

Safety Instructions

Minicap FTC262

EAC: Ex tc [ia Da] IIC T108°C Dc X



Document: XA01652F-B

Safety instructions for electrical apparatus for explosion-hazardous areas →  3

Minicap FTC262

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Associated documentation	This document is an integral part of the following Operating Instructions: TI00287F/00, KA00155F/00										
Supplementary documentation	Explosion-protection brochure: CP00021Z/11 The Explosion-protection brochure is available: <ul style="list-style-type: none"> ■ 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	Certificate of Conformity TP TC 012/2011 Inspection authority: LLC NANIO CCVE (ООО «НАНИО ЦСВЭ») Certificate number: TC RU C-DE.AA87.B.00912 Affixing the certificate number certifies conformity with the following standards (depending on the device version): <ul style="list-style-type: none"> ■ GOST IEC 60079-31-2010 ■ GOST 31610.0-2014 (IEC 60079-0:2011) ■ GOST 31610.11-2014 (IEC 60079-11:2011) 										
Manufacturer address	Endress+Hauser SE+Co. KG Hauptstraße 1 79689 Maulburg, Germany Address of the manufacturing plant: See nameplate.										
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 <table border="0" style="margin-left: 40px;"> <tr> <td style="text-align: center;">FTC262</td> <td style="text-align: center;">–</td> <td style="text-align: center;">*****</td> <td style="text-align: center;">+</td> <td style="text-align: center;">A*B*C*D*E*F*G*..</td> </tr> <tr> <td style="text-align: center;"><i>(Device type)</i></td> <td></td> <td style="text-align: center;"><i>(Basic specifications)</i></td> <td></td> <td style="text-align: center;"><i>(Optional specifications)</i></td> </tr> </table> <p>* = Placeholder At this position, an option (number or letter) selected from the specification is displayed instead of the placeholders.</p> <i>Basic specifications</i> 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. <i>Optional specifications</i> 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).	FTC262	–	*****	+	A*B*C*D*E*F*G*..	<i>(Device type)</i>		<i>(Basic specifications)</i>		<i>(Optional specifications)</i>
FTC262	–	*****	+	A*B*C*D*E*F*G*..							
<i>(Device type)</i>		<i>(Basic specifications)</i>		<i>(Optional specifications)</i>							

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: Minicap



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

FTC262

Basic specifications

Position 1 (Approval)		
Selected option		Description
FTC262	F	EAC Ex tc [ia Da] IIIC T108°C Dc X

Position 4 (Switch Output)		
Selected option		Description
FTC262	2	3-wire PNP 10.8-45VDC
	4	Relay 20-253VAC/20-55VDC

Position 5 (Housing; Cable Entry)		
Selected option		Description
FTC262	H	F34 Alu IP66; thread NPT1/2, NEMA Type 4 Encl.
	I	F34 Alu IP66; thread G1/2, NEMA Type 4 Encl.
	J	F34 Alu IP66; gland M20, NEMA Type 4 Encl.

Position 6 (Additional Option)		
Selected option		Description
FTC262	1	Basic version
	3	Glas inspection window, aluminium

Optional specifications

No options specific to hazardous locations are available.

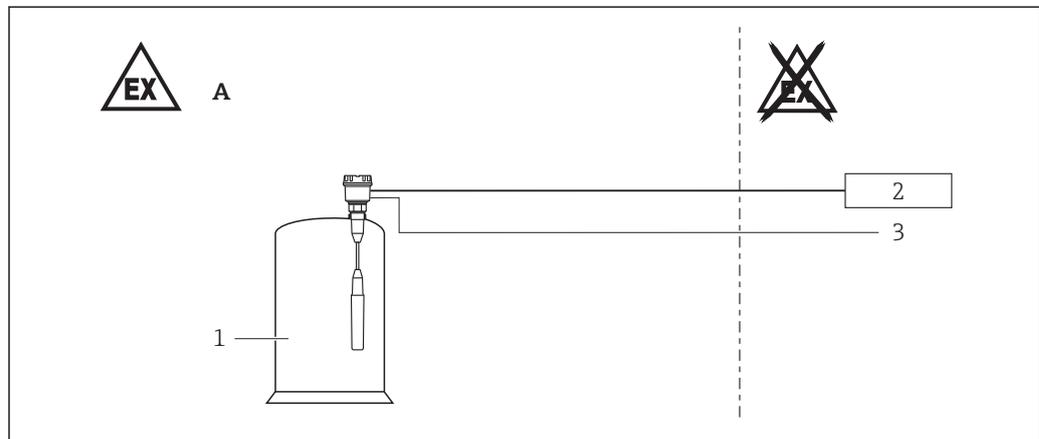
Safety instructions: General

- Comply with the installation and safety instructions in the Operating Instructions.
- 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
- 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)

Safety instructions: Special conditions

- 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



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- A Zone 22
- 1 Tank; Hazardous area Zone 20
- 2 Power supply or switching unit
- 3 Potential equalization

- The intrinsically safe signal circuit is grounded: For this reason potentials must be equalised along the route of the cable (inside and outside of the explosion hazardous area).
- After mounting and connecting the sensor, check that a degree of protection of at least IP66 has been achieved (screw lid tight, mount cable glands correctly).

Temperature tables

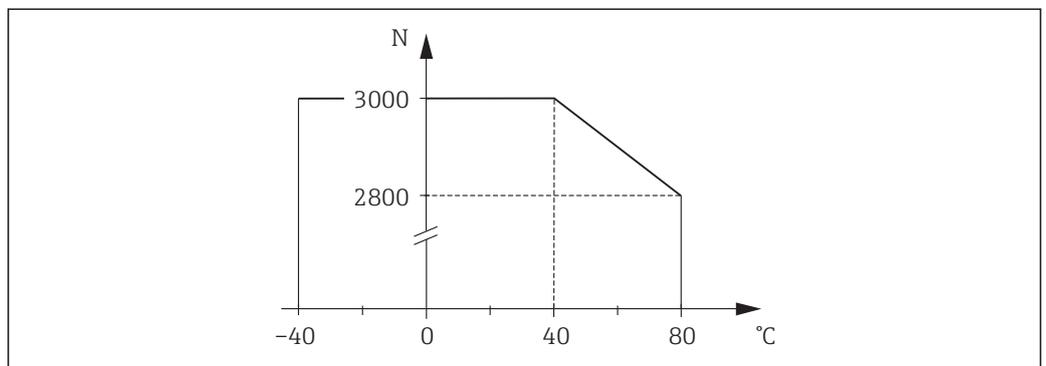
Thermal performance limits		
Temperature of the sensor (Zone 20)	Permissible process temperature	-40 to +80 °C
	Maximum surface temperature	
	- at an ambient temperature of 40 °C	68 °C
	- at an ambient temperature of 80 °C	108 °C
Temperature of the electronics housing (Zone 22)	Permissible ambient temperature	-40 to +60 °C
	Maximum surface temperature	
	- at an ambient temperature of 40 °C	61 °C
	- at an ambient temperature of 60 °C	81 °C

Degree of ingress protection	
Sensor (Zone 20)	IP66
Electronics housing (Zone 22)	IP66

Connection data

Electrical performance limits		
<i>Basic specification, Position 4 (Switch Output) = 4 (AC/DC relay version)</i>	Maximum operating voltage	20 to 253 V _{AC} , 50/60 Hz or 20 to 55 V _{DC}
	Current consumption	max. 2 W
	Relay circuit	253 V _{AC} / 4 A / 1000 VA or 253 V _{DC} / 0.2 A / 50 W or 30 V _{DC} / 4 A / 120 W
	Fuse	500 mA
<i>Basic specification, Position 4 (Switch Output) = 2 (DC PNP version)</i>	Maximum operating voltage	10.8 to 45 V _{DC}
	Current consumption	max. 1.5 W
	Switch output (PNP) - Current - Switching capacity	max. 200 mA 9 W

Mechanical performance limits		
On rope	Maximum pull-down forces	
	- at room temperature and at -40 °C	3 000 N
	- at +80 °C	2 800 N



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