[1] # TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU**

[3] Type Examination Certificate Number: **UL 23 ATEX 3086X Rev. 1**

[4] Product: **XR series encoder**

[5] Manufacturer: **Nidec Industrial Solutions**

[6] Address: **243 Tuxedo Ave., Brooklyn Heights, OH 44131 USA**

[7] This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] UL International Demko A/S 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 Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014.

The examination and test results are recorded in confidential report no. **US/UL/ExTR23.0083/01.**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 **EN 60079-11:2012**

Where additional criteria beyond those given here have been used, they are listed at item 18 in the Schedule.

[10] If the sign "**X**" is placed after the certificate number, it indicates that the product is subject to the “Specific Conditions of Use” listed under item 17 of this certificate.

[11] This Type examination certificate relates only to the design of the specified product, and not to specific items of product subsequently manufactured.

[12] The marking of the product shall include the following (marking is provided in the Schedule as a part of item 15, if applicable):

II 3G Ex ic IIC T4 Gc

II 3D Ex ic IIIC T200°C Dc

Certification Manager
Thomas Wilson

This is to certify that the sample(s) of the Product described herein (“Certified Product”) has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL’s prior written approval.

Date of issue: 2024-05-23
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Certification Body UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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[13] [14]

Schedule
TYPE EXAMINATION CERTIFICATE No.
UL 23 ATEX 3086X Rev. 1

[15] Description of Product:

Encoder Overview:
The encoders are made from a selection of five simple board combinations depending on the application. The boards in combination are effectively simple apparatus as the capacitance and inductance under mass fault are less than the permitted isolator value. In addition, the boards are potted into a solid block and mounted in metal cases (offering ingress protection IP54).

Encoder models covered are:

XR4F	XR56A	XR485
XR5	XR67A	XR685
XR12	XR85A	XR850
XR45	XR115	XR56S
XR47	XR125	XR97

Temperature range:
The relation between ambient temperature and the assigned temperature class is as follows:

Models	Ambient temperature range	Temperature class
All Encoders except XR485N and XR685N:	-40°C to +80°C	T4 T200°C
Encoders XR485N or XR685N:	-20°C to +80°C	T4 T200°C

Electrical data

Zone 2 Encoder Parameter shall be according to the table below:

	Ui		Ci
Ii	IIC	IIB	
250mA	15V	25V	
1A	-	15V	1.8uF
5A	-	12V	
Zone 2			

Routine tests:
N/A

[16] Descriptive Documents
The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this Type Examination Certificate.

[17] Specific Conditions of use:
- When the encoder is marked as “ic”, the power supply situated in safe area must be limited to the levels listed on this certificate and cable must be selected and installed in accordance with EN 60079-14 and EN 60079-25.
- The equipment should be mounted to avoid electrostatic charging.

[18] Essential Health and Safety Requirements
The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

Additional information
The XR series of encoders has in addition passed the tests for Ingress Protection to IP 54 in accordance with EN60529:1991+A1:2000+A2:2013.

All models for the encoder are covered by this.