CERTIFICATE

(1) EC-Type Examination

(2) **Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC**

(3) EC-Type Examination Certificate Number: **KEMA 05ATEX2071** Issue Number: **5**

(4) Equipment: **Tank Gauge Proservo NMS53., Type NMS5-…….. and Type NMS7-……**

(5) Manufacturer: **Endress+Hauser Yamanashi Co., Ltd.**

(6) Address: **862-1 Mitsukunugi Sakaigawa-cho, Fuefuki-shi Yamanashi Pref. 406-0846, Japan**

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

(8) DEKRA Certification B.V., notified body number 0344 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the directive.

The examination and test results are recorded in confidential test report number 211308100 issue 5.

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

EN 13463-1 : 2009 **EN 60079-0 : 2012 + A11 : 2013** **EN 60079-1 : 2007**
EN 60079-11 : 2012 **EN 60079-26 : 2007**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

II 1/2 G **Ex d IIB T6…T3 Ga/Gb** or
Ex d [ia] IIB T6…T3 Ga/Gb or
Ex d IIC T6…T3 Ga/Gb

This certificate is issued on 6 March 2015 and, as far as applicable, shall be revised before the date of cessation of presumption of conformity of (one of) the standards mentioned above as communicated in the Official Journal of the European Union.

DEKRA Certification B.V.

R. Schuller
Certification Manager

PRODUCTS RvA C 001

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(13) # SCHEDULE

(14) **to EC-Type Examination Certificate KEMA 05ATEX2071** Issue No. **5**

(15) **Description**

Tank Gauges Proservo NMS53., Type NMS5-…….. and Type NMS7-……. detect the level and the density of a liquid medium, using the principle of displacement measurement.

For details see Annex 1 to KEMA 05ATEX2071.

Electrical data

For details see Annex 1 to KEMA 05ATEX2071.

Installation instructions

The instructions provided with the equipment shall be followed in detail to assure safe operation.

(16) **Test Report**

No. 211308100 issue 5.

(17) **Special conditions for safe use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

As listed in Test Report No. 211308100 issue 5.

Annex 1 to KEMA 05ATEX2071, issue 5

Description

Tank Gauges Proservo NMS53., Type NMS5-…… and Type NMS7-…… detect the level and the density of a liquid medium, using the principle of displacement measurement.

The electronics compartment of the equipment is considered as EPL Gb. The mounting flange the inner part of the drum compartment and the float are considered as EPL Ga.

For connection of an intrinsically safe device, e.g. for temperature measurement, a circuit in type of protection intrinsic safety is optionally integrated.

The relation between type, marking and ambient temperature range is listed in the table below.

Type designation

Type	Marking	Ambient temperature range
NMS5-.G…. NMS7-G…….	Ex d IIB T6…T3 Ga/Gb	-20 °C to +60 °C
NMS5-.J……. NMS7-J…….	Ex d [ia] IIB T6…T3 Ga/Gb	-20 °C to +60 °C
NMS5-.Q……. NMS7-Q…….	Ex d IIC T6…T3 Ga/Gb	-20 °C to +60 °C
NMS5-.S……. NMS7-S…….	Ex d IIB T6…T3 Ga/Gb	-40 °C to +60 °C
NMS5-.U……. NMS7-U…….	Ex d [ia] IIB T6…T3 Ga/Gb	-40 °C to +60 °C

Process temperature range: -200 °C to +85 °C for T6
-200 °C to +100 °C for T5
-200 °C to +135 °C for T4
-200 °C to +200 °C for T3

The property class of the M6x28 fasteners used for the flameproof enclosure is 12,9.

The dimensions of the threaded joint at the display cover are M130x2 6g/6H, minimal 5 threads engaged. The dimensions of the threaded joint at the terminal cover is M120x2 6g/6H, minimal 5,4 threads engaged. Repair of the cylindrical joint is prohibited.

Electrical data

Type	Supply (terminals 1(L+), 2(N-) and 3(GND))
NMS5-.J…….3… NMS7-J…….0…. NMS5-.U…….3… NMS7-U…….0….	U = 85 ... 253 Vac, max 50 VA Um = 253 Vac
NMS5-.G…….3… NMS7-G…….0…. NMS5-.S…….3… NMS7-S…….0… NMS5-.Q…….3… NMS7-Q…….0….	U = 85 ... 264 Vac, max 50 VA
NMS5-.J…….4… NMS7-J…….1…. NMS5-.U…….4… NMS7-U…….1….	U = 19 ... 55 Vac, max 50 VA or U = 19 … 62 Vdc, 50 W Um = 253 Vac

NMS5-.G…….4… NMS7-G…….1…. NMS5-.S…….4… NMS7-S…….1… NMS5-.Q…….4… NMS7-Q…….1….	U = 19 ... 55 Vac, max 50 VA or U = 19 … 62 Vdc, 50 W

Type	Signal circuit supply (terminals 4 - 23)
NMS5-.J……..… NMS7-J……..…. NMS5-.U……. NMS7-U…….	U = 24 V, max 50 mA Um = 253 Vac
NMS5-.G……..… NMS7-G……..…. NMS5-.S……. NMS7-S……. NMS5-.Q……..… NMS7-Q……..….	U = 24 V, max 50 mA

Type	Intrinsically safe device interface (HART communication) Supply and signal input (terminals 24(+) and 25(-))
NMS5-.J……..… NMS7-J……..…. NMS5-.U……. NMS7-U…….	in type of protection intrinsic safety Ex ia IIB, with the following maximum values: Uo = 28,7 V; Io = 114 mA; Po = 816 mW; Co = 615 nF; Lo = 10 mH.

Type	External RTD interface (used with internal temperature measuring device NMT53x). Supply and signal input (terminals 24(A), 25(B) and 26(b))
NMS5-.J……..… NMS7-J……..…. NMS5-.U……. NMS7-U…….	in type of protection intrinsic safety Ex ia IIB, with the following maximum values: Uo = 11,3 V; Io = 81,6 mA; Po = 406 mW; Co = 1,3 µF; Lo = 4 mH.

Type	External device connection Supply (terminals 24(+) and 25(-))
NMS5-.G……..… NMS7-G……..…. NMS5-.S……. NMS7-S……. NMS5-.Q……..… NMS7-Q……..….	U = 28,7 V

Type	External RTD connection Supply (terminals 24(A), 25(B) and 26(b))
NMS5-.G……..… NMS7-G……..…. NMS5-.S……. NMS7-S……. NMS5-.Q……..… NMS7-Q……..….	U = 11,3 V