# **Instruction Manual**

# 1. Marking

Inductive sensor NCN3-F25F-N4-Y47292

#### ATEX marking

II 1G Ex ia IIC T6...T1 Ga
 II 1G Ex ia IIC T6...T1 Ga

II 1D Ex ia IIIC T₂₀₀135°C Da

IECEx marking

Ex ia IIC T6...T1 Ga Ex ia IIC T6...T1 Ga

Ex ia IIIC T<sub>200</sub>135°C Da Ex ia I Mb

# Pepperl+Fuchs Group

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Internet: www.pepperl-fuchs.com

The certificate may contain several Ex markings. Depending on the respective device, the Ex markings specified in the certificate may be only partially valid. You will find the Ex markings valid for the device on the respective nameplate or in this document.

# 2. Validity

Specific processes and instructions in this instruction manual require special provisions to guarantee the safety of the operating personnel.

# 3. Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator. The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the device. The trained and qualified personnel must have read and understood the instruction manual.

# 4. Reference to Further Documentation

Observe laws, standards, and directives applicable to the intended use and the operating location. Observe Directive 1999/92/EC in relation to hazardous areas.

The corresponding datasheets, manuals, declarations of conformity, EUtype examination certificates, certificates, and control drawings if applicable (see datasheet) are an integral part of this document. You can find this information under www.pepperl-fuchs.com.

For specific device information, scan the QR code on the device or enter the serial number in the serial number search at www.pepperl-fuchs.com. Due to constant revisions, documentation is subject to permanent change. Please refer only to the most up-to-date version, which can be found under www.pepperl-fuchs.com.

# 5. Intended Use

The device is only approved for appropriate and intended use. Ignoring these instructions will void any warranty and absolve the manufacturer from any liability.

Technical data provided in the datasheet may be partly restrained by the information given in this instruction manual.

Use the device only within the specified ambient and operating conditions. The device is an electrical apparatus for hazardous areas.

The certificate applies only to the use of apparatus under atmospheric conditions.

If you use the device outside atmospheric conditions, consider that the permissible safety parameters should be reduced.

The device can be used in hazardous areas containing gas, vapor, and mist.

The device can be used in hazardous areas containing combustible dust. The device can be used in underground parts of mines as well as those parts of surface installations of such mines containing firedamp and/or combustible dust.

#### 5.1. Requirements for Equipment Protection Level Ga

Refer to the relevant certificate to see the relationship between the connected circuit type, the maximum permitted ambient temperature, the effective inner reactances, and if applicable the surface temperature or the temperature class.

The suitability for use of the device at ambient temperatures >60 °C in conjunction with hot surfaces has been checked by the notified body. For usage according to ATEX Directive and according to EN 1127-1, the reduction of the surface temperature to 80 % is not considered.

## 5.2. Requirements for Equipment Protection Level Gb

Refer to the relevant certificate to see the relationship between the connected circuit type, the maximum permitted ambient temperature, the effective inner reactances, and if applicable the surface temperature or the temperature class.

The suitability for use of the device at ambient temperatures >60  $^\circ\text{C}$  in conjunction with hot surfaces has been checked by the notified body.

#### 5.3. Requirements for Equipment Protection Level Da

Refer to the relevant certificate to see the relationship between the connected circuit type, the maximum permitted ambient temperature, the effective inner reactances, and if applicable the surface temperature or the temperature class.

The suitability for use of the device at ambient temperatures >60  $^\circ\text{C}$  in conjunction with hot surfaces has been checked by the notified body.

#### 5.4. Requirements for Equipment Protection Level Mb

Refer to the relevant certificate to see the relationship between the connected circuit type, the maximum permitted ambient temperature, the effective inner reactances, and if applicable the surface temperature or the temperature class.

The suitability for use of the device at ambient temperatures >60  $^\circ\text{C}$  in conjunction with hot surfaces has been checked by the notified body.

## 6. Improper Use

Protection of the personnel and the plant is not ensured if the device is not used according to its intended use.

# 7. Mounting and Installation

Observe the installation instructions according to IEC/EN 60079-14. Safety-relevant markings are found on the nameplate of the device or the nameplate supplied.

Attach the nameplate supplied in the immediate vicinity of the device. Attach the nameplate so that it is legible and indelible. Take the ambient conditions into account.

Do not mount a damaged or polluted device.

Mount the device so that it complies with the specified degree of protection according to IEC/EN 60529.

If you use the device in environments subject to adverse conditions, you must protect the device accordingly.

Do not remove the warning markings.

#### 7.1. Requirements for Usage as Intrinsically Safe Apparatus

When connecting intrinsically safe devices with intrinsically safe circuits of associated apparatus, observe the maximum peak values with regard to explosion protection (verification of intrinsic safety). Observe the standards IEC/EN 60079-14 or IEC/EN 60079-25.

The type of protection is determined by the connected intrinsically safe circuit.

Mount the device with at least a degree of protection of IP20 according to IEC/EN 60529.

#### 7.2. Specific Conditions of Use

Mount the device so that it complies with the specified degree of protection according to IEC/EN 60529.

#### 7.2.1. Requirements in Relation to Electrostatics

Information on electrostatic hazards can be found in the technical specification IEC/TS 60079-32-1.

Do not mount the supplied nameplate in areas that can be electrostatically charged.

You can reduce the electrostatic hazards by minimizing the generation of static electricity. For example, you have the following options to minimize the generation of static electricity:

- · Control the environmental humidity.
- Protect the device from direct airflow.
- Ensure a continuous drain off of the electrostatic charges.

# 7.2.1.1. Requirements for Equipment Protection Level Ga

Usage in Gas Group IIC: Avoid electrostatic charges which could result in electrostatic discharges while installing, operating, or maintaining the device.

#### 7.2.1.2. Requirements for Equipment Protection Level Da

Avoid electrostatic charges which could result in electrostatic discharges while installing, operating, or maintaining the device.

#### 7.2.2. Requirements to Mechanics

#### 7.2.2.1. Requirements for Usage as Intrinsically Safe Apparatus

Mount the device in such a way that the bare casting resin surface is not exposed to mechanical hazards.

Protect the device from impact effects if it is used in the temperature range between the minimum permissible ambient temperature and -20  $^{\circ}$ C. Mount the device with at least a degree of protection of IP20 according to IEC/EN 60529.



# 8. Operation, Maintenance, Repair

Observe the specific conditions of use.

Safety-relevant markings are found on the nameplate of the device or the nameplate supplied.

Do not use a damaged or polluted device.

Do not repair, modify, or manipulate the device.

Modifications are permitted only if approved in this instruction manual and in the device-related documentation.

If there is a defect, always replace the device with an original device. Do not remove the warning markings.

## 8.1. Requirements for Usage as Intrinsically Safe Apparatus

Only operate the device with intrinsically safe circuits according to IEC/EN 60079-11.

The type of protection is determined by the connected intrinsically safe circuit.

#### 8.2. Requirements for Equipment Protection Level Ga

Observe the temperature table for the corresponding equipment protection level in the certificate.

Also observe the maximum permissible ambient temperature stated in the technical data. Keep to the lower of the two values.

#### 8.3. Requirements for Equipment Protection Level Gb

Observe the temperature table for the corresponding equipment protection level in the certificate.

Also observe the maximum permissible ambient temperature stated in the technical data. Keep to the lower of the two values.

#### 8.4. Requirements for Equipment Protection Level Da

Observe the temperature table for the corresponding equipment protection level in the certificate.

Also observe the maximum permissible ambient temperature stated in the technical data. Keep to the lower of the two values.

#### 8.5. Requirements for Equipment Protection Level Mb

Observe the temperature table for the corresponding equipment protection level in the certificate.

Also observe the maximum permissible ambient temperature stated in the technical data. Keep to the lower of the two values.

# 9. Delivery, Transport, Disposal

Check the packaging and contents for damage.

Check if you have received every item and if the items received are the ones you ordered.

Keep the original packaging. Always store and transport the device in the original packaging.

Store the device in a clean and dry environment. The permitted ambient conditions must be considered, see datasheet.

The device, built-in components, packaging, and any batteries contained within must be disposed in compliance with the applicable laws and guidelines of the respective country.

# 10. National Ex approvals

CCC-EX "i"	2020322315002262	
	Ex ia IIC T6T1 Ga	
	Ex ia IIC T6T1 Gb	
	Ex ia IIIC T <sub>200</sub> 135°C Da	
	1 0	
INMETRO-EX "i"	TÜV 13.1137 X	
UL-HAZLOC "i":	E501628	
	116-0456	
ANZEx "i":	ANZEx 21.3004X	
UKEx "i":	CML 21UKEX21289X	
IA "i":	MASC MS/18-0930X	
	MAGC MG/10-0950A	

# 11. Safety-Relevant Technical Data

#### 11.1. Equipment protection level Ga

Type of protection	Intrinsic safety
CE marking	<b>C€</b> -0102
Certificates	
Appropriate type	NCN3-F25N4
ATEX certificate	TÜV 99 ATEX 1479 X

ATEX standardsEN IEC 60079-0:2018-07, EN 60079-11:2012-01IECEx certificateIECEx TUN 17.0021XIECEx markingEx ia IIC T6T1 GaIECEx standardsIEC 60079-0:2017-12, IEC 60079-11:2011-06Effective internal capacitance $C_i$ max. 100 nF The value applies to one sensor circuit. A cable length of 10 m is considered.Effective internal inductance $L_i$ max. 100 $\mu$ H The value applies to one sensor circuit. A cable length of 10 m is considered.Maximum permissibleAlso observe the maximum permissible	ATEX marking	🕼 II 1G Ex ia IIC T6T1 Ga
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inductance Li       The value applies to one sensor circuit. A cable length of 10 m is considered.         Maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values.         for ATEX       Ui = 15 V, Ii = 25 mA, Pi = 34 mW         T6: 75 °C       T5: 90 °C         T4: 100 °C       T2: 100 °C         T1: 100 °C       Ui = 15 V, Ii = 25 mA, Pi = 64 mW         T6: 75 °C       T5: 85 °C         T4: 100 °C       T3: 100 °C         Ui = 15 V, Ii = 25 mA, Pi = 64 mW       T6: 75 °C         T6: 75 °C       T4: 100 °C         Ui = 15 V, Ii = 25 mA, Pi = 64 mW       T6: 75 °C         T4: 100 °C       T1: 100 °C         Ui = 15 V, Ii = 52 mA, Pi = 169 mW       T6: 60 °C         T5: 75 °C       T4: 95 °C         T9: 95 °C       T1: 95 °C         for IECEx       Ui = 15 V, Ii = 25 mA, Pi = 34 mW         T6: 75 °C       T5: 90 °C         T4: 100 °C       T2: 100 °C         T1: 100 °C       T2: 100 °C         Ui = 15 V, Ii = 25 mA, Pi = 34 mW       T6: 70 °C         T6: 75 °C       T5: 90 °C         T4: 100 °C       T3: 100 °C         Ui = 15 V, Ii = 25 mA, Pi = 64 mW       T6: 70 °C         T3: 100 °C       T2: 100 °C         <		A cable length of 10 m is considered.
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Maximum permissible ambient temperature in °C       Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values.         for ATEX       U <sub>1</sub> = 15 V, I <sub>1</sub> = 25 mA, P <sub>1</sub> = 34 mW T6: 75 °C T5: 90 °C T4: 100 °C T2: 100 °C T1: 100 °C U <sub>1</sub> = 15 V, I <sub>1</sub> = 25 mA, P <sub>1</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T2: 100 °C T1: 100 °C U <sub>1</sub> = 15 V, I <sub>1</sub> = 25 mA, P <sub>1</sub> = 64 mW T6: 60 °C T5: 75 °C T4: 95 °C T1: 95 °C T1: 95 °C T2: 95 °C T1: 95 °C         for IECEx       U <sub>1</sub> = 15 V, I <sub>1</sub> = 52 mA, P <sub>1</sub> = 169 mW T6: 75 °C T5: 90 °C T1: 95 °C T2: 100 °C T2: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T4: 100 °C U <sub>1</sub> = 15 V, I <sub>1</sub> = 25 mA, P <sub>1</sub> = 34 mW T6: 75 °C T5: 90 °C T4: 100 °C T2: 100 °C T1: 100 °C U <sub>1</sub> = 15 V, I <sub>1</sub> = 25 mA, P <sub>1</sub> = 64 mW T6: 70 °C T2: 100 °C T1: 100 °C U <sub>1</sub> = 15 V, I <sub>1</sub> = 25 mA, P <sub>1</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 90 °C T2: 100 °C T1: 100 °C U <sub>1</sub> = 15 V, I <sub>1</sub> = 25 mA, P <sub>1</sub> = 64 mW T6: 70 °C T5: 75 °C T4: 95 °C T4: 95 °C T4: 95 °C T4: 95 °C T2: 100 °C T3: 100 °C T2: 100 °C T4: 95 °C T3: 95 °C	Inductance L <sub>i</sub>	The value applies to one sensor circuit.
ambient temperature stated in the general technical data. Keep to the lower of the two values.         for ATEX       U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 34 mW         T6: 75 °C       T5: 90 °C         T4: 100 °C       T2: 100 °C         T1: 100 °C       U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW         T6: 70 °C       T5: 85 °C         T4: 100 °C       U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW         T6: 70 °C       T5: 85 °C         T4: 100 °C       U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 64 mW         T6: 70 °C       T5: 85 °C         T4: 100 °C       U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW         T6: 60 °C       T5: 75 °C         T4: 95 °C       T3: 95 °C         T2: 95 °C       T1: 95 °C         T3: 100 °C       T2: 95 °C         T1: 95 °C       T3: 95 °C         T2: 95 °C       T1: 95 °C         T3: 100 °C       T2: 100 °C         T1: 100 °C       U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 34 mW         T6: 75 °C       T5: 85 °C         T4: 100 °C       T3: 100 °C         U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW         T6: 70 °C       T5: 85 °C         T4: 100 °C       T4: 100 °C         U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW         T6: 60 °C <td< th=""><td></td><td>A cable length of 10 m is considered.</td></td<>		A cable length of 10 m is considered.
$\begin{array}{c} {\rm T6:} 75\ ^{\circ}{\rm C} \\ {\rm T5:} 90\ ^{\circ}{\rm C} \\ {\rm T4:} 100\ ^{\circ}{\rm C} \\ {\rm T2:} 100\ ^{\circ}{\rm C} \\ {\rm T2:} 100\ ^{\circ}{\rm C} \\ {\rm U_i} = 15\ {\rm V,}\ {\rm I_i} = 25\ {\rm mA,}\ {\rm P_i} = 64\ {\rm mW} \\ {\rm T6:} 70\ ^{\circ}{\rm C} \\ {\rm T5:} 85\ ^{\circ}{\rm C} \\ {\rm T4:} 100\ ^{\circ}{\rm C} \\ {\rm T2:} 100\ ^{\circ}{\rm C} \\ {\rm T1:} 100\ ^{\circ}{\rm C} \\ {\rm U_i} = 15\ {\rm V,}\ {\rm I_i} = 52\ {\rm mA,}\ {\rm P_i} = 169\ {\rm mW} \\ {\rm T6:} 60\ ^{\circ}{\rm C} \\ {\rm T2:} 95\ ^{\circ}{\rm C} \\ {\rm T3:} 95\ ^{\circ}{\rm C} \\ {\rm T2:} 95\ ^{\circ}{\rm C} \\ {\rm T2:} 95\ ^{\circ}{\rm C} \\ {\rm T2:} 95\ ^{\circ}{\rm C} \\ {\rm T1:} 95\ ^{\circ}{\rm C} \\ {\rm T2:} 95\ ^{\circ}{\rm C} \\ {\rm T1:} 95\ ^{\circ}{\rm C} \\ {\rm T2:} 95\ ^{\circ}{\rm C} \\ {\rm T1:} 95\ ^{\circ}{\rm C} \\ {\rm T2:} 95\ ^{\circ}{\rm C} \\ {\rm T2:} 100\ ^{\circ}{\rm C} \\ {\rm T2:} 100\ ^{\circ}{\rm C} \\ {\rm T1:} 100\ ^{\circ}{\rm C} \\ {\rm U_i} = 15\ {\rm V,}\ {\rm I_i} = 25\ {\rm mA,}\ {\rm P_i} = 34\ {\rm mW} \\ {\rm T6:} 75\ ^{\circ}{\rm C} \\ {\rm T2:} 100\ ^{\circ}{\rm C} \\ {\rm T1:} 100\ ^{\circ}{\rm C} \\ {\rm U_i} = 15\ {\rm V,}\ {\rm I_i} = 25\ {\rm mA,}\ {\rm P_i} = 64\ {\rm mW} \\ {\rm T6:} 70\ ^{\circ}{\rm C} \\ {\rm T3:} 100\ ^{\circ}{\rm C} \\ {\rm T1:} 100\ ^{\circ}{\rm C} \\ {\rm T2:} 100\ ^{\circ}{\rm C} \\ {\rm T1:} 100\ ^{\circ}{\rm C} \\ {\rm T2:} 100\ ^{\circ}{\rm C} \\ {\rm T4:} 100\ ^{\circ}{\rm C} \\ {\rm T5:} 75\ ^{\circ}{\rm C} \\ {\rm T4:} 95\ ^{\circ}{\rm C} \\ {\rm T3:} 95\ ^{\circ}{\rm C} \\ {\rm T3:} 95\ ^{\circ}{\rm C} \\ {\rm T2:} 95\ ^{\circ}{\rm C} \\ \ {\rm T2:} 95\ ^{\circ}{\rm C} \\ {\rm T3:} 100\ ^{\circ}{\rm C} \\ {\rm T4:} 100\ ^{\circ}{\rm C} \\ {\rm T5:} 10\ ^{\circ}{\rm $	Maximum permissible ambient temperature in °C	ambient temperature stated in the general technical data. Keep to the lower of the two
T5: 90 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T1: 95 °C T1: 95 °C T4: 100 °C T2: 100 °C T2: 100 °C T4: 100 °C T2: 95 °C T4: 100 °C T2: 100 °C T4: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 34 mW T6: 75 °C T3: 90 °C T4: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T2: 100 °C T2: 100 °C T2: 100 °C T2: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T3: 100 °C T4: 100 °C T3: 100 °C T3: 100 °C T4: 100 °C T3: 100 °C T4: 100 °C T3: 100 °C T2: 100 °C T4: 100 °C T3: 100 °C T4: 100 °C T4: 100 °C T5: 85 °C T4: 100 °C T5: 85 °C T4: 100 °C T2: 100 °C T2: 100 °C T2: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T2: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T4: 100 °C T2: 100 °C T2: 100 °C T2: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T4: 100 °C	for ATEX	$U_i = 15 V, I_i = 25 mA, P_i = 34 mW$
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T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C T1: 95 °C for IECEx U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 34 mW T6: 75 °C T5: 90 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T4: 100 °C T3: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T4: 95 °C		T1: 100 °C
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T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T2: 95 °C T1: 95 °C T1: 95 °C T1: 95 °C T4: 100 °C T3: 100 °C T4: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 34 mW T6: 75 °C T4: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C		T6: 70 °C
T3: 100 °C T2: 100 °C T1: 100 °C U <sub>1</sub> = 15 V, I <sub>1</sub> = 52 mA, P <sub>1</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T2: 95 °C T1: 95 °C T1: 95 °C T1: 95 °C T4: 100 °C T4: 100 °C T4: 100 °C T2: 100 °C T1: 100 °C T1: 100 °C T1: 100 °C T1: 100 °C T2: 100 °C T1: 100 °C T1: 100 °C T1: 100 °C T2: 100 °C T1: 100 °C T1: 100 °C T2: 100 °C T3: 100 °C T4: 100 °C T5: 85 °C T4: 100 °C T2: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T3: 100 °C T4: 100 °C T5: 85 °C T4: 100 °C T5: 85 °C T4: 100 °C T1: 100 °C T1: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T3: 100 °C T3: 100 °C T3: 100 °C T4: 100 °C T3: 100 °C T3: 100 °C T2: 100 °C T4: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T4: 100 °C T2: 100 °C T4: 100 °C T3: 100 °C T4: 100 °C T3: 100 °C T4: 100 °C T3: 100 °C T4: 100 °		
T3: 100 °C T2: 100 °C T1: 100 °C U <sub>1</sub> = 15 V, I <sub>1</sub> = 52 mA, P <sub>1</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T2: 95 °C T1: 95 °C T1: 95 °C T1: 95 °C T4: 100 °C T4: 100 °C T4: 100 °C T2: 100 °C T1: 100 °C T1: 100 °C T1: 100 °C T1: 100 °C T2: 100 °C T1: 100 °C T1: 100 °C T1: 100 °C T2: 100 °C T1: 100 °C T1: 100 °C T2: 100 °C T3: 100 °C T4: 100 °C T5: 85 °C T4: 100 °C T2: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T3: 100 °C T4: 100 °C T5: 85 °C T4: 100 °C T5: 85 °C T4: 100 °C T1: 100 °C T1: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T3: 100 °C T3: 100 °C T3: 100 °C T4: 100 °C T3: 100 °C T3: 100 °C T2: 100 °C T4: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T4: 100 °C T2: 100 °C T4: 100 °C T3: 100 °C T4: 100 °C T3: 100 °C T4: 100 °C T3: 100 °C T4: 100 °		
T1: 100 °C $U_i = 15 V, I_i = 52 mA, P_i = 169 mW$ T6: 60 °C T5: 75 °C T4: 95 °C T2: 95 °C T1: 95 °C T1: 95 °C for IECEx $U_i = 15 V, I_i = 25 mA, P_i = 34 mW$ T6: 75 °C T5: 90 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U_i = 15 V, I_i = 25 mA, P_i = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T5: 85 °C T4: 100 °C T2: 100 °C T1: 100 °C U_i = 15 V, I_i = 52 mA, P_i = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T4: 95 °C T4: 95 °C T4: 95 °C		T3: 100 °C
$\begin{array}{c} U_i = 15 \ V, \ I_i = 52 \ \text{mA}, \ P_i = 169 \ \text{mW} \\ \hline \text{T6: } 60 \ ^\circ\text{C} \\ \hline \text{T5: } 75 \ ^\circ\text{C} \\ \hline \text{T4: } 95 \ ^\circ\text{C} \\ \hline \text{T3: } 95 \ ^\circ\text{C} \\ \hline \text{T2: } 95 \ ^\circ\text{C} \\ \hline \text{T2: } 95 \ ^\circ\text{C} \\ \hline \text{T1: } 95 \ ^\circ\text{C} \\ \hline \text{T1: } 95 \ ^\circ\text{C} \\ \hline \text{T1: } 95 \ ^\circ\text{C} \\ \hline \text{T3: } 100 \ ^\circ\text{C} \\ \hline \text{T4: } 100 \ ^\circ\text{C} \\ \hline \text{T3: } 100 \ ^\circ\text{C} \\ \hline \text{T2: } 100 \ ^\circ\text{C} \\ \hline \text{T1: } 100 \ ^\circ\text{C} \\ \hline \text{T1: } 100 \ ^\circ\text{C} \\ \hline \text{T2: } 100 \ ^\circ\text{C} \\ \hline \text{T3: } 100 \ ^\circ\text{C} \\ \hline \text{T5: } 85 \ ^\circ\text{C} \\ \hline \text{T4: } 100 \ ^\circ\text{C} \\ \hline \text{T3: } 100 \ ^\circ\text{C} \\ \hline \text{T2: } 100 \ ^\circ\text{C} \\ \hline \text{T3: } 100 \ ^\circ\text{C} \\ \hline \text{T2: } 100 \ ^\circ\text{C} \\ \hline \text{T2: } 100 \ ^\circ\text{C} \\ \hline \text{T3: } 100 \ ^\circ\text{C} \\ \hline \text{T2: } 100 \ ^\circ\text{C} \\ \hline \text{T2: } 100 \ ^\circ\text{C} \\ \hline \text{T3: } 100 \ ^\circ\text{C} \\ \hline \text{T2: } 100 \ ^\circ\text{C} \\ \hline \text{T4: } 100 \ ^\circ\text{C} \\ \hline \text{T5: } 75 \ ^\circ\text{C} \\ \hline \text{T4: } 100 \ ^\circ\text{C} \\ \hline \text{T1: } 100 \ ^\circ\text{C} \\ \hline \text{U}_i = 15 \ \text{V}, \ I_i = 52 \ \text{mA}, \ P_i = 169 \ \text{mW} \\ \hline \text{T6: } 60 \ ^\circ\text{C} \\ \hline \text{T5: } 75 \ ^\circ\text{C} \\ \hline \text{T4: } 95 \ ^\circ\text{C} \\ \hline \text{T3: } 95 \ ^\circ\text{C} \\ \hline \ \text{T2: } 95 \ ^\circ\text{C} \\ \hline \end{array}$		
T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C T1: 95 °C for IECEx $U_i = 15 V, I_i = 25 \text{ mA}, P_i = 34 \text{ mW}$ T6: 75 °C T5: 90 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C T1: 100 °C U_i = 15 V, I_i = 25 mA, P_i = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T2: 100 °C T4: 100 °C T3: 100 °C T4: 100 °C T2: 100 °C T4: 100 °C T5: 85 °C T4: 100 °C T5: 85 °C T4: 100 °C T1: 100 °C T1: 100 °C T2: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T4: 100 °C T3: 100 °C T2: 100 °C		T1: 100 °C
T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C T1: 95 °C for IECEx $U_i = 15 V, I_i = 25 \text{ mA}, P_i = 34 \text{ mW}$ T6: 75 °C T5: 90 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C T1: 100 °C U_i = 15 V, I_i = 25 mA, P_i = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T2: 100 °C T4: 100 °C T3: 100 °C T4: 100 °C T2: 100 °C T4: 100 °C T5: 85 °C T4: 100 °C T5: 85 °C T4: 100 °C T1: 100 °C T1: 100 °C T2: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T4: 100 °C T3: 100 °C T2: 100 °C		
T5: 75 °C T4: 95 °C T4: 95 °C T3: 95 °C T2: 95 °C T1: 95 °C for IECEx $U_i = 15 V, I_i = 25 \text{ mA}, P_i = 34 \text{ mW}$ T6: 75 °C T5: 90 °C T4: 100 °C T2: 100 °C T2: 100 °C T1: 100 °C U_i = 15 V, I_i = 25 mA, P_i = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T4: 100 °C T4: 100 °C T4: 100 °C T4: 100 °C T5: 85 °C T4: 100 °C T1: 100 °C U_i = 15 V, I_i = 52 mA, P_i = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T4: 95 °C T2: 95 °C		
$\begin{array}{c} T3: 95 \ ^{\circ}\text{C} \\ T2: 95 \ ^{\circ}\text{C} \\ T1: 95 \ ^{\circ}\text{C} \\ T1: 95 \ ^{\circ}\text{C} \\ \end{array}$ for IECEx $\begin{array}{c} U_i = 15 \ V, \ I_i = 25 \ \text{mA}, \ P_i = 34 \ \text{mW} \\ T6: 75 \ ^{\circ}\text{C} \\ T5: 90 \ ^{\circ}\text{C} \\ T4: 100 \ ^{\circ}\text{C} \\ T3: 100 \ ^{\circ}\text{C} \\ T3: 100 \ ^{\circ}\text{C} \\ T2: 100 \ ^{\circ}\text{C} \\ T1: 100 \ ^{\circ}\text{C} \\ U_i = 15 \ V, \ I_i = 25 \ \text{mA}, \ P_i = 64 \ \text{mW} \\ T6: 70 \ ^{\circ}\text{C} \\ T5: 85 \ ^{\circ}\text{C} \\ T4: 100 \ ^{\circ}\text{C} \\ T3: 100 \ ^{\circ}\text{C} \\ T3: 100 \ ^{\circ}\text{C} \\ T2: 100 \ ^{\circ}\text{C} \\ T3: 100 \ ^{\circ}\text{C} \\ T2: 100 \ ^{\circ}\text{C} \\ T1: 100 \ ^{\circ}\text{C} \\ U_i = 15 \ V, \ I_i = 52 \ \text{mA}, \ P_i = 169 \ \text{mW} \\ T6: 60 \ ^{\circ}\text{C} \\ T5: 75 \ ^{\circ}\text{C} \\ T4: 95 \ ^{\circ}\text{C} \\ T3: 95 \ ^{\circ}\text{C} \\ T3: 95 \ ^{\circ}\text{C} \\ T2: 95 \ ^{\circ}\text{C} \\ \end{array}$		
$\begin{array}{c} T3: 95 \ ^{\circ}\text{C} \\ T2: 95 \ ^{\circ}\text{C} \\ T1: 95 \ ^{\circ}\text{C} \\ T1: 95 \ ^{\circ}\text{C} \\ \end{array}$ for IECEx $\begin{array}{c} U_i = 15 \ V, \ I_i = 25 \ \text{mA}, \ P_i = 34 \ \text{mW} \\ T6: 75 \ ^{\circ}\text{C} \\ T5: 90 \ ^{\circ}\text{C} \\ T4: 100 \ ^{\circ}\text{C} \\ T3: 100 \ ^{\circ}\text{C} \\ T3: 100 \ ^{\circ}\text{C} \\ T2: 100 \ ^{\circ}\text{C} \\ T1: 100 \ ^{\circ}\text{C} \\ U_i = 15 \ V, \ I_i = 25 \ \text{mA}, \ P_i = 64 \ \text{mW} \\ T6: 70 \ ^{\circ}\text{C} \\ T5: 85 \ ^{\circ}\text{C} \\ T4: 100 \ ^{\circ}\text{C} \\ T3: 100 \ ^{\circ}\text{C} \\ T3: 100 \ ^{\circ}\text{C} \\ T2: 100 \ ^{\circ}\text{C} \\ T3: 100 \ ^{\circ}\text{C} \\ T2: 100 \ ^{\circ}\text{C} \\ T1: 100 \ ^{\circ}\text{C} \\ U_i = 15 \ V, \ I_i = 52 \ \text{mA}, \ P_i = 169 \ \text{mW} \\ T6: 60 \ ^{\circ}\text{C} \\ T5: 75 \ ^{\circ}\text{C} \\ T4: 95 \ ^{\circ}\text{C} \\ T3: 95 \ ^{\circ}\text{C} \\ T3: 95 \ ^{\circ}\text{C} \\ T2: 95 \ ^{\circ}\text{C} \\ \end{array}$		
$\begin{array}{c} T2: 95 \ ^{\circ}\text{C} \\ T1: 95 \ ^{\circ}\text{C} \\ \hline \\ \text{for IECEx} & U_i = 15 \ V, \ I_i = 25 \ \text{mA}, \ P_i = 34 \ \text{mW} \\ \hline \\ T6: 75 \ ^{\circ}\text{C} \\ T5: 90 \ ^{\circ}\text{C} \\ T4: 100 \ ^{\circ}\text{C} \\ T4: 100 \ ^{\circ}\text{C} \\ T2: 100 \ ^{\circ}\text{C} \\ T2: 100 \ ^{\circ}\text{C} \\ \hline \\ U_i = 15 \ V, \ I_i = 25 \ \text{mA}, \ P_i = 64 \ \text{mW} \\ \hline \\ T6: 70 \ ^{\circ}\text{C} \\ T5: 85 \ ^{\circ}\text{C} \\ \hline \\ T4: 100 \ ^{\circ}\text{C} \\ \hline \\ T5: 85 \ ^{\circ}\text{C} \\ \hline \\ T4: 100 \ ^{\circ}\text{C} \\ \hline \\ T2: 100 \ ^{\circ}\text{C} \\ \hline \\ T2: 100 \ ^{\circ}\text{C} \\ \hline \\ T2: 100 \ ^{\circ}\text{C} \\ \hline \\ T1: 100 \ ^{\circ}\text{C} \\ \hline \\ U_i = 15 \ V, \ I_i = 52 \ \text{mA}, \ P_i = 169 \ \text{mW} \\ \hline \\ T6: 60 \ ^{\circ}\text{C} \\ \hline \\ T5: 75 \ ^{\circ}\text{C} \\ \hline \\ T4: 95 \ ^{\circ}\text{C} \\ \hline \\ T3: 95 \ ^{\circ}\text{C} \\ \hline \\ T2: 95 \ ^{\circ}\text{C} \\ \hline \end{array}$		
$\begin{array}{c c} T1: 95 \ ^{\circ}\text{C} \\ \hline \text{for IECEx} & U_i = 15 \ \text{V}, \ \text{I}_i = 25 \ \text{mA}, \ \text{P}_i = 34 \ \text{mW} \\ \hline \text{T6}: 75 \ ^{\circ}\text{C} \\ \hline \text{T5}: 90 \ ^{\circ}\text{C} \\ \hline \text{T4}: 100 \ ^{\circ}\text{C} \\ \hline \text{T3}: 100 \ ^{\circ}\text{C} \\ \hline \text{T2}: 100 \ ^{\circ}\text{C} \\ \hline \text{T2}: 100 \ ^{\circ}\text{C} \\ \hline \text{T1}: 100 \ ^{\circ}\text{C} \\ U_i = 15 \ \text{V}, \ \text{I}_i = 25 \ \text{mA}, \ \text{P}_i = 64 \ \text{mW} \\ \hline \text{T6}: 70 \ ^{\circ}\text{C} \\ \hline \text{T5}: 85 \ ^{\circ}\text{C} \\ \hline \text{T4}: 100 \ ^{\circ}\text{C} \\ \hline \text{T2}: 100 \ ^{\circ}\text{C} \\ \hline \text{T1}: 100 \ ^{\circ}\text{C} \\ \hline \text{U}_i = 15 \ \text{V}, \ \text{I}_i = 52 \ \text{mA}, \ \text{P}_i = 169 \ \text{mW} \\ \hline \text{T6}: 60 \ ^{\circ}\text{C} \\ \hline \text{T5}: 75 \ ^{\circ}\text{C} \\ \hline \text{T4}: 95 \ ^{\circ}\text{C} \\ \hline \text{T3}: 95 \ ^{\circ}\text{C} \\ \hline \text{T2}: 95 \ ^{\circ}\text{C} \\ \hline \end{array}$		
for IECEx $U_{i} = 15 \text{ V}, I_{i} = 25 \text{ mA}, P_{i} = 34 \text{ mW}$ T6: 75 °C T5: 90 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U_{i} = 15 V, I_{i} = 25 mA, P_{i} = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U_{i} = 15 V, I_{i} = 52 mA, P_{i} = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T6: 75 °C T5: 90 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C	for IECEV	
T5: 90 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C	TOT IECEX	
T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T2: 100 °C T1: 100 °C $U_i = 15 V$ , $I_i = 25 mA$ , $P_i = 64 mW$ T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C $U_i = 15 V$ , $I_i = 52 mA$ , $P_i = 169 mW$ T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T1: 100 °C $U_i = 15 V, I_i = 25 mA, P_i = 64 mW$ T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C $U_i = 15 V, I_i = 52 mA, P_i = 169 mW$ T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, $I_i$ = 52 mA, $P_i$ = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C $U_i = 15 V, I_i = 52 mA, P_i = 169 mW$ T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C $U_i = 15 V, I_i = 52 mA, P_i = 169 mW$ T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		
T4: 95 ℃ T3: 95 ℃ T2: 95 ℃		
T3: 95 °C T2: 95 °C		
T2: 95 °C		
T1: 95 °C		
		T1: 95 °C

# 11.2. Equipment protection level Gb

Type of protection	Intrinsic safety
CE marking	€€-0102
Certificates	
Appropriate type	NCN3-F25N4
ATEX certificate	TÜV 99 ATEX 1479 X

**EPPERL+FUCHS** 

ATEX standardsEN IEC 60079-0:2018-07, EN 60079-11:2012-01IECEx certificateIECEx TUN 17.0021XIECEx markingEx ia IIC T6T1 GaIECEx standardsIEC 60079-0:2017-12, IEC 60079-11:2011-06Effective internal capacitance C <sub>1</sub> max. 100 nFThe value applies to one sensor circuit. A cable length of 10 m is considered.Effective internal inductance L <sub>1</sub> max. 100 µHThe value applies to one sensor circuit. A cable length of 10 m is considered.Maximum permissible ambient temperature in °CAlso observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values.U <sub>1</sub> = 15 V, I <sub>1</sub> = 25 mA, P <sub>1</sub> = 34 mWT6: 75 °CT5: 90 °CT4: 100 °CT4: 100 °CT3: 100 °CT2: 100 °CT3: 100 °CT2: 100 °CT3: 100 °CT2: 100 °CT3: 100 °CT3: 100 °CT3: 100 °CT4: 100 °CT3: 100 °CT3: 100 °CT3: 100 °CT4: 100 °CT3: 100 °CT3: 100 °CT3: 100 °CT2: 100 °CT4: 100 °CT4: 100 °CT3: 100 °CT4: 100 °CT3: 100 °CT4: 100 °CT3: 100 °CT4: 100 °CT3: 100 °CT2: 100 °CT4: 100 °CT4: 100 °CT3: 100 °CT2: 100 °CT1: 100 °CT2: 100 °CT1: 100 °CT1: 100 °CT1: 100 °CT2: 95 °CT3: 95 °CT4: 95 °CT3: 95 °CT4: 95 °CT3: 95 °CT4: 95 °C </th <th>ATEX marking</th> <th>🐵 II 1G Ex ia IIC T6T1 Ga</th>	ATEX marking	🐵 II 1G Ex ia IIC T6T1 Ga
IECEx markingEx ia IIC T6T1 GaIECEx standardsIEC 60079-0:2017-12, IEC 60079-11:2011-06Effective internal capacitance $C_i$ max. 100 nF The value applies to one sensor circuit. A cable length of 10 m is considered.Effective internal inductance $L_i$ max. 100 $\mu$ H The value applies to one sensor circuit. A cable length of 10 m is considered.Maximum permissible ambient temperature in °CAlso observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values.U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 34 mW T6: 75 °C T3: 100 °C T2: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T3: 100 °C T2: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T3: 95 °C	-	EN IEC 60079-0:2018-07, EN 60079-11:2012-01
IECEx standardsIEC 60079-0:2017-12, IEC 60079-11:2011-06Effective internal capacitance Cimax. 100 nF The value applies to one sensor circuit. 	IECEx certificate	IECEx TUN 17.0021X
$\begin{array}{c} 60079-11:2011-06\\ \hline \\ \end{tabular} \\ \$	IECEx marking	Ex ia IIC T6T1 Ga
capacitance $C_i$ The value applies to one sensor circuit. A cable length of 10 m is considered.Effective internal inductance $L_i$ max. 100 $\mu$ H The value applies to one sensor circuit. A cable length of 10 m is considered.Maximum permissible ambient temperature in °CAlso observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values.U_i = 15 V, I_i = 25 mA, P_i = 34 mW T6: 75 °C T3: 90 °C T4: 100 °C T1: 100 °C U_i = 15 V, I_i = 25 mA, P_i = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U_i = 15 V, I_i = 52 mA, P_i = 169 mW T6: 60 °C T5: 75 °C T3: 95 °C T3: 95 °C T3: 95 °C	IECEx standards	
The value applies to one sensor circuit. A cable length of 10 m is considered.Effective internal inductance Limax. 100 $\mu$ H The value applies to one sensor circuit. A cable length of 10 m is considered.Maximum permissible ambient temperature in °CAlso observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. Ui = 15 V, Ii = 25 mA, Pi = 34 mW T6: 75 °C T3: 90 °C T4: 100 °C T2: 100 °C T1: 100 °C Ui = 15 V, Ii = 25 mA, Pi = 64 mW T6: 70 °C T3: 100 °C T3: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C Ui = 15 V, Ii = 52 mA, Pi = 169 mW T6: 60 °C T5: 75 °C T3: 95 °C T3: 95 °C T2: 95 °C		max. 100 nF
Effective internal inductance Limax. 100 μH The value applies to one sensor circuit. A cable length of 10 m is considered.Maximum permissible ambient temperature in °CAlso observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 34 mW T6: 75 °C T3: 90 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T3: 100 °C T2: 100 °C T3: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C	capacitance C <sub>i</sub>	The value applies to one sensor circuit.
inductance LiThe value applies to one sensor circuit. A cable length of 10 m is considered.Maximum permissible ambient temperature in °CAlso observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. $U_i = 15 V, I_i = 25 \text{ mA}, P_i = 34 \text{ mW}$ T6: 75 °CT5: 90 °CT4: 100 °CT3: 100 °CT2: 100 °CT1: 100 °CU_i = 15 V, I_i = 25 mA, P_i = 64 mWT6: 70 °CT5: 85 °CT4: 100 °CT2: 100 °CT2: 100 °CT3: 100 °CT2: 100 °CT5: 85 °CT4: 100 °CT2: 100 °CT1: 100 °CU_i = 15 V, I_i = 52 mA, P_i = 169 mWT6: 60 °CT5: 75 °CT4: 95 °CT3: 95 °CT2: 95 °C		A cable length of 10 m is considered.
Maximum permissible ambient temperature in °CAlso observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 34 mW T6: 75 °C T5: 90 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C T2: 100 °C T1: 100 °C T2: 100 °C T1: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C T2: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C T2: 100 °C T3: 95 °C T3: 95 °C T2: 95 °C		max. 100 μH
Maximum permissible ambient temperature in °CAlso observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 34 mW T6: 75 °C T5: 90 °C T4: 100 °C T3: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T3: 100 °C T3: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T4: 95 °C T3: 95 °C	inductance L <sub>i</sub>	The value applies to one sensor circuit.
ambient temperature in °C       ambient temperature stated in the general technical data. Keep to the lower of the two values. $U_i = 15 V, I_i = 25 mA, P_i = 34 mW$ T6: 75 °C         T5: 90 °C         T4: 100 °C         T2: 100 °C         T1: 100 °C         U_i = 15 V, I_i = 25 mA, P_i = 64 mW         T6: 70 °C         T5: 85 °C         T4: 100 °C         U_i = 15 V, I_i = 25 mA, P_i = 64 mW         T6: 70 °C         T5: 85 °C         T4: 100 °C         U_i = 15 V, I_i = 25 mA, P_i = 64 mW         T6: 70 °C         T5: 85 °C         T4: 100 °C         U_i = 15 V, I_i = 52 mA, P_i = 64 mW         T6: 70 °C         T5: 85 °C         T4: 100 °C         U_i = 15 V, I_i = 52 mA, P_i = 169 mW         T6: 60 °C         T5: 75 °C         T4: 95 °C         T3: 95 °C         T2: 95 °C		A cable length of 10 m is considered.
T6: 75 °C T5: 90 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, $I_i = 25 \text{ mA}$ , $P_i = 64 \text{ mW}$ T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, $I_i = 52 \text{ mA}$ , $P_i = 169 \text{ mW}$ T6: 60 °C T5: 75 °C T4: 95 °C T4: 95 °C T3: 95 °C		ambient temperature stated in the general technical data. Keep to the lower of the two
T5: 90 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, $I_i$ = 25 mA, $P_i$ = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, $I_i$ = 52 mA, $P_i$ = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T4: 95 °C T2: 95 °C		U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 34 mW
T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		T6: 75 °C
T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		T5: 90 °C
T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		T4: 100 °C
T1: 100 °C $U_i = 15 V, I_i = 25 \text{ mA}, P_i = 64 \text{ mW}$ T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C $U_i = 15 V, I_i = 52 \text{ mA}, P_i = 169 \text{ mW}$ T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		T3: 100 °C
U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		T2: 100 °C
T6: 70 °C T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C $U_i = 15 V, I_i = 52 \text{ mA}, P_i = 169 \text{ mW}$ T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		T1: 100 °C
T5: 85 °C T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C $U_i = 15 V, I_i = 52 \text{ mA}, P_i = 169 \text{ mW}$ T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW
T4: 100 °C T3: 100 °C T2: 100 °C T1: 100 °C $U_i = 15 V, I_i = 52 mA, P_i = 169 mW$ T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		T6: 70 °C
T3: 100 °C T2: 100 °C T1: 100 °C $U_i = 15 \text{ V}, I_i = 52 \text{ mA}, P_i = 169 \text{ mW}$ T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		T5: 85 °C
T2: 100 °C T1: 100 °C $U_i = 15 \text{ V}, I_i = 52 \text{ mA}, P_i = 169 \text{ mW}$ T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		T4: 100 °C
T1: 100 °C U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		T3: 100 °C
U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		T2: 100 °C
T6: 60 °C T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		T1: 100 °C
T5: 75 °C T4: 95 °C T3: 95 °C T2: 95 °C		U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW
T4: 95 °C T3: 95 °C T2: 95 °C		T6: 60 °C
T3: 95 °C T2: 95 °C		T5: 75 °C
T2: 95 °C		T4: 95 °C
		T3: 95 °C
T1: 95 °C		T2: 95 °C
		T1: 95 °C

# 11.3. Equipment protection level Da

Type of protection	Intrinsic safety
CE marking	<b>C€</b> -0102
Certificates	
Appropriate type	NCN3-F25N4
ATEX certificate	TÜV 99 ATEX 1479 X
ATEX marking	₪ II 1D Ex ia IIIC T <sub>200</sub> 135°C Da
ATEX standards	EN IEC 60079-0:2018-07, EN 60079-11:2012-01
IECEx certificate	IECEx TUN 17.0021X
IECEx marking	Ex ia IIIC T <sub>200</sub> 135°C Da
IECEx standards	IEC 60079-0:2017-12, IEC 60079-11:2011-06
Effective internal	max. 100 nF
capacitance C <sub>i</sub>	A cable length of 10 m is considered.
Effective internal	max. 100 μH
inductance L <sub>i</sub>	A cable length of 10 m is considered.
Maximum permissible ambient temperature in °C	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values.
	U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 34 mW
	100 °C
	U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW
	100 °C
	U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW
	95 °C

# 11.4. Equipment protection level Mb

Type of protection	Intrinsic safety
Certificates	
Appropriate type	NCN3-F25N4
IECEx certificate	IECEx TUN 17.0021X
IECEx marking	Ex ia I Mb
IECEx standards	IEC 60079-0:2017-12, IEC 60079-11:2011-06
Effective internal	max. 100 nF
capacitance C <sub>i</sub>	The value applies to one sensor circuit.
	A cable length of 10 m is considered.
Effective internal	max. 100 μH
inductance L <sub>i</sub>	The value applies to one sensor circuit.
	A cable length of 10 m is considered.
Maximum permissible ambient temperature in °C	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values.
	U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 34 mW
	100 °C
	U <sub>i</sub> = 15 V, I <sub>i</sub> = 25 mA, P <sub>i</sub> = 64 mW
	100 °C
	U <sub>i</sub> = 15 V, I <sub>i</sub> = 52 mA, P <sub>i</sub> = 169 mW
	95 °C