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Safety Instructions
Average Temperature Prothermo NMT532

NEPSI: Ex ia IIB T6...T4 Ga/Gb
Ex ia IIB T6...T4 Gb

Endress+Hauser
People for Process Automation

Average Temperature Prothermo NMT532

Table of contents

Associated documentation

This document is an integral part of the following Operating Instructions:

BA01032G

Supplementary documentation

Explosion-protection brochure: CP00021Z/11

The Explosion-protection brochure is available:
- In the download area of the Endress+Hauser website:
  www.endress.com -> Downloads -> Media Type: Documentation -> Documentation Type: Brochures and catalogs -> Text Search: CP00021Z
- On the CD for devices with CD-based documentation

Manufacturer's certificates

NEPSI Declaration of Conformity

Certificate number:
GYJ20.1611X

Affixing the certificate number certifies conformity with the following standards (depending on the device version):

- GB3836.1-2010
- GB3836.4-2010
- GB3836.20-2010

Manufacturer address

Endress+Hauser Yamanashi Co., Ltd.

406-0846

862-1 Mitsukunugi, Sakaigawa-cho, Fuefuki-shi, Yamanashi

Extended order code

The extended order code is indicated on the nameplate, which is affixed to the device in such a way that it is clearly visible. Additional information about the nameplate is provided in the associated Operating Instructions.

Structure of the extended order code

NMT532	–	**********	+	A*B*C*D*E*F*G*..
(Device type)		*(Basic specifications)*		*(Optional specifications)*

* = Placeholder
At this position, an option (number or letter) selected from the specification is displayed instead of the placeholders.

Basic specifications

The features that are absolutely essential for the device (mandatory features) are specified in the basic specifications. The number of positions depends on the number of features available.
The selected option of a feature can consist of several positions.

Optional specifications

The optional specifications describe additional features for the device (optional features).
The number of positions depends on the number of features available. The features have a 2-digit structure to aid identification (e.g. JA). The first digit (ID) stands for the feature group and consists of a number or a letter (e.g. J = Test, Certificate). The second digit constitutes the value that stands for the feature within the group (e.g. A = 3.1 material (wetted parts), inspection certificate).

More detailed information about the device is provided in the following tables. These tables describe the individual positions and IDs in the extended order code which are relevant to hazardous locations.

Extended order code: Prothermo NMT532

The following specifications reproduce an extract from the product structure and are used to assign:
- This documentation to the device (using the extended order code on the nameplate).
- The device options cited in the document.

Device type

NMT532

Basic specifications

Position 1 (Approval)		
Selected option		**Description**
NMT532	G	NEPSI Ex ia IIB T4-T6

Optional specifications

No options specific to hazardous locations are available.

Safety instructions: General

- Staff must meet the following conditions for mounting, electrical installation, commissioning and maintenance of the device:
  - Be suitably qualified for their role and the tasks they perform
  - Be trained in explosion protection
  - Be familiar with national regulations
- For installation, use and maintenance of the device, users must also observe the requirements stated in the Operating Instructions and the standards:
  - GB 50257-2014: "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".
  - GB 3836.13-2013: "Explosive atmospheres, Part 13: Equipment repair, overhaul and reclamation".
  - GB/T 3836.15-2017: "Explosive atmospheres, Part 15: Electrical installations design, selection and erection".
  - GB/T 3836.16-2017: "Explosive atmospheres, Part 16: Electrical installations inspection and maintenance".
  - GB/T 3836.18-2017: "Explosive atmospheres, Part 18: Intrinsically safe electrical systems".
- Install the device according to the manufacturer's instructions and national regulations.
- Do not operate the device outside the specified electrical, thermal and mechanical parameters.
- Avoid electrostatic charging:
  - Of plastic surfaces (e.g. housing, sensor element, special varnishing, attached additional plates, ..)
  - Of isolated capacities (e.g. isolated metallic plates)
- Modifications to the device can affect the explosion protection and must be carried out by staff authorized to perform such work by Endress+Hauser.

Safety instructions: Special conditions

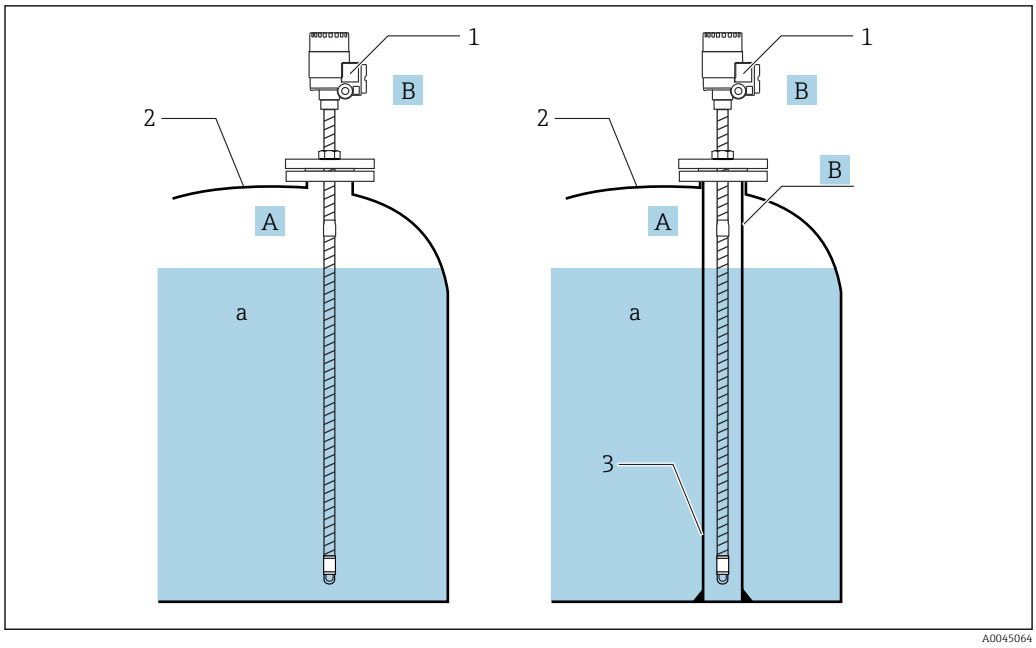
Permitted ambient temperature range at the electronics housing:

−40 °C (−40 °F) ≤ T_a ≤ +60 °C (+140 °F), or +85 °C (+185 °F)

Observe the information in the temperature table

- Continuous duty temperature of the cable ≥ Tamb + 5 K
- In the event of additional or alternative special varnishing on the housing or other metal parts:
  - Observe the danger of electrostatic charging and discharge.
  - Do not rub surfaces with a dry cloth.

Safety instructions: Installation



1 *NMT532 installation*

A Zone 0
B Zone 1
a Liquid
1 NMT532
2 Tank
3 Thermowell

If the pressure inside a tank exceeds the atmospheric pressure (absolute pressure 1 bar, 100 kPa, 14.5 psi), install a thermowell (protective pipe) with no holes or slits onto NMT532.

- Install the device to exclude any mechanical damage or friction during the application.
- In potentially explosive atmospheres:
  - Do not disconnect the electrical connection of the power supply circuit when energized.
  - Do not open the connection compartment cover.
- Before operation:
  - Screw in the cover all the way.
  - Tighten the securing clamp on the cover.

Potential equalization

Integrate the device into the local potential equalization.

Ambient temperature

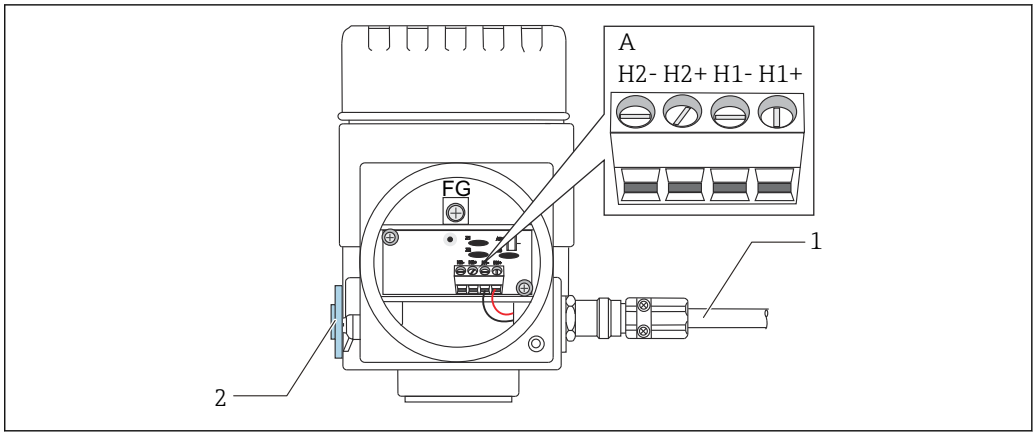
Temperature class	Ambient temperature	Medium temperature of sensor	
		Temperature measurement only	Temperature measurement and water level or water level only
T6	≤ 60 °C (140 °F)	≤ 60 °C (140 °F)	≤ 60 °C (140 °F)
T5	≤ 85 °C (185 °F)	≤ 80 °C (176 °F)	≤ 80 °C (176 °F)
T4	≤ 85 °C (185 °F)	≤ 100 °C (212 °F)	≤ 100 °C (212 °F)

Safety instructions: Zone 0

- In the event of potentially explosive vapor/air mixtures, only operate the device under atmospheric conditions.
  - Temperature: −20 to +60 °C
  - Pressure: 80 to 110 kPa (0.8 to 1.1 bar)
  - Air with normal oxygen content, usually 21 % (V/V)
- If no potentially explosive mixtures are present, or if additional protective measures have been taken, the device may also be operated under non-atmospheric conditions in accordance with the manufacturer's specifications.

Connection data

Connection compartment



2 *NMT532 terminal*

A Temperature data/NMT532 intrinsically safe 2-wire HART communication (see Information)
1 Shielded twisted pair wire or steel-armored wire
2 Standard aluminum (die-cast plug) (see Information)

- Only a metal cable gland may be used. The shielded wire on the HART communication line must be grounded.
- Material cable gland must be replaced for loop terminal connection.

Supply and Output Circuit; All Versions (Terminals H1+ and H1-)

This is only for connection to a certified intrinsically safe circuit with the following maximum values.

Ui = 30 V	
Ii = 120 mA	Internal capacitance Ci = 7.9 nF
Pi = 1 W	Internal inductance Li = 48 µH

Converter Only

For connection to an external temperature probe, with following maximum values (trapezoidal characteristic)

Uo = 8.6 V	
Io = 71 mA	External capacitance Co = 9.5 µF
Po = 153 mW	External inductance Lo = 7.5 mH

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