



1. EU-TYPE EXAMINATION CERTIFICATE

2. Equipment or Protective systems intended for use in Potentially Explosive Atmospheres - Directive 2014/34/EU

3. EU-Type Examination Certificate No: FM14ATEX0048X

4. Equipment or protective system:
(Type Reference and Name) NAR300 Oil Leak Detector System

5. Name of Applicant: Endress + Hauser Yamanashi Co. Ltd.

6. Address of Applicant 862-1 Mitsukunugi Sakaigawa-cho Fuefuki-shi
Yamanashi Prefecture 406-0846, Japan

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

8. FM Approvals Europe Ltd, notified body number 2809 in accordance with Article 17 of Directive 2014/34/EU of 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 confidential report number:

3049525 dated 4th August 2015

9. Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN IEC 60079-0:2018, EN 60079-1:2014, EN 60079-11:2012, EN 60079-25:2010,
EN 60529:1991+A1:2000+A2:2013

10. If the sign 'X' is placed after the certificate number, it indicates that the equipment 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, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

Certificate issued by:

Digitally signed by
Richard Zammit
Location: Ireland
Foxit PDF Editor
Version: 13.1.3

Certification Manager, FM Approvals Europe Ltd.

Date 18 September 2024

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FM Approvals Europe Ltd. One Georges Quay Plaza, Dublin. Ireland. D02 E440
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SCHEDULE

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12. The marking of the equipment or protective system shall include:



See Annex.

13. Description of Equipment or Protective System:

The NAR300 Oil Leak Detector System is designed to detect the presence of hydrocarbon liquid in a dry pit or floating on the surface of water. The system consist of three major components, a sensor a transmitter and a converter. There are three configurations of the system for different installation variations.

See Annex.

14. Specific Conditions of Use:

See Annex.

15. Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16. Test and Assessment Procedure and Conditions:

This EU-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Europe Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Europe Ltd's ATEX Certification Scheme.

17. Schedule Drawings

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

18. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
5 August 2015	Original Issue.
13 April 2016	<u>Supplement 1:</u> Report Reference: RR204657 dated 11 th April 2016 Description of the Change: CPU change on CPU Board, Circuit diagram and

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Date	Description
	correction to date of standard EN 60079-25: 2010.
16 July 2018	<u>Supplement 2:</u> Report Reference: PR450372 dated 2 nd July 2018 Description of the Change: Another type has been added for the Zener Barrier built-into the NRR261 and NRR262. Available Zener Barrier is 9001/01-280-85 or MTL728+. The edition of EN 60079-0 has been updated from 2012 to 2012 +A11:2013 and EN 60079-1 has been updated from Ed. 6.0 to Ed. 7.0.
13 March 2019	<u>Supplement 3:</u> Description of the Change: Certificate transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., notified body no. 2809.
10 September 2021	<u>Supplement 4:</u> Report Reference: PR460777 dated 23 rd August 2021. Description of the Change: Update EN 60079-0 to the 2018 version. Correct typos in Applicant address. Corrected typo on nameplate documents. Updated EHSR to reflect change of standard revisions used.
18 October 2022	<u>Supplement 5:</u> Report Reference: RR233798 dated 18 th October 2022. Description of the Change: <ol style="list-style-type: none">1. Document Updates2. Updates to Equipment Marking (Section 12)3. Updates to Electrical Ratings (Section 13)
22 March 2024	<u>Supplement 6:</u> Report Reference: RR239315 dated 22 th March 2024. Description of the Change(s): Updates and corrections to nameplates and user manuals. Change of coating material used for terminal board for NRR300.
18 September 2024	<u>Supplement 7:</u> Report Reference: RR242815 dated 13 September 2024. Description of the Change(s): Drawing updates for changes to components and conformal coating material.

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ANNEX

NAR300-AbAcde Float Sensor and Transmitter for Oil Leak Detector System

Equipment Ratings:

Ambient temperature rating: -20°C to +60°C.

Electrical ratings:

Transmitter

Ui = 28 V, Ii = 93 mA, Pi = 650 mW, Ci = 0, Li = 48 μH

Uo = 13 V, Io = 46.8 mA, Po = 152.1 mW, Co = 0.25 μF, Lo = 58.3 mH

Sensor

Ui = 16 V, Ii = 52 mA, Pi = 169 mW, Ci = 0, Li = 0

Markings:



II 1 G Ex ia IIB T5 Ga Ta = -20°C to 60°C

II 1/2 G Ex ia [ia Ga] IIB T4 Gb Ta = -20°C to 60°C

Description of Equipment:

The float sensor is a unit to detect an oil leak. The detector consists of a conductive sensor, a vibrating sensor and electronics. The two sensors are mounted on a stainless steel float which contacts fluid. The electronics are potted in a stainless steel housing. The vibronic sensor detects presence of liquid the conductivity sensor detects non-conductive material and differentiates air or oil. The sensor electronics receives signals from the sensors and is connected to the transmitter electronics. The high temperature version does not implement vibrating sensor. The float sensor and transmitter are rated IP67.

b = Type 1, 5, 6 or 9

c = Signal Cable A, B, C, D, E, F or Y

d = Float Guide 1, 2, 3 or 9

e = Cable Entry A, B, C, E or Y

Specific Conditions of Use:

None

NRR261-abc Converter and Transmitter for Oil Leak Detector System

Equipment Ratings:

Ambient temperature rating: -20°C to +60°C.

Electrical ratings:

Converter

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Um = 250 V

Uo = 28 V, Io = 85 mA, Po = 595 mW, Co = 0.083 μ F, Lo = 2.4 mH or

Uo = 28V, Lo = 93 mA, Po = 650 mW, Co = 0.083 μ F, Lo = 3.05 mH

Transmitter

Ui = 28 V, Ii = 93 mA, Pi = 650 mW, Ci = 0, Li = 48 μ H

Uo = 13 V, Io = 46.8 mA, Po = 152.1 mW, Co = 0.25 μ F, Lo = 58.3 mH

Markings:



II 1/2 G Ex db ia [ia Ga] IIB T4 Gb Ta = -20°C to 60°C

II 2 G Ex db [ia Gb] IIB T6 Gb Ta = -20°C to 60°C

Description of Equipment:

a = Approval A or D

b = Power Supply A or B

c = Cable Entry Q, R, T, U or W

The NRR261 converter is installed in a flameproof housing. The converter provides intrinsically safe circuits to the transmitter via an intrinsically safe shunt diode barrier. The circuits exit the flameproof compartment via a flameproof feed through into the intrinsically safe compartment. The intrinsically safe compartment is mounted directly to the flameproof converter compartment. The intrinsically safe compartment contains the transmitter electronics in one configuration or for the remote configuration the compartment provides connections to a remote transmitter housing. The converter receives the current signal from the transmitter indicating the sensor status. The converter and transmitter are rated IP67.

Specific Conditions of Use:

1. Contact manufacturer for NRR261 flamepath joint details if repair is required.
2. The NRR261 enclosure is a Potential Electrostatic Discharge hazard, clean surfaces with a damp cloth

NRR262-Ab Converter for Oil Leak Detector System

Equipment Ratings:

Ambient temperature rating: -20°C to +60°C.

Electrical ratings:

Um = 250 V

Uo = 28 V, Io = 85 mA, Po = 595 mW, Co = 0.083 μ F, Lo = 2.4 mH or

Uo = 28V, Lo = 93 mA, Po = 650 mW, Co = 0.083 μ F, Lo = 3.05 mH

Markings:



II (2) G [Ex ia Gb] IIB Ta = -20°C to 60°C

Description of Equipment:

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b = Power Supply A or B

The NRR262 converter is associated intrinsically safe apparatus installed in the non-hazardous area for DIN rail mounting or installation in another enclosure suitable for the end use. The converter provides intrinsically safe circuits to the transmitter via an intrinsically safe shunt diode barrier and receives the current signal from the transmitter indicating the sensor status.

Specific Conditions of Use:

None.



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