



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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

Certificate No.: **IECEx CML 20.0170X** Page 1 of 4 [Certificate history:](#)
Status: **Current** Issue No: 1 [Issue 0 \(2021-07-16\)](#)
Date of Issue: 2022-12-22
Applicant: **Endress+Hauser Yamanashi Co., Ltd**
862-1 Mitsukunugi Sakaigawa-cho
Fuefuki-shi Yamanashi Pref. 406-0846
Japan
Equipment: **Prothermo NMT81 Converter, Temperature and Water Level Transmitter**
Optional accessory:
Type of Protection: **Intrinsic Safety**
Marking: **Average Temperature Probe + Converter:**
Ex ia IIC T6 Ga/Gb
Ta = -40 °C to +60 °C
Average Temperature probe + Water Bottom Sensor + Converter:
Ex ia IIB T6 Ga/Gb
Ta = -40 °C to +60 °C
Converter (only):
Ex ia IIC T6 Gb
Ta = -40 °C to +60 °C

Approved for issue on behalf of the IECEx
Certification Body:

A Snowden

Position:

Certification Manager

Signature:
(for printed version)

Date:
(for printed version)

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 www.iecex.com or use of this QR Code.



Certificate issued by:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom





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Japan

Manufacturing
locations:

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 equipment 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 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

[IEC 60079-26:2014-10](#) Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
Edition:3.0

This Certificate **does not** indicate compliance with 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 Reports:

[GB/CML/ExTR20.0261/00](#)

[GB/CML/ExTR22.0204/00](#)

Quality Assessment Report:

[DE/TUN/QAR06.0003/10](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Prothermo NMT81 is a tank measurement and converter device.

See annex for full description and conditions of manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

See annex for Specific Conditions of Use.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above) **Issue 1**

This issue introduced the following modifications:

1. New process temperature range for standard temperature version only.
2. Minor change to description.
3. Change to Output parameters.

Annex:

[Annex IECEx CML 20.0170X Iss 1.pdf](#)

Annexe to: IECEx CML 20.0170X, Issue 1

Applicant: Endress+Hauser Yamanashi Co., Ltd.

Apparatus: Prothermo NMT81 Converter, Temperature and Water Level Transmitter

Description

The Prothermo NMT81 is a tank measurement and converter device. It can be configured as an average temperature measuring device for liquid in a tank and/or a level measuring device for water at the tank bottom (eg level of water/oil interface at bottom of an oil tank). In addition, the Prothermo NMT81 can be supplied as a converter only.

The Prothermo NMT81 uses the Model HA37 aluminium enclosure or stainless-steel version HS37 for the converter and contains the electronics, display and terminal unit.

The temperature sensor is enclosed within a flexible tube which either attaches directly to a boundary wall flange or to an adjuster pipe with an adjustable clamp which passes through the flange enabling the height of the sensor to be adjusted. The electronic module (SEHT) for the temperature sensor is housed in a stainless steel enclosure attached to the base of the main HA37/HS37 enclosure.

The water bottom level sensor is a capacitive sensor which attaches to the lower end of the temperature sensor flexible tube. The electronic module (SEHW) for the level sensor is housed in stainless steel enclosure at the top of the level sensor.

The sensor(s) in the tank are EPL Ga and the head unit (enclosure and converter) is installed external to the tank and is EPL Gb.

The equipment has the following safety description:

Average Temperature Probe + Converter:

Ui	=	30 V
Ii	=	300 mA
Pi	=	1 W
Ci	=	10 nF
Li	=	0 mH

Average Temperature Probe + Water Bottom Sensor + Converter:

Ui	=	30 V
Ii	=	300 mA
Pi	=	1 W
Ci	=	10 nF
Li	=	0 mH



Certificate Annex IECEx
Version: 9.0 Approval: Approved

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Converter (only):

Ui	=	30 V	Uo	=	6.0 V
Ii	=	300 mA	Io	=	32.4 mA
Pi	=	1 W	Po	=	48.7 mW
Ci	=	10 nF	Co	=	30 μ F (for Lo = 0)
Li	=	0 mH	Lo	=	7.5 mH (for Co=0)

Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.

Specific Conditions of Use

The following conditions relate to safe installation and/or use of the equipment.

- i. The apparatus is not capable of withstanding the 500V insulation test required by Clause 6.3.13 of IEC 60079-11:2011. This must be taken into account when installing the equipment.
- ii. The following ambient temperatures and process temperatures shall be observed,

Temperature Only			
Temperature specification	T- Class	T ambient	T Process
Standard	T6	$-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$	$-40^{\circ}\text{C} \leq T_p \leq 100^{\circ}\text{C}$
	T4	$-40^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$	$-40^{\circ}\text{C} \leq T_p \leq 100^{\circ}\text{C}$
High Temp	T4	$-40^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$	$-55^{\circ}\text{C} \leq T_p \leq 125^{\circ}\text{C}$
	T3	$-40^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$	$-55^{\circ}\text{C} \leq T_p \leq 190^{\circ}\text{C}$
	T2	$-40^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$	$-55^{\circ}\text{C} \leq T_p \leq 235^{\circ}\text{C}$
Low Temp	T6	$-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$	$-196^{\circ}\text{C} \leq T_p \leq 100^{\circ}\text{C}$
	T4	$-40^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$	$-196^{\circ}\text{C} \leq T_p \leq 100^{\circ}\text{C}$

Temperature + Water bottom sensor			
Temperature specification	T- Class	T ambient	T Process
Standard	T6	$-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$	$-40^{\circ}\text{C} \leq T_p \leq 70^{\circ}\text{C}$
	T4	$-40^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$	$-40^{\circ}\text{C} \leq T_p \leq 75^{\circ}\text{C}$

Converter Only			
Temperature specification	T- Class	T ambient	T Process
-	T6	$-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$	T_p^*

*T process varies depending on the specification of the sensor.