IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx UL 17.0049X**

Page 1 of 4

Certificate history:

Issue 2 (2019-07-25)
Issue 1 (2018-04-17)
Issue 0 (2017-10-23)

Status: **Current**

Issue No: 3

Date of Issue: 2020-05-20

Applicant: **Nidec Industrial Solutions**
243 Tuxedo Ave.
Brooklyn Heights, OH 44131
United States of America

Equipment: **Encoder and Parts Kit, Series XP5 and XPH Modular Encoders**

Optional accessory:

Type of Protection: **Flameproof "db" and Intrinsic Safety "ia"**

Marking: Ex db ia IIB T4 Gb

-50 °C ≤ Tamb ≤ +85 °C

Approved for issue on behalf of the IECEx Certification Body: **Katy A. Holdredge**

Position: **Senior Staff Engineer**

Signature: (for printed version)

Date:

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.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

UL LLC
333 Pfingsten Road
Northbrook IL 60062-2096
United States of America

IECEx Certificate of Conformity

Certificate No.: **IECEx UL 17.0049X**

Date of issue: 2020-05-20 Issue No: 3

Manufacturer: **Nidec Industrial Solutions**
243 Tuxedo Ave.
Brooklyn Heights, OH 44131
United States of America

Additional manufacturing locations:

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 equipment 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 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

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

This Certificate **does not** indicate compliance with 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 Reports:

US/UL/ExTR17.0051/00 US/UL/ExTR17.0051/01 US/UL/ExTR17.0051/02
US/UL/ExTR17.0051/03

Quality Assessment Report:

US/UL/QAR12.0002/07

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The XP5 is a series of magnetic flameproof and intrinsically safe encoders designed for rotational sensing. The equipment is comprised of two compartments, and flameproof enclosure housing the galvanic isolator (associated apparatus) and drive electronics, and a second compartment containing the intrinsically safe sensor circuitry. The flameproof enclosure of the XP5 is comprised of the housing and cover, secured together by four metal M5 cover screws. Encapsulation is provided within the flameproof enclosure, and completely fills the intrinsically safe compartment.

The XPH is an assembly of components including the series XP5 sensor, rotor, adapter bracket/housing, adapter housing cover, and sensor cover.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:
This product has no user serviceable parts. Care must be taken during use to ensure that flameproof joints on the Cover and Housing are not damaged. Repair of flameproof joints is not permissible. Contact Nidec Industrial Solutions for dimensions of flameproof joints.

The circuits shall be limited to overvoltage category I/II/II as defined in IEC 60664-1.

The (4) screws that secure the XP5 cover onto the XP5 enclosure require the minimum tensile strength shown below:

MATERIAL	GRADE	MINIMUM TENSILE STRENGTH
A2 Stainless Steel	A-70	700 MPa (101.5 KSI)
A4 Stainless Steel	A-80	800 MPa (116.0 KSI)
Carbon Steel	8.8	800 MPa (116.0 KSI)
Alloy Steel	12.9	1220 MPa (176.9 KSI)

Protect the cover seal from sunlight during storage and installation.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1: Changed 'WARNING' content in Marking Plate to comply with non-IEC standard requirements.

Issue 2: Minor editorial changes to the drawings, addition of alternate components, and modification of the PCB layouts.

Issue 3: Update manufacturer's address and related drawings.

Annex:

Annex to IECEx UL 17.0049X Issue 3.pdf

IECEx Certificate of Conformity

Certificate No.: IECEx UL 17.0049X

Issue No.: 3

TYPE DESIGNATION

Nomenclature:

I	II	III	IV	V	VI
XP5	2	6	AY	A	000

I – Model Designation	Code	Description
	XP5	
II - Style		
	* -	Rotor Size and Adapter Configuration
III - Line Driver		
	2 -	5 to 24V in / OC out
	6 -	5 to 24V in / 5 to 24V out
	8 -	5 to 24V in / 5 to 24V out high power
IV- PPR Left		
	** -	Pulse Per Revolution to Drive
V - Connector		
	** -	M25, ½ NPT, ¾ NPT Connection on the Left, Right, or Both Sidewalls of Housing
VI - Mod Code		
	*** -	Optional Features

I	II	III	IV	V	VI	VII	VIII	IX
XPH	1	TM	F	6	AY	AY	A	000

I – Model Designation	Code	Description
	XPH	
II - Style		
	* -	Rotor Size and Adapter Configuration
III – Rotor Type & Size		
	** -	Rotor Bore Size and Connection to Shaft
IV – Housing Cover Type		
	* -	XPH Cover Configuration
V – Line Driver		
	2 -	5 to 24V in / OC out
	6 -	5 to 24V in / 5 to 24V out
	8 -	5 to 24V in / 5 to 24V out high power
VI – PPR Left		
	** -	Pulse Per Revolution
VII – PPR Right		
	** -	Pulse Per Revolution

VIII – Connector

** - M25, ½ NPT, ¾ NPT Connection on the Left, Right, or Both Sidewalls of Housing

IX – Mod Code

*** - Optional Features

*** - A single number or letter**
**** - Any two-digit combination of numbers and letters**
***** - Any three-digit combination of numbers and letters**

PARAMETERS RELATING TO THE SAFETY

24V, 500mA, Um = 250V

MARKING

Marking has to be readable and indelible; it has to include the following indications: