado N.º:*

Revisão: 01 *Review ♦ Revisión:*

Válido até: 18/02/2020 *Valid until ♦ Válido hasta:*

Emitido em: 18/02/2017 *Issued ♦ Emitido:*

List of models

Marca *Brand ♦ Marca*	Modelo *Model ♦ Modelo*	Descrição *Description ♦ Descriptión*	Código de Barras GTIN *GTIN Barcode ♦ Código de Barras GTIN*
ABB	**TZIDC-xxx**	**Positioner**	**Not informed**

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

Ui = 30 V
Ii = 320 mA
Pi = 1.1 W
Ci = 6.6 nF
Li = 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:
Ui = 30 V
Ii = 320 mA
Pi = 1.1 W
Ci = 4.2 nF
Li = negligibly

Para confirmar sua autenticidade acesse https://tuv.3dds.digital/check/811054101544582679

Conforme art. 10, § 1º da Medida Provisória nº 2.200-2, de 24 de agosto de 2001, as declarações em forma eletrônica produzidas com a utilização de processo de Certificação Digital disponibilizado pela ICP-Brasil presumem-se verdadeiras em relação aos signatários, na forma do art. 219, da Lei 10.406, de 10 de janeiro de 2002 - Código Civil.

Endereço Escritório: Rua Libero Badaró, 293, – 9º Andar, Conjunto B, Centro, São Paulo - SP CEP: 01009-000 /
Endereço Sede: Av. Netuno, 32 – 2º Andar, Sala 04, Alphaville, Santana de Parnaíba - SP, CEP: 06541-015
CNPJ: 01.950.467/0001-65 – Tel.: 55 11 3514.5700 – www.tuv.com/br – 700-CE-40-00

Certificado de Conformidade

Certificate of Compliance ♦ Certificado de Conformidad

Certificado N.º: TÜV 13.2464 X *Certificate No. ♦ Certificado N.º:*
Revisão: 01 *Review ♦ Revisión:*
Válido até: 18/02/2020 *Valid until ♦ Válido hasta:*
Emitido em: 18/02/2017 *Issued ♦ Emitido:*

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: Ui = 30 V Ii = 320 mA Pi = 500 mW Ci = 4.2 nF Li = 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:Ui = 30 V Ii = 320 mA Pi = 500 mW Ci = 3.7 nF Li = 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: Ui = 30 V Ii = 320 mA Pi = 1.1 W Ci = 6.6 nF Li = 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: Ui = 30 V Ii = 320 mA Pi = 1.1 mW Ci = 3.7 nF Li = negligibly

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

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: Ui = 24 V Ii = 250 mA Pi = 1.2 W Characteristic = Linear

Para confirmar sua autenticidade acesse https://tuv.3dds.digital/check/81105410154458267 9

Conforme art. 10, § 1º da Medida Provisória nº 2.200-2, de 24 de agosto de 2001, as declarações em forma eletrônica produzidas com a utilização de processo de Certificação Digital disponibilizado pela ICP-Brasil presumem-se verdadeiras em relação aos signatários, na forma do art. 219, da Lei 10.406, de 10 de janeiro de 2002 - Código Civil.

Endereço Escritório: Rua Libero Badaró, 293, – 9º Andar, Conjunto B, Centro, São Paulo - SP CEP: 01009-000 /
Endereço Sede: Av. Netuno, 32 – 2º Andar, Sala 04, Alphaville, Santana de Parnaíba - SP, CEP: 06541-015
CNPJ: 01.950.467/0001-65 – Tel.: 55 11 3514.5700 – www.tuv.com/br – 700-CE-40-00

Certificado de Conformidade

Certificate of Compliance ♦ Certificado de Conformidad

Certificado N.º: TÜV 13.2464 X *Certificate No. ♦ Certificado N.º:*
Revisão: 01 *Review ♦ Revisión:*
Válido até: 18/02/2020 *Valid until ♦ Válido hasta:*
Emitido em: 18/02/2017 *Issued ♦ Emitido:*

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: Ui = 30 V Ii = 320 mA Pi = 1.1 mW Ci = 3.7 nF Li = negligibly

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

Type TZIDC Signal circuit (terminals 11(+), 12(-))	U = 9.7 Vdc; 4...20 mA, max. 21.5 mA
Switch input (terminals 81(+), 82(-))	U = 12...24 Vdc; 4 mA
Switch output (terminals 83(+), 84(-))	U = 11 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 Vdc
Plug-In module for analogue feedback (terminals +51, -52 / +41, -42)	U = 10...30 Vdc; 4...20 mA, max. 21.5 mA
Type TZIDC-110 Input circuit (terminals +11, -12)	U = 9...32 Vdc; 10.5 mA
Type TZIDC-120 Input circuit (terminals +11, -12)	U = 9...32 Vdc; 11.5 mA

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

Plug-In module for shutdown-function (terminals +51, -52 / +85, -86)	Ui = 20...30 Vdc
Mechanical digital feedback (terminals Limit1 +51, -52 / Limit2 +41, -42)	U = 5...11 Vdc

Para confirmar sua autenticidade acesse https://tuv.3dds.digital/check/81105410154458267 9

Conforme art. 10, § 1º da Medida Provisória nº 2.200-2, de 24 de agosto de 2001, as declarações em forma eletrônica produzidas com a utilização de processo de Certificação Digital disponibilizado pela ICP-Brasil presumem-se verdadeiras em relação aos signatários, na forma do art. 219, da Lei 10.406, de 10 de janeiro de 2002 - Código Civil.

Endereço Escritório: Rua Libero Badaró, 293, – 9º Andar, Conjunto B, Centro, São Paulo - SP CEP: 01009-000 /
Endereço Sede: Av. Netuno, 32 – 2º Andar, Sala 04, Alphaville, Santana de Parnaíba - SP, CEP: 06541-015
CNPJ: 01.950.467/0001-65 – Tel.: 55 11 3514.5700 – www.tuv.com/br – 700-CE-40-00

Certificação de Produto
OCP 0004
Acreditado desde 1993

TÜVRheinland®
Precisely Right.

Certificado de Conformidade

Certificate of Compliance ♦ Certificado de Conformidad

Certificado N.º: TÜV 13.2464 X *Certificate No. ♦ Certificado N.º:*

Revisão: 01 *Review ♦ Revisión:*

Válido até: 18/02/2020 *Valid until ♦ Válido hasta:*

Emitido em: 18/02/2017 *Issued ♦ Emitido:*

Testing and analysis performed:

The testing and analysis performed are described on technical report # TÜV 13.2464.

Technical Documentation:

Document	Pages	Description	Rev.	Date
3KXE000019U0102	1	PCB - Data	A	30/09/2015
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
3KXE000009G0109	1	Ex-Block Diagramm	4	19/11/2015
3KXE000008U0109	5	Main Unity Circuit Diagram	1	17/11/2015
3KXE000007U0109	8	Main Unit PCB Drawing	B	18/11/2015
3KXE000008U0209	5	Main Unit Circuit Diagram	1	17/11/2015
901338	1	Schild Inmetro	1	11/02/2014
42/18-64	144	Instruções de operação	4	01/04/2004

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:

1. 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 Um ≤ 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.

Para confirmar sua autenticidade acesse https://tuv.3dds.digital/check/81105410154458267 9

Conforme art. 10, § 1º da Medida Provisória nº 2.200-2, de 24 de agosto de 2001, as declarações em forma eletrônica produzidas com a utilização de processo de Certificação Digital disponibilizado pela ICP-Brasil presumem-se verdadeiras em relação aos signatários, na forma do art. 219, da Lei 10.406, de 10 de janeiro de 2002 - Código Civil.

Endereço Escritório: Rua Libero Badaró, 293, – 9º Andar, Conjunto B, Centro, São Paulo - SP CEP: 01009-000 /
Endereço Sede: Av. Netuno, 32 – 2º Andar, Sala 04, Alphaville, Santana de Parnaíba - SP, CEP: 06541-015
CNPJ: 01.950.467/0001-65 – Tel.: 55 11 3514.5700 – www.tuv.com/br – 700-CE-40-00

Certificação de Produto
OCP 0004
Acreditado desde 1993

TÜVRheinland®
Precisely Right.

Certificado de Conformidade

Certificate of Compliance ♦ Certificado de Conformidad

Certificado N.º: TÜV 13.2464 X
Certificate No. ♦ Certificado N.º:

Revisão: 01
Review ♦ Revisión:

Válido até: 18/02/2020
Valid until ♦ Válido hasta:

Emitido em: 18/02/2017
Issued ♦ Emitido:

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 invalid 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:	**February 18th, 2014 – Initial Certification;**
Review 01:	**October 24th, 2017 – Revalidation.**

Para confirmar sua autenticidade acesse https://tuv.3dds.digital/check/81105410154458267 9

Conforme art. 10, § 1º da Medida Provisória nº 2.200-2, de 24 de agosto de 2001, as declarações em forma eletrônica produzidas com a utilização de processo de Certificação Digital disponibilizado pela ICP-Brasil presumem-se verdadeiras em relação aos signatários, na forma do art. 219, da Lei 10.406, de 10 de janeiro de 2002 - Código Civil.

Digitally signed by TUV RHEINLAND DO BRASIL LTDA:01950467000165
DN: c=BR, o=ICP-Brasil, ou=Array, cn=TUV RHEINLAND DO BRASIL LTDA:01950467000165
Reason: Digital Signature
Location: //BR
Date: 24.10.2017 13:10:04 +0000

Endereço Escritório: Rua Libero Badaró, 293, – 9º Andar, Conjunto B, Centro, São Paulo - SP CEP: 01009-000 /
Endereço Sede: Av. Netuno, 32 – 2º Andar, Sala 04, Alphaville, Santana de Parnaíba - SP, CEP: 06541-015
CNPJ: 01.950.467/0001-65 – Tel.: 55 11 3514.5700 – www.tuv.com/br – 700-CE-40-00