



Ex Certificate of Conformity

Standard Form for Evaluation of the Quality Management System used in the Production Process and Product Testing

Certificate No.: NCC 15.0253 X Issue: 0

Issue date: 09-29-2015 Page 1 of 5

Expiration date: 29-09-2018

Certificate history:

Applicant: **TopWorx**
3300 Fern Valley Road
Louisville, KY 40213

Issue No. 0 (09-29-2015)

United States of America

Electrical apparatus: **Valve position indicator, TX series***

Main type of protection: **i, t**

Labeling: Ex ia IIC T6 Gb IP66/IP67
Ex tb IIIC T75°C Db IP66/IP67
T_{amb} = As per table 1.
or Ex ia IIC T4 Gb IP66/IP67
Ex tb IIIC T104°C Db IP66/IP67
T_{amb} = As per table 1.

Approved for issue in conformity with the rules and applicable standards
Certification body:

Digitally signed - Certisign
WILSON MONTEIRO BONATO JUNIOR:04261009803
CREA/SP: 123392/D
2015.29.09 11:13:58

Position:

Wilson Bonato
Technical Manager

Certificate issued in accordance with the requirements for conformity assessment of electrical equipment for explosive atmospheres, set out in Inmetro Ordinance No. 179 of May 18, 2010

1. This certificate may only be reproduced with all of its pages.
2. This certificate is not transferrable and is the property of the issuing body.
3. The status and authenticity of this certificate can be verified on the official Inmetro website.
4. This certificate of conformity was issued by a certification body accredited by CGCRE - General Accreditation Coordination.

Certificate issued by:

NCC Certificações do Brasil Ltda.
CGRE Accreditation no. 0034
(10/16/2003) www.ncc.com.br





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Manufacturer: **TopWorx**
3300 Fern Valley Road
Louisville KY 40213
United States of America

Additional manufacturing locations: **Emerson Process Management Magyarország Kft**
8000 Székesfehérvár Holland fasor, 6
Hungary

Emerson Machinery Equipment (Shenzhen) Co. Ltd
Bao Heng Technology Industry Park,
Liu Xian 1st Road District 68,
Bao'an District, Shenzhen 518101
China

This certificate is issued as verification that samples, representative of production, were assessed and tested and found to comply with the standards listed below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the requirements of the Inmetro Rules. This certificate is granted subject to the conditions stipulated in the Inmetro Rules.

STANDARDS:

The electrical apparatus and any acceptable variations specified in the report of this certificate and mentioned documents were found to comply with the following standards:

- ABNT NBR IEC 60079-0:2013** Explosive Atmospheres – Part 0: Equipment – General requirements.
- ABNT NBR IEC 60079-11:2013** Explosive Atmospheres – Part 11: "i" intrinsic safety equipment protection.
- ABNT NBR IEC 60079-31:2011** Explosive Atmospheres – Part 31: Protection of equipment against dust ignition by "t" casings.

This certificate **does not** indicate conformity with any safety and electrical performance requirements other than those expressly included in the standards listed above.

TEST AND ASSESSMENT REPORTS:

Samples of the listed equipment have successfully met the examination and test requirements as recorded in;

Technical conformity assessment report (presents the verification of the documents used for analysis and conclusions for the recommendation of certification):

BPM: 201087

Process: 31927/15.2

Test report(s):

No. GB/SIR/ExTR14.0192/00 (Sira – jun/2014)

Auditing report / Quality Evaluation Report:

NCC: 2015-24-07 (China)

NCC: 2015-30-06 (USA)

NCC: 2015-06-29/30 (Hungary)



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EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The valve position indicator (TXP and TXS models) basically consists of a metallic casing measuring 150 mm x 100 mm x 60 mm, metallic cover and polycarbonate visual display. The indicator can be supplied in the form of two different models as detailed below:

TXP model: Aluminum body, aluminum cover and polycarbonate visual display;

TXS model: Stainless steel body, stainless steel cover and polycarbonate visual display.

The valve position indicator can only be equipped with the components listed in table 1 below. The feed, temperature range and class can vary, depending on the assembly of the monitor.

Table 1

Equipment	Type	Ambient temperature range	Gas temperature class	Dust temperature class
Mechanical key	V7	-50°C ≤ Ta ≤ +55°C or -50°C ≤ Ta ≤ +85°C	T6 or T4	T75°C or T104°C
Micro switch	VS10N001C2			
Reed switch	HSR-V933			
Reed switch	LV-ELE145			
Key	35 Series			
DPDT micro switch	Cherry Burrell E19 or ITW DPDT-ZZ #26-804			
Electrovalve module	3021....IA	-40°C ≤ Ta ≤ +56°C	T4	T75°C
Inductive proximitor	N*50**, N95001 & k15030 (only with type 1, 2, +3 feed)	-25°C ≤ Ta ≤ +42°C	T4	T75°C
Signal converter	SJ... & SC.... (only with type 1, 2, +3 feed)	-50°C ≤ Ta ≤ +47°C	T4	T75°C
Proximity sensor	NJ2-V3-N type (only with type 1, 2, +3 feed)	-50°C ≤ Ta ≤ +56°C	T4	T75°C
	All types, only with type 1, 2, +3 feed	-50°C ≤ Ta ≤ +35°C	T4	T75°C
4-20 mA transmitter module associated with potentiometer	-	-40°C ≤ Ta ≤ +52°C	T4	T75°C
Two-wire proximity sensor	Type ...-...-Y1-.../...	-25°C ≤ Ta ≤ +42°C	T4	T75°C

Technical characteristics:

The entity parameters for simple keys are:

U_i = 30 V

I_i = 200 mA

P = 0.72 W/key (T4) or P = 0.34 W/key (T6)



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CONDITIONS OF CERTIFICATION:

This certificate is valid only for equipment of a model identical to that of the equipment actually tested. All changes to the design and usage of components and/or materials that are different from those defined by the descriptive documentation of the equipment without prior authorization from NCC, shall invalidate this certificate.

The end user is responsible for ensuring that the product will be installed/used according to the manufacturer's instructions and relevant standards regarding electrical installations in potentially explosive atmospheres.

Installation, inspection, maintenance, repair, revision and recovery of equipment are the responsibility of end users and must be performed in accordance with the requirements of current technical standards and the manufacturer's recommendations.

Because this involves a certification process in which the applicant is not legally established in Brazil, the user shall comply with item 10.1 of Inmetro Ordinance no. 179 of May 18, 2010, and the manufacturer is responsible for complying with item 7 of the latter ordinance.

Manufacturing conditions:

All assemblies must involve a dielectric strength test as per ABNT NBR IEC 6007-11 with 500 Vac, between the circuit and the casing for a period of 60 seconds.

Warning label:

CAUTION: POTENTIAL RISK OF ELECTROSTATIC CHARGE – CLEAN ONLY WITH A MOIST CLOTH.

Specific usage conditions:

When the equipment includes the signals module from 4 to 20 mA the output can only be connected to the potentiometer WAL305 (Novotechnic). When the transmitter module from 4 to 20 mA is installed in the equipment, only two keys may be installed.

Because the equipment has plastic parts, special care should be taken to avoid accumulation of electrostatic charges, see manual. Special care should be taken for intrinsic connection of controller keys, which should follow the following entity parameters:

$U_i = 30 \text{ V}$

$I_i = 200 \text{ mA}$

$P_i = 0.72 \text{ W/key(T4)}$ or $P_i = 0.34 \text{ W/key(T6)}$

DETAILS OF CERTIFICATE ISSUES (for issues 0 and above):

Issue 0:

Initial issue.



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CONTROLLED DESCRIPTIVE DOCUMENTS OF THE EQUIPMENT (CONFIDENTIAL):

Table 2

Number	Revision
CERT-ES-02343-1	14
CERT-ES-03126-1	1

Number	Revision
Manual	CERT-ES-01856-1B
ES-02254-1	2

Number	Revision
CERT-ES-03606-1	13
ES-01775-1	3