IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.:	IECEx KEM 09.0062 issue No.:2
Status:	**Current**
Date of Issue:	**2013-05-22**

Certificate history:
Issue No. 2 (2013-5-22)
Issue No. 1 (2011-2-18)
Issue No. 0 (2010-11-12)

Applicant: **Endress+Hauser Yamanashi Co., Ltd.**
862-1 Mitsukunugi Sakaigawa-cho
Fuefuki-shi Yamanashi Pref. 406-0846
Japan

Electrical Apparatus: **Tank Gauge Proservo NMS53.**
Optional accessory:

Type of Protection: **d, [ia]**

Marking: Ex d IIB T6...T3 Ga/Gb or
Ex d [ia] IIB T6...T3 Ga/Gb or
Ex d IIC T6...T3 Ga/Gb

Approved for issue on behalf of the IECEx Certification Body: T. Pijpker

Position: Certification Manager

Signature:
(for printed version)

Date: 2013-05-22

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 the Official IECEx Website.

Certificate issued by:

DEKRA Certification B.V.
Utrechtseweg 310
6812 AR Arnhem
The Netherlands

DEKRA

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Additional Manufacturing location (s):

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 electrical apparatus 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 : 2007-10 Edition: 5	Explosive atmospheres - Part 0:Equipment - General requirements
IEC 60079-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2006 Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*This Certificate **does not** indicate compliance with electrical 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 Report:
NL/KEM/ExTR09.0042/00 NL/KEM/ExTR09.0042/01 NL/KEM/ExTR09.0042/02

Quality Assessment Report:

DE/TUN/QAR06.0003/03

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Schedule

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

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 Attachment 1.

CONDITIONS OF CERTIFICATION: NO

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 0: initial certification
Issue 1: Diodes D2 and D4 changed
Issue 2: extension with T6 and T5, minor changes to the electronics and nameplate

Annexe: 420040900-IECEx-KEM09.0062-Iss2-Attachment1.pdf

Attachment 1 to IECEx KEM09.0062, issue 2

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	Marking	Ambient temperature range
NMS5-.B…… NMS7-B…….	Ex d IIB T6…T3	-20 °C to +60 °C
NMS5-.A…… NMS7-A…….	Ex d [ia] IIB T6…T3	-20 °C to +60 °C
NMS5-.C…… NMS7-C…….	Ex d IIC T6…T3	-20 °C to +60 °C
NMS5-.E…… NMS7-E…….	Ex d IIB T6…T3	-40 °C to +60 °C
NMS5-.D…… NMS7-D…….	Ex d [ia] IIB T6…T3	-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-.A…….3… NMS7-A…….0…. NMS5-.D…….3… NMS7-D…….0….	U = 85 ... 253 Vac, max 50 VA Um = 253 Vac
NMS5-.B…….3… NMS7-B…….0…. NMS5-.E…….3… NMS7-E…….0… NMS5-.C…….3… NMS7-C…….0….	U = 85 ... 264 Vac, max 50 VA
NMS5-.A…….4… NMS7-A…….1…. NMS5-.D…….4… NMS7-D…….1….	U = 19 ... 55 Vac, max 50 VA or U = 19 … 62 Vdc, 50 W Um = 253 Vac

NMS5-.B…….4… NMS7-B…….1…. NMS5-.E…….4… NMS7-E…….1… NMS5-.C…….4… NMS7-C…….1….	U = 19 ... 55 Vac, max 50 VA or U = 19 … 62 Vdc, 50 W

Type	Signal circuit supply (terminals 4 - 23)
NMS5-.A……..… NMS7-A……..…. NMS5-.D……. NMS7-D…….	U = 24 V, max 50 mA Um = 253 Vac
NMS5-.B……..… NMS7-B……..…. NMS5-.E……. NMS7-E……. NMS5-.C……..… NMS7-C……..….	U = 24 V, max 50 mA

Type	Intrinsically safe device interface (HART communication) Supply and signal input (terminals 24(+) and 25(-))
NMS5-.A……..… NMS7-A……..…. NMS5-.D……. NMS7-D…….	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-.A……..… NMS7-A……..…. NMS5-.D……. NMS7-D…….	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-.B……..… NMS7-B……..…. NMS5-.E……. NMS7-E……. NMS5-.C……..… NMS7-C……..….	U = 28.7 V

Type	External RTD connection Supply (terminals 24(A), 25(B) and 26(b))
NMS5-.B……..… NMS7-B……..…. NMS5-.E……. NMS7-E……. NMS5-.C……..… NMS7-C……..….	U = 11.3 V