

# 1 EU - TYPE EXAMINATION CERTIFICATE

## 2 Product or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU – Annex III

3 EU - Type Examination Certificate No.: **TRAC14ATEX0007X (incorporating variations V1)**

4 Product: **Flameproof Encoder Model M6C series**

5 Manufacturer: **Nidec Industrial Solutions**

6 Address: **8901 East Pleasant Valley Road, Independence, Ohio 44131,  
United States of America**

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

8 Element Materials Technology, Notified Body number 2812, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 the Directive. The examination and test results are recorded in the confidential report **TRA-017681-33-00A and TRA-047283-32-00A**

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

**EN 60079-0:2012+A11:2013 EN 60079-1:2007 EN 60079-7:2007**

Except in respect of those requirements listed at section 18 of the schedule.

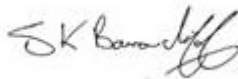
10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall include the following:

 **II 2 G Ex d e IIB T4 Gb T<sub>amb</sub> = -40/-20 °C to +80 °C**

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the Element Materials Technology Ex Certification Scheme.



S K Barrowcliff, General Manager

Issue date: 2020-01-17

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**13 SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE**

**14 CERTIFICATE NUMBER TRAC14ATEX0007X (incorporating variations V1)**

**15 Description of Product**

The M6 range of encoders are rotary speed and position transducers. The output from the units is directly proportional to shaft position (pulse count) or speed (pulse rate). The encoder is designed to be used for both control and instrumentation applications and is powered by a DC supply not exceeding 24Volts. The device consists of a cast aluminium flameproof enclosure and up to two increased safety terminal housings, separated by cemented seals. The flameproof enclosure is secured by 12 M4 x 0.7 cap screws with a tensile strength of 1220 N/mm<sup>2</sup> (property class 12.9) with a torque of 2.82 N-m.

M6C PART NUMBERS AND AVAILABLE OPTIONS								
Model	Bore Size	Mounting Style	Line Driver	Left & Right Output Range	Base PPR	Marker	Connector	Modifications
M6C-	0- Non-Standard 4- 1" 5- 1 1/8"	S- End of Shaft	1- 5 to 24 VDC 2- 5 to 18 VDC 3- 12 to 24 VDC 8- 6.5 to 24 VDC	X- None L- Low Range (Base PPR x 1/2) M- Medium Range (Base PPR x 1) H- High Range (Base PPR x 2)	48- 480 51- 512 60- 600	Z- Marker -- None	T- Conduit Box, Terminal Block, 3/4" NPT W- Conduit Box, Terminal Block and Wire Gland	000- None 001- Low Temp (-40°C) 003- Torque Arm B28390 005- Low Temp (-40°C) & Torque Arm

**16 Test Report No. (as added for this issue of the certificate):** TRA-047283-32-00A.

**17 Specific Conditions of Use**

1. Contact the manufacturer for information on the dimensions of the flameproof joints.



Attention is drawn to the operating and installation instructions which may contain useful information in relation to conditions of use.

**18 Essential Health and Safety Requirements (Directive Annex II)**

The standards listed in section 9 of this certificate are no longer listed within the Official Journal and are therefore not harmonised. A gap analysis has been conducted by Element Materials Technology against the relevant, latest versions of the harmonised EN 60079 series standards and has confirmed continued compliance with the Essential Health and Safety Requirements. This analysis is detailed in report: TRA-047283-32-00A.

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

**19 Drawings and Documents**

The list of controlled technical documentation is given in Appendix A to this schedule.

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#### 20 Routine Tests

1. An electrical strength test of 500V rms shall be applied between the terminals and chassis in accordance with clause 7.1 of EN 60079-7.

#### 21 Specific Conditions for Manufacture

1. The products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices and to ensure the correct instruction documents/information is provided to the end user.

#### 22 Photographs



#### 23 Details of Markings

		INCREMENTAL ENCODER	
ENCODERS NIDEC INDUSTRIAL SOLUTIONS CLEVELAND, OHIO, USA		www.avtronencoders.com	
			0539
Type	Option Code	Rev	Ser. No. Date Mfg
	PPR		VDC
Imax= 160mA, Pmax= 4.48W Ea Output			
Ex de IIB T4 Gb (Tamb to +80°C)			
 0539  II 2 G			
Cert No.	TRAC14ATEX0007X	IP66	
IECEX TRC 14.0005X			
WARNING: DO NOT OPEN IN AN FLAMMABLE ATMOSPHERE OR WHEN ENERGIZED. WIRING AND CABLE GLANDS USED FOR THE ENCODER MUST BE RATED 100°C OR BETTER.			
B36356			

#### 24 Details of Variations to this Certificate

This certificate is a consolidated certificate and reflects the latest status of the certification, including the following variations:

- Variation V1 -- This certificate was originally issued by Notified Body number 0891 under Directive 2014/34/EU. The technical file has been transferred to Element Notified Body number 2812, including a company name change, label correction to CE mark font and replacement instructions drawing.

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#### 25 Notes to CE marking

In respect of CE Marking, Element Materials Technology accepts no responsibility for the compliance of the product against all applicable Directives in all applications.

#### 26 Notes to this certificate

Element Materials Technology certification reference: TRA-047283-00 (GU-NISQ-0001).

Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

Notified Body number 2812 is the designation for Element Materials Technology Rotterdam BV.

In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variation certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

#### 27 Conditions for the validity of this certificate

This certificate remains valid for so long as:

- (i) The equipment listed in section 4 is manufactured in accordance with the documents listed in Appendix A of this certificate.
- (ii) The standards listed in section 9 of this certificate continue to satisfy the Essential Health and Safety Requirements of Annex II of Directive 2014/34/EU and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).

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**APPENDIX A - TECHNICAL DOCUMENTS**

<b>Title:</b>	<b>Drawing No.:</b>	<b>Rev. Level:</b>	<b>Date:</b>
M6C Explosion-Proof Pulse Encoder (3 Sheets)	D52332	B	2020-01-16
M6C Certification drawing- User Instructions	B38053	-	2019-10-04

