



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.:	IECEX TRC 12.0001X	Issue No: 1	<u>Certificate history:</u>
Status:	Current	Page 1 of 5	Issue No. 1 (2015-08-05)
			Issue No. 0 (2012-06-22)

Date of Issue: 2015-08-05

Applicant: Nidec Avtron Automation Corporation  
8901 East Pleasant Valley Road,  
Independence,  
Ohio 44131  
United States of America

Electrical Apparatus: Ex Encoders (as listed within the schedule to this certificate) for use with  
Isolator XRB1 P/N B35134 or Isolator XRB2 P/N B38071

*Optional accessory:*

Type of Protection: Intrinsic Safety

Marking:

Isolator XRB1:  
[Ex ib IIC Gb]

Isolator XRB2:  
[Ex ia IIC Gb]

[Ex ib IIIC Db]

[Ex ia IIIC Db]

Encoders with XRB1:  
Ex ib IIC T4 Gb

Encoders with XRB2:  
Ex ia IIC T4 Gb

Ex ib IIIC T200°C Db

Ex ia IIIC T200°C Db

All encoders and isolators models  $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +80^{\circ}\text{C}$  except XR485N and XR685N models

Encoders XR485N and XR685N  $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +80^{\circ}\text{C}$

Um 250V

Approved for issue on behalf of the IECEx  
Certification Body:

S P Winsor

Position:

Certification Manager

Signature:  
(for printed version)

Date:

2015-08-05

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.



# IECEX Certificate of Conformity

Certificate No

IECEX TRC 12.0001X

Issue No: 1

Date of Issue:

2015-08-05

Page 2 of 5

3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](#).

Certificate issued by

TRaC Global Ltd.  
Unit 1 Pendle Place  
Skelmersdale  
West Lancashire  
WN8 9PN  
United Kingdom





# IECEX Certificate of Conformity

Certificate No: IECEX TRC 12.0001X Issue No: 1

Date of Issue: 2015-08-05 Page 3 of 5

Manufacturer: Nidec Avtron Automation Corporation  
8901 East Pleasant Valley Road,  
Independence,  
Ohio 44131,  
United States of America

Additional Manufacturing  
location(s)

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list 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 IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements  
Edition:6.0

IEC 60079-11 : 2011 Explosive atmospheres - Part 11. Equipment protection by intrinsic safety "i"  
Edition:6.0

*This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

#### Test Report:

GB/TRC/ExTR12.0001/00 GB/TRC/ExTR12.0001/01

#### Quality Assessment Report

US/UL/QAR12.0002/03



# IECEx Certificate of Conformity

Certificate No: IECEx TRC 12.0001X

Issue No: 1

Date of Issue: 2015-08-05

Page 4 of 5

## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The Encoder System comprises an Intrinsically Safe Isolator (safe area) and an encoder head mounted on a motor (Hazardous Area). The two items can only be used and installed as a 'system'.

The isolators XRB1 or XRB2 uses an intrinsically safe barrier circuit for input and output to the Encoders.

The encoders are made from a selection of 5 simple board combinations depending on the application. See annex for model numbers covered by this certificate. The boards are potted into a solid block and mounted in metal cases. Note that the encoder is also available in a version designated "Sensor sub-assy". This is just the electronics element for a non-specific user supplied encoder.

### CONDITIONS OF CERTIFICATION: YES as shown below:

1. When the encoder is marked as "ia" or "ib", it must only be used with the corresponding isolators listed in this certificate. The isolators, encoders and cable must be selected and installed in accordance with IEC60079-14 and IEC60079-25.
2. The equipment should be mounted so as to avoid electrostatic charging.
3. The isolator must be installed inside of an enclosure with an appropriate mechanical strength and minimum degree of protection IP20 for indoor waterproof installations and IP54 for outdoor or not waterproof installations.



# IECEX Certificate of Conformity

Certificate No. IECEx TRC 12.0001X

Issue No. 1

Date of Issue: 2015-08-05

Page 5 of 5

**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):**

**Issue 1:**

Company name change from Avtron Industrial Automation to Nidec Avtron Automation Corporation, Addition of Isolator Model XRB2 and Encoder models XR56S, XR97.

**Annex:**

[Annex to IECEx TRC 12 0001X iss 1.pdf](#)