

# Safety Instructions

## Minicap FTC260

Ex tD A20/A22 IP66 T105°C





# Minicap FTC260

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**About this document**

This document has been translated into several languages. Legally determined is solely the English source text.

**Associated documentation**

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

TI00287F/00, KA00093F/00

**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](http://www.endress.com) -> Downloads -> Brochures and Catalogs -> Text Search: CP00021Z
- On the CD for devices with CD-based documentation

**Manufacturer's certificates****NEPSI Declaration of Conformity**

Certificate number:  
GY21.1253

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

- GB 12476.1-2013
- GB 12476.5-2013

**Manufacturer address**

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

FTC260	–	*****	+	A*B*C*D*E*F*G*..
<i>(Device type)</i>		<i>(Basic specifications)</i>		<i>(Optional specifications)</i>

\* = 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: 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*

FTC260

*Basic specifications*

Position 1 (Approval)		
Selected option		Description
FTC260	2	NEPSI Ex tD A20/A22 IP66 T105°C

Position 3 (Switch Output)		
Selected option		Description
FTC260	2	3-wire PNP 10.8-45VDC
	4	Relay 20-253VAC/20-55VDC

Position 4 (Housing, Cable Entry)		
Selected option		Description
FTC260	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 5 (Additional Option)		
Selected option		Description
FTC260	1	Basic version
	3	Glass inspection window, aluminium

*Optional specifications*

No options specific to hazardous locations are available.

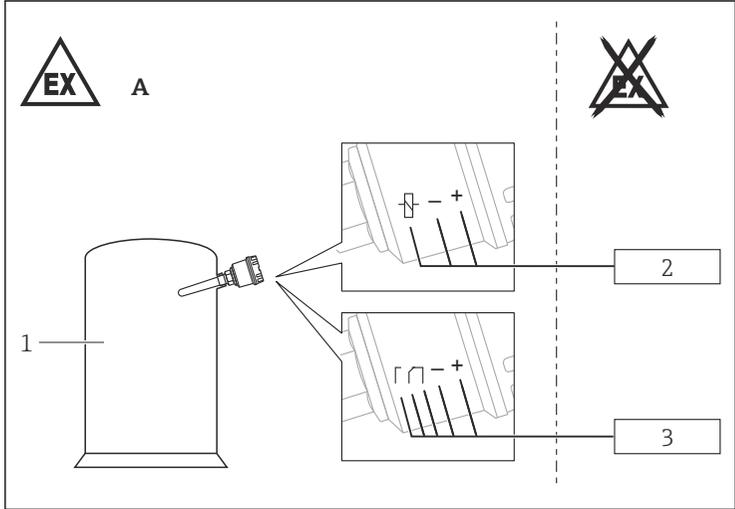
**Safety  
instructions:  
General**

- 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 15577-2018: "Safety regulations for dust explosive prevention and protection". (Only if installed in dust hazardous area.)
- 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. enclosure, 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**

- In the event of additional or alternative special varnishing on the enclosure 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: DC version or
- 3 Power supply or switching unit: Relay version

- The external earth connection facility should be connected reliably.
- For cable entries, appropriate cable glands or blind plugs shall be used which are approved by ExTL in accordance with GB12476.1-2013 and GB12476.5-2013, with the type of protection at least should be Ex tD A22 IP66.

**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    65 °C at an ambient temperature of 80 °C    105 °C
Temperature of the electronics enclosure (Zone 22)	Permissible ambient temperature    -40 to +60 °C
	Maximum surface temperature
	at an ambient temperature of 40 °C    70 °C at an ambient temperature of 60 °C    90 °C

Degree of ingress protection	
Sensor (Zone 20)	IP66
Electronics enclosure (Zone 22)	Min. IP5X

## Connection data

Electrical performance limits		
<i>Basic specification, Position 3 = 4 (AC/DC relay version)</i>	Maximum operating voltage	20 to 253 V <sub>AC</sub> , 50/60 Hz or 20 to 55 V <sub>DC</sub>
	Current consumption	max. 2 W
	Relay circuit	253 V <sub>AC</sub> / 4 A / 1000 VA or 253 V <sub>DC</sub> / 0.2 A / 50 W or 30 V <sub>DC</sub> / 4 A / 120 W
	Fuse	500 mA
<i>Basic specification, Position 3 = 2 (DC PNP version)</i>	Maximum operating voltage	10.8 to 45 V <sub>DC</sub>
	Current consumption	max. 1.5 W
	Switch output (PNP) <ul style="list-style-type: none"> <li>▪ Current</li> <li>▪ Switching capacity</li> </ul>	max. 200 mA 9 W







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