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Safety Instructions
FieldPort SWA50

4-20 mA HART

II 1 G Ex ia IIC T4 Ga
II 1 D Ex ia IIIC T135°C Da
II 2 D Ex tb IIIC T75°C Db

Endress+Hauser
People for Process Automation

FieldPort SWA50

4-20 mA HART

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Associated documentation

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

Bluetooth
BA01987S/04

WirelessHART
BA02046S/04

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 -> Brochures and Catalogs -> Text Search: CP00021Z
- On the CD for devices with CD-based documentation

Manufacturer's certificates

UK Declaration of Conformity

Declaration Number:
EC00876

The UK Declaration of Conformity is available:
In the download area of the Endress+Hauser website:
www.endress.com -> Downloads -> Declaration -> Type: EU Declaration -> Product Code: ...

UKCA type-examination certificate

Certificate number:
CML 21UKEX2002X

List of applied standards: See UK Declaration of Conformity.

Manufacturer address

Endress+Hauser SE+Co. KG
Hauptstraße 1
79689 Maulburg, Germany

Address of the manufacturing plant: See nameplate.

Other standards

Among other things, the following standards shall be observed in their current version for proper installation:
- IEC/EN 60079-14: "Explosive atmospheres - Part 14: Electrical installations design, selection and erection"
- EN 1127-1: "Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology"

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

SWA50	–	**********	+	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: FieldPort

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

SWA50

Basic specifications

Position 1, 2 (Approval)		
Selected option		**Description**
SWA50	UB	UK Ex II 1 G Ex ia IIC T4 Ga
	UD	UK Ex II 1 D Ex ia IIIC T135°C Da
	UE	UK Ex II 2 D Ex tb IIIC T75°C Db

Position 3 (Output)		
Selected option		**Description**
SWA50	A	Bluetooth
	B	WirelessHART

Position 4 (Housing)		
Selected option		**Description**
SWA50	1	316L

Position 5 (Version)		
Selected option		**Description**
SWA50	A	Remote mounting
	B	Direct mounting on field device with connection Adapter M20
	C	Direct mounting on field device with connection Adapter NPT1/2

Optional specifications

No options specific to hazardous locations are available.

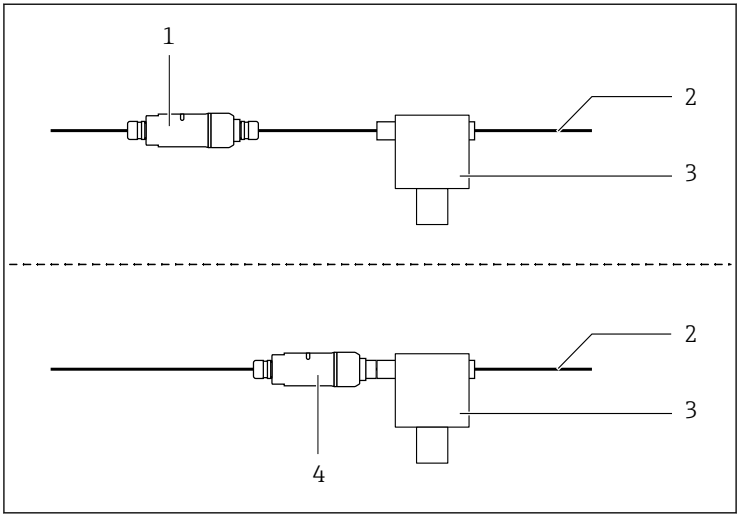
Safety instructions: General

- 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
- 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.
- The safety of the device can be impaired, e.g.:
  - In case of visible damage
  - In case of improper storage
  - In case of damage during transportation
- Avoid electrostatic charging:
  - Of plastic surfaces (e.g. enclosure, sensor element, special varnishing, attached additional plates, ..)
  - Of isolated capacities (e.g. isolated metallic plates)

Safety instructions: Special conditions

- To avoid electrostatic charging: Do not rub surfaces with a dry cloth.
- In the event of additional or alternative special varnishing on the enclosure or other metal parts or for adhesive plates:
  - Observe the danger of electrostatic charging and discharge.
  - Do not install in the vicinity of processes (≤ 0.5 m) generating strong electrostatic charges.

Safety instructions: Installation



1

1 Remote mounting
2 Cable
3 HART field device
4 Direct mounting

- Avoid electrostatic charging (e.g. do not rub dry):
  - Of enclosure
  - Of the connecting cable
- In environments requiring an equipment protection level (EPL) Db: If the device is connected directly to other devices, the other devices shall be certified "Ex tb".
- In environments requiring an equipment protection level (EPL) Ga, Gb or Da: If the device is connected directly to other devices, the interior of the other devices shall be pollution degree 2 or better.
- Observe the pertinent guidelines when interconnecting intrinsically safe circuits.
- To maintain the ingress protection of the enclosure:
  - Screw the cover tight.
  - Mount the cable entry correctly.
- Protect the connecting cable between the FieldPort and the field device from tension and friction (e.g. due to electrostatic charge from medium flow).
- Torque must be observed:
  - Top enclosure section (remote): 5.0 Nm ±0,05 %
  - Top enclosure section (direct): 5.0 Nm ±0,05 %
  - Cable glands: 3.25 Nm ±10 %
  - Sealing plug: 3.25 Nm ±10 %

Potential equalization

Integrate the device into the local potential equalization.

Intrinsic safety

- The device is only suitable for connection to certified, intrinsically safe equipment with explosion protection Ex ia / Ex ib.
- The intrinsically safe input power circuit of the device is isolated from ground. If the device is only equipped with one input, the dielectric strength of the input is at least 500 V_{rms}. If the device is equipped with more than one input, the dielectric strength of each individual input to ground is at least 500 V_{rms}, and the dielectric strength of the inputs vis-à-vis one another is also at least 500 V_{rms}.
- Observe the pertinent guidelines when interconnecting intrinsically safe circuits.
- When the device is connected to certified intrinsically safe circuits of Category Ex ib for Equipment Groups IIC and IIB, the type of protection changes to Ex ib IIC and Ex ib IIB.

Safety instructions: Zone 0

- Configuring the device: The device can be opened when energized.
- 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.
- Associated devices with galvanic isolation between the intrinsically safe and non-intrinsically safe circuits are preferred.
- If there is a risk of dangerous potential differences within Zone 0 (e.g. through the occurrence of atmospheric electricity), implement suitable measures for intrinsically safe circuits in Zone 0.

Safety instructions: Zone 1

- Configuring the device: The device can be opened when energized.
- Seal unused entry glands with approved sealing plugs that correspond to the type of protection.

Safety instructions: Zone 20, Zone 21

- Do not open in a potentially explosive dust atmosphere.
- Cable glands with UK Ex e approval and metallic glands: Only use with an ingress protection of at least IP65. Lay connecting cable and secure.
- Seal unused entry glands with approved sealing plugs that correspond to the type of protection.

Temperature tables

Type of protection	Ambient temperature T_a (ambient)	Temperature class
Ex ia IIC	−40 °C ≤ T_a ≤ +70 °C	T4

Type of protection	Ambient temperature T_a (ambient)	Max. surface temperature
Ex ia IIIC	−40 °C ≤ T_a ≤ +70 °C	+135 °C
Ex tb IIIC	−40 °C ≤ T_a ≤ +70 °C	+75 °C

Connection data

4 to 20 mA + HART communication

Connection options of the terminals: See Operating Instruction BA01987S, chapter "Electrical connection".

Intrinsic safety Ex ia IIC

Input terminal IN (passive)	Output terminal OUT (active) [1) 2)]
U_i = 30 V_{DC} I_i = 115 mA P_i = 750 mW L_i = 0 C_i = 0	U_o of barrier I_o of barrier P_o of barrier L_o = 0 C_o = 0

1) The output values do not exceed the input values.
2) The FieldPort can be integrated in an existing intrinsically safe installation without adversely affecting the intrinsic safety.

Intrinsic safety Ex ia IIIC

Input terminal IN (passive)	Output terminal OUT (active) [1) 2)]
U_i = 30 V_{DC} I_i = 115 mA P_i = 650 mW L_i = 0 C_i = 0	U_o of barrier I_o of barrier P_o of barrier L_o = 0 C_o = 0

1) The output values do not exceed the input values.
2) The FieldPort can be integrated in an existing intrinsically safe installation without adversely affecting the intrinsic safety.

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