



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **KIWA 16ATEX0040X** Issue: **3**

4 Equipment: **Temperature Transmitter, Model IPAQ R330X**

5 Applicant: **INOR Process AB**

6 Address: **Travbanegatan 10
213 77 Malmö
Sweden**

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

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0: 2018

EN 60079-11: 2012

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 1 G

Ex ia IIC T6 ... T4 Ga

Project Number 80072681

Signed: J A May

Title: Director of Operations

CSA Group Netherlands B.V.
Utrechtseweg 310, Building B42,
6812AR Arnhem, The Netherlands



SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

KIWA 16ATEX0040X

Issue 3

13 DESCRIPTION OF EQUIPMENT

Rail mounted Temperature Transmitter Model IPAQ R330X with a non-metallic enclosure, is a loop powered device that converts the measurements signals of temperature sensors (RTD or thermocouple) or resistance or mV signals into a 4 – 20 mA output signal.

The transmitter is provided with a USB port and NFC technology for service and configuration.

Ambient temperature range:

P_i	Temperature class	Ambient temperature range
900 mW	T6	-40°C to +55°C
	T5	-40°C to +70°C
	T4	-40°C to +85°C
700 mW	T6	-40°C to +60°C
	T5	-40°C to +75°C
	T4	-40°C to +85°C

Electrical data:

Supply and output circuit (terminals +21 and -22):

In type of protection intrinsic safety Ex ia IIC, only for connection to a certified intrinsically safe circuit; with following maximum values:

$U_i = 30 \text{ V}$; $I_i = 100 \text{ mA}$; $P_i = 0,9 \text{ W}$; $C_i = 23,1 \text{ nF}$; $L_i = 20 \text{ }\mu\text{H}$.

Sensor circuits (terminals 1 ... 4):

In type of protection intrinsic safety Ex ia IIC, with following maximum values:

$U_o = 6,5 \text{ V}$; $I_o = 11,7 \text{ mA}$; $P_o = 19,1 \text{ mW}$; $C_o = 24 \text{ }\mu\text{F}$; $L_o = 400 \text{ mH}$.

The sensor circuits are infallible galvanically isolated from the power supply and output circuit and withstand a test voltage of 500 VAC.

Communication interface (mini USB port):

Only for connection to the associated ICON-X or ICON Interface.

The USB circuit is protected in accordance with the requirements of type of protection intrinsic safety Ex ia IIC, and has following maximum values (for information only):

$U_i = 10 \text{ V}$, $I_i = 100 \text{ mA}$, $P_i = 0,25 \text{ W}$ and

$U_o = 30 \text{ V}$, $I_o = 18 \text{ mA}$, $P_o = 135 \text{ mW}$, $C_o = 66 \text{ nF}$, $L_o = 40 \text{ mH}$.

Variation 1 - This variation introduced the following changes:

- i. Change of the electronics providing improved electrical parameters for the sensor circuits and a galvanic isolation between the supply and output circuit and the sensor circuits.
- ii. Update of a standard from IEC 60079-0 edition 6 to edition 7.

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE

KIWA 16ATEX0040X
Issue 3

Variation 2 - This variation introduced the following changes:

- iii. Change of electronics and printed circuit board layout.
- iv. Update of the ambient temperature range related to the supply input power parameter.
- v. Update of the marking plates, installation manual and control drawing

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
1	24 January 2017	161000016-1	The release of the prime certificate.
2	28 February 2019	181001772-1	The introduction of Variation 1.
3	25 May 2021	R80072681B	The introduction of Variation 2.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

15.1 The communication interface (USB connection) may only be connected to the associated ICON Interface if the temperature transmitter is outside of the hazardous area.

- If certified ICON-X interface is used, a connected sensor may be located in the hazardous area.
- If non-Ex ICON interface is used, a connected sensor shall not be located in the hazardous area.

15.2 For the applicable ambient temperature range, refer to the Product Description.

15.3 The transmitter shall be mounted in to a suitable enclosure that provides a degree of protection of at least IP20.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF MANUFACTURE

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

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Certificate Annexe



Certificate Number: KIWA 16ATEX0040X
Equipment: Temperature Transmitter,
Model IPAQ R330X
Applicant: INOR Process AB

Issues 1 and 2: Refer to the report listed in section 14.2

Issue 3

Drawing	Sheets	Rev.	Date (Stamped)	Title
APPR DESC 821225	1 to 16	1	2021-04-14	Description of IPAQ R330X / TT 33 R Ex gen 2
APPR BOM 821225-01	1 to 15	4	2021-04-14	List of Components, IPAQ R330X / TT 33 R Ex
APPR MRPRT 821204-03	1 to 5	-	2021-04-14	Temperature tests on transmitters
4005499601	1 of 1	3	2021-04-14	IPAQ R330X Installation and Control drawing
4005499602	1 of 1	2	2021-04-14	IPAQ R330X gen 2 Installation and Control drawing
4007317401	1 to 58	2	2021-04-14	MA IPAQ 330 R02 en Manual
73R330X002	1 to 3	4	2021-04-14	Schematic, IPAQ R330X / TT 33 R Ex gen 2
Spec 4006051507	1 to 13	1	2021-04-14	PCB Spec. and layout, IPAQ R530X / TT 53 R Ex
4007302502	1 of 1	2	2021-04-14	IPAQ R330X Dwg X Label 1, 54,5x34,0, Text
4007302501	1 of 1	2	2021-04-14	IPAQ R330X Basic Label 1, 54,5x34,0, Text

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