

# Technical Information

## WirelessHART adapter

### SWA70

Smart WirelessHART adapter with supply voltage for field devices



#### Application

The WirelessHART adapter SWA70 is an interface module for the wireless transmission of 4 to 20 mA/HART signals from connected field devices to a WirelessHART gateway. It is powered by either a battery pack or power supply units, which are available as inserts. The WirelessHART adapter can be used for various applications in hazardous and non-hazardous areas.

The WirelessHART adapter SWA70 combined with a WirelessHART gateway, such as the Fieldgate SWG70 and a FieldEdge SGC500, provides quick and easy connection to the various Netilion services.

#### Your benefits

The flexible adapter concept offers the following advantages:

- Quick upgrading of 4 to 20 mA and HART field devices to WirelessHART technology
- Connection of up to four HART field devices in Multidrop mode to a WirelessHART adapter
- Battery pack powers two-wire field devices
- Easy access to additional measured data and diagnostic information of connected multi-variable HART field device
- Connection of remote and difficult-to-access HART field devices to the control room without expensive cabling
- Easy planning, quick installation and integration

## About this document

### Symbols

#### Safety symbols

##### **DANGER**

This symbol alerts you to a dangerous situation. Failure to avoid this situation will result in serious or fatal injury.

##### **WARNING**

This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in serious or fatal injury.









##### **CAUTION**

This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or medium injury.

##### **NOTICE**

This symbol contains information on procedures and other facts which do not result in personal injury.

#### Symbols for certain types of information

Symbol	Meaning
	<b>Permitted</b> Procedures, processes or actions that are permitted.
	<b>Preferred</b> Procedures, processes or actions that are preferred.
	<b>Forbidden</b> Procedures, processes or actions that are forbidden.
	<b>Tip</b> Indicates additional information.
	Reference to documentation
	Reference to page
	Reference to graphic
	Visual inspection

## Function and system design

### WirelessHART

WirelessHART adds wireless capabilities to the HART protocol, while ensuring compatibility with existing HART field devices, commands and tools.

A WirelessHART network comprises:

- WirelessHART field devices
- Wired field devices with a connected WirelessHART adapter
- Gateways responsible for communication between devices and host applications
- Network and safety manager responsible for configuring, managing and monitoring network

##### **NOTICE**

#### **Safety applications with control functions via WirelessHART signal**

Undesirable behavior of safety application

- ▶ Do not use a wireless signal such as WirelessHART in a safety application with a control function.

### WirelessHART adapter SWA70

The WirelessHART adapter SWA70 is a smart interface module designed for the wireless transmission of 4 to 20 mA/HART signals from connected field devices to a WirelessHART gateway.

### Versions

The WirelessHART adapter is available in the standard version with a plastic housing or in a hazardous area version with an aluminum, stainless steel or plastic housing.

If a field device is connected to a hazardous area version, the field device must also have the relevant Ex approval.

### Supported functions

The WirelessHART adapter supports the following functions:

- Supply voltage for a HART field device or a 4 to 20 mA field device
- "Wide-range power unit" version: supplies voltage to up to four HART devices in the Multidrop mode
- Connection of up to four externally powered HART field devices in the Multidrop mode
- Scaling of the current signal from a connected 4 to 20 mA field device
- Burst mode and event notifications for the WirelessHART adapter and connected HART field devices

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### Function

The WirelessHART adapter SWA70 can be retrofitted to any 2-wire or 4-wire HART field device as well as 4 to 20 mA field devices.

The WirelessHART adapter is integrated into a WirelessHART network via a WirelessHART gateway. The WirelessHART gateway transmits information from the WirelessHART adapter and the field device to a host application.

The gateway can be the Endress+Hauser WirelessHART Fieldgate SWG70 or a compatible WirelessHART gateway, for example.

More information is available from your Endress+Hauser Sales Center: [www.addresses.endress.com](http://www.addresses.endress.com)

### Power supply for WirelessHART adapter and field device

The WirelessHART adapter is powered by a battery pack, a wide-range power unit or a DC power unit, which are available as inserts. The DC power unit can be powered by a solar system, for example. A high-performance battery with a long service life is used as the battery pack.

The field device can be powered by the WirelessHART adapter power supply, a separate DC power unit or a remote I/O.

The WirelessHART adapter can also be used as a repeater. In this case, the WirelessHART adapter does not power any field device.

### Operating options of WirelessHART adapter

The WirelessHART adapter can be operated as follows:

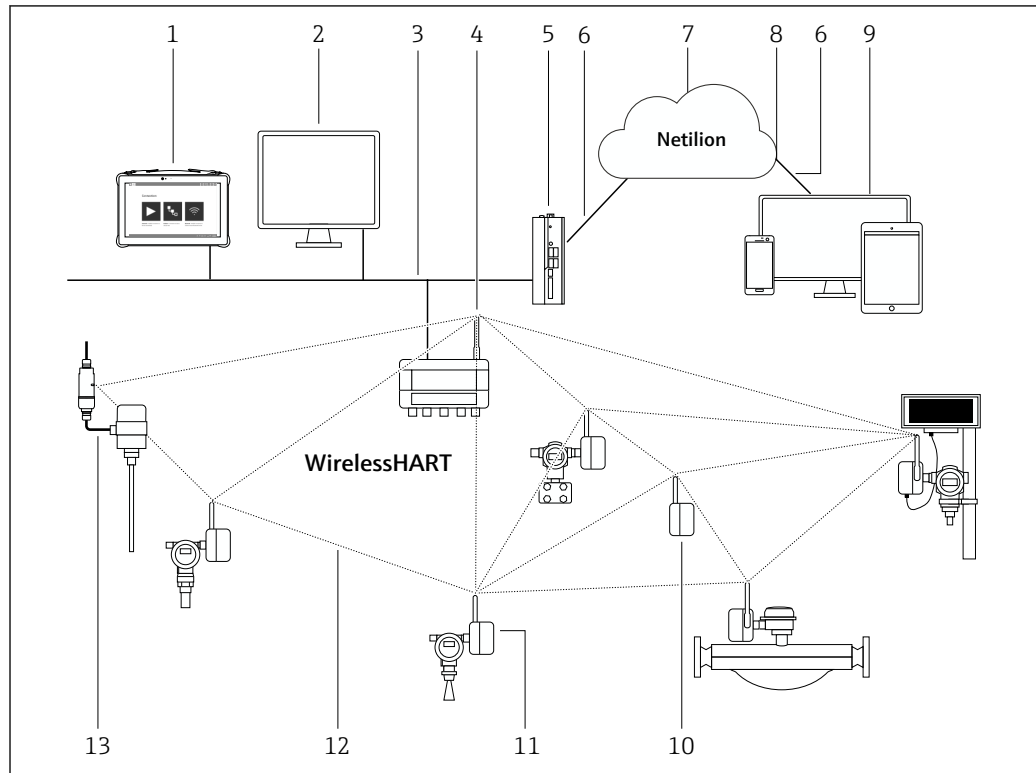
- Local operation via Endress+Hauser Field Xpert SMT7x tablet PC, even in hazardous areas
- Local configuration with FieldCare SFE500 or DeviceCare via DTM for SWA70
- Remote configuration with FieldCare SFE500 via WirelessHART Fieldgate SWG70 and DTM for SWA70 and SWG70

The field devices connected to the WirelessHART adapter can be connected to the Netilion cloud via the Endress+Hauser FieldEdge SGC500 and the Endress+Hauser WirelessHART Fieldgate SWG70.



Detailed information on Netilion Cloud: <https://netilion.endress.com>

## System design



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1 Example of WirelessHART network architecture with WirelessHART adapter SWA70

- 1 Endress+Hauser Field Xpert, e.g. SMTxx
- 2 Host application / FieldCare SFE500
- 3 Ethernet communication
- 4 WirelessHART gateway, e.g. Fieldgate SWG70
- 5 FieldEdge SGC500
- 6 https Internet connection
- 7 Netilion Cloud
- 8 Application Programming Interface (API)
- 9 Internet browser-based Netilion Service app or user application
- 10 WirelessHART adapter SWA70 used as a repeater
- 11 HART field device with WirelessHART adapter SWA70
- 12 Encrypted wireless connection via WirelessHART
- 13 HART field device with FieldPort SWA50

## Input (wired interface)

### Inputs

One input channel for the following:

- a point-to-point connection with a 2-wire or 4-wire HART field device or
- a point-to-point connection with a 4 to 20 mA field device or
- when using a wide-range power unit, up to four HART field devices connected in the Multidrop mode. The wide-range power unit supplies 24 V to power the field devices.

### Communication interface and protocol version


#### HART interface

- For configuring the WirelessHART adapter with a HART modem
- HART 7, backwards compatible with previous HART versions

#### LPI interface

Internal interface for manufacturing and diagnostics

## Output (wireless interface)

<b>Communication interface</b>	<ul style="list-style-type: none"> <li>■ WirelessHART communication interface (IEC 62591)</li> <li>■ HART 7, backwards compatible with previous HART versions</li> </ul>
<b>Transmission frequency band</b>	2.4 GHz (ISM band)
<b>Range</b>	<p> The range depends on the alignment of WirelessHART adapter SWA70, the mounting location and the environmental conditions.</p> <p>Up to 250 m without obstacles when WirelessHART adapter SWA70 is optimally aligned</p>
<b>Transmission power</b>	0 dBm or 10 dBm, can be configured to adapt to national regulations
<b>Device variables</b>	<p>As per HART specification, up to 10 bursts can be configured. Up to eight device variables can be configured per burst depending on user transmission requirements.</p> <p>For example:</p> <ul style="list-style-type: none"> <li>■ HART field device: device variables</li> <li>■ 4 to 20 mA field device: scaled or linearized process values</li> <li>■ WirelessHART adapter: scaled loop current and other variables, chosen from: estimated battery life, battery voltage, energy used, adapter temperature.</li> </ul>
<b>Additional functions</b>	<ul style="list-style-type: none"> <li>■ Event notification, can be configured for up to eight variables of the WirelessHART adapters and / or connected field devices</li> <li>■ Error notification and scaling or linearization of 4 to 20 mA signal of connected 4 to 20 mA field device</li> <li>■ Monitoring of energy consumption</li> <li>■ Locking of device parameter configuration</li> </ul>
<b>Diagnostics</b>	<ul style="list-style-type: none"> <li>■ Diagnostic function in accordance with NAMUR NE 107, ASM and HART recommendations</li> <li>■ Local diagnosis via LEDs</li> </ul> <p>The LEDs are located on the main board and are not visible from the outside.</p> <p>LEDs for all power supply versions</p> <ul style="list-style-type: none"> <li>■ Yellow LED: status of communication between WirelessHART adapter and WirelessHART network</li> <li>■ Green LED: battery status</li> <li>■ Red LED: communication active and error message</li> </ul> <p>Additional LEDs with wide-range power unit and DC power unit</p> <p>Three additional LEDs indicate the level of supply voltage that is available for the field device, for example, or indicate whether an external supply voltage is available.</p>

## Power supply

<b>Supply voltage</b>	<p>The following power supply versions are available for the WirelessHART adapter.</p> <p><b>Battery pack BU191</b> Special high-performance lithium-thionyl chloride battery pack, long battery life</p> <p><b>Wide-range power unit</b> 24 to 230 V AC/DC <math>\pm</math> 10 %, 50/60 Hz</p> <p><b>DC power unit</b> 8 to 50 V DC, solar-powered for example</p> <p>In the event of an external power supply failure, wireless communication is maintained for at least one hour thanks to an internal power supply system.</p>
<b>Battery data</b>	<p><b>Nominal capacity of battery</b> 19 Ah at 20 °C</p>

**Battery voltage**

7.2 V DC

**Lithium content**

10 g

**Battery life**

Up to 10 years, depending on update rate of process variables, field device type and environmental conditions

**Power consumption****Wide-range power unit**

- Max. active power 7 W
- Max. reactive power 12 VA with AC voltage

**DC power unit**

&lt; 2.2 W

**Current consumption****Wide-range power unit**

&lt; 350 mA

**DC power unit**

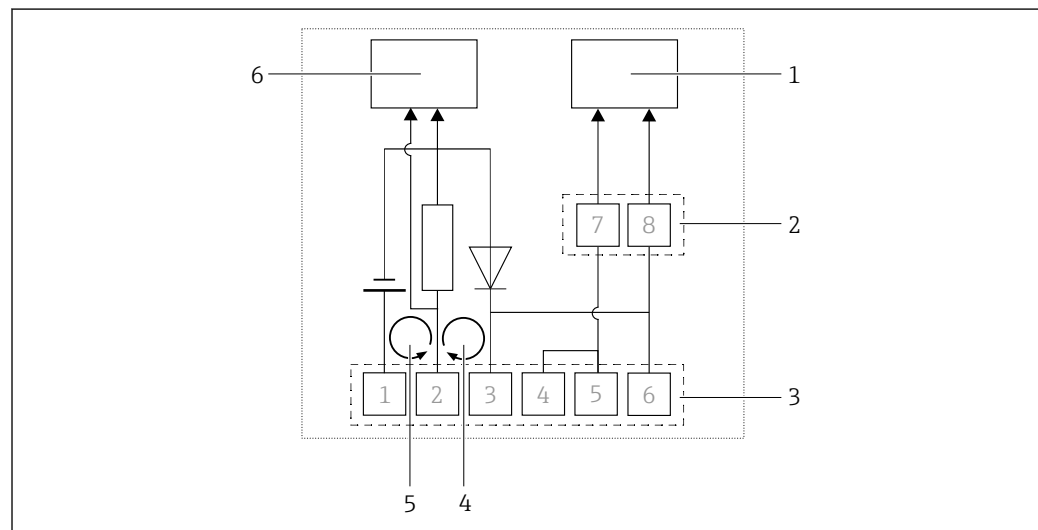
&lt; 250 mA



1 A slow-blow back-up fuse must be provided by the customer.

**Terminals and terminal assignment**

The WirelessHART adapter is equipped with screw terminals 1 to 6 and lugs 7 and 8.



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**2** Function of WirelessHART adapter terminals

- 1 HART communication
- 2 Lugs 7 and 8
- 3 Screw terminals 1 to 6
- 4 Loop current measurement between terminal 2 and terminal 3
- 5 Loop current measurement between terminal 2 and terminal 1
- 6 Loop current measurement and HART communication

Application	Terminal assignment	Notes	Connection data
Power supply for 2-wire field device	1 (+) and 2 (-)	<ul style="list-style-type: none"> <li>▪ Current measurement and, if necessary, HART communication</li> <li>▪ Loop current flows through the WirelessHART adapter</li> </ul>	<ul style="list-style-type: none"> <li>▪ 4 to 20 mA (as per NAMUR NE43)</li> <li>▪ Supply voltage for 8 to 23 V field device, configurable, see the following diagram</li> <li>▪ Integrated load: 250 Ohm</li> </ul>
Integration of WirelessHART adapter into a current loop	2 (+) and 3 (-)	<ul style="list-style-type: none"> <li>▪ Current measurement and, if necessary, HART communication</li> <li>▪ Loop current flows through the WirelessHART adapter</li> </ul>	<ul style="list-style-type: none"> <li>▪ 4 to 20 mA (as per NAMUR NE43)</li> <li>▪ Integrated load: 250 Ohm</li> </ul>
Integration of WirelessHART adapter into a current loop	5 and 6	<ul style="list-style-type: none"> <li>▪ Integration of HART communication</li> <li>▪ Loop current does not flow through the WirelessHART adapter</li> </ul>	<ul style="list-style-type: none"> <li>▪ Input impedance for HART communication: &gt; 10 kOhm at 1700 Hz</li> <li>▪ DC input impedance: infinite</li> </ul>
Configuration of WirelessHART adapter via HART modem	7 and 8	Temporary connection of HART modem via lugs	<ul style="list-style-type: none"> <li>▪ Input impedance for HART communication: &gt; 10 kOhm at 1700 Hz</li> <li>▪ DC input impedance: infinite</li> </ul>

**Field device power supply****Current**

- 4 to 20 mA as per NAMUR recommendation NE 43 or
- 4 mA when connected to just one field device in the Multidrop mode

**Failure current**

$I \leq 3.6 \text{ mA}$  or  $I \geq 21 \text{ mA}$

**Protection**

Short-circuit protection, triggered if currents > 25 mA

**Terminal voltage**

8 to 23 V DC, configurable

**Connection of externally powered field devices to terminals 2 to 6****Max. permitted input current, terminals 2 to 6**

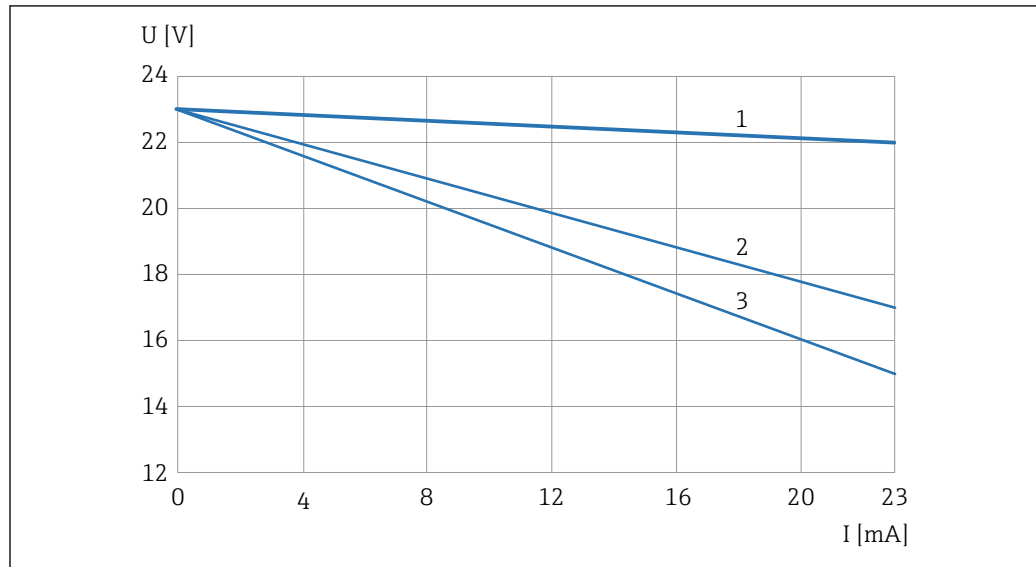
100 mA

**Max. permitted input voltage, terminals 2 to 6**

30 V DC

Only the connection of power supply units with protection class II is permitted.

## Supply voltage at field device via SWA70



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3 Supply voltage at field device as a factor of the loop current

- 1 4 to 20 mA field device powered by SWA70 non-Ex version
- 2 HART field device powered by SWA70 non-Ex versions
- 3 4 to 20 mA field device or HART field device SWA70 powered by SWA70 Ex versions

## Grounding

- Polyester housing F32: not required
- Aluminum housing F33: screw for protective ground
- AISI 316L housing F39: screw for protective ground

Pay attention to information on lightning protection → 9.

## Cable entry

**Rear cable entry**

The rear cable entry is located on the front.

- Seal cap supplied
- Internal thread M20x1.5 for optional connection adapter

**Lower cable entry**

The lower cable entry is located on the underside.

- Cable gland or dummy plug, internal thread M20x1.5
- For "wide-range power unit" and "DC power unit" version: M12 socket

More information: → 12, Design, dimensions

## Cable specification

- Standard installation cable 0.25 mm<sup>2</sup>
- For version "prepared for installation on device": 0.25 mm<sup>2</sup> cable supplied
- For "wide-range power unit" and "DC power unit" version for connection to M12 socket: 0.75 mm<sup>2</sup>

## Performance characteristics

## Reference operating conditions

As per IEC 61298 part 2

## Measured error

4 to 20 mA circuit: 0.125 % of measuring range

## Influence of ambient temperature

4 to 20 mA circuit: 5 µA/10 K



## Installation

<b>Mounting options</b>	<p>The following mounting options are available for the WirelessHART adapter.</p> <p><b>Prepared for installation on device</b> The WirelessHART adapter is mounted directly on a field device.</p> <p><b>Prepared for installation remotely from device + wall / pipe mounting bracket, M20 cable gland</b> The WirelessHART adapter and the associated field device are mounted separately. The WirelessHART adapter is mounted via a mounting bracket. The mounting bracket is included in the delivery.</p> <p><b>Prepared for installation as router + wall / pipe mounting bracket</b> No field device is connected to the WirelessHART adapter. With this option, the WirelessHART adapter assumes the function of a repeater. The WirelessHART adapter is mounted via a mounting bracket. The mounting bracket is included in the delivery.</p>
<b>Installation instructions</b>	<ul style="list-style-type: none"> <li>▪ Pay attention to the range.</li> <li>▪ Align the antenna of the WirelessHART adapter so that it is completely vertical.</li> <li>▪ Pay attention to the expansion of the Fresnel zone. Observe a distance of at least 6 cm between the antenna and components such as walls, pipes, masts and parallel metal surfaces.</li> <li>▪ Do not place the antenna of the WirelessHART adapter between the field device housing and a wall or mast.</li> <li>▪ Pay attention to the effect of vibrations at the mounting location.</li> </ul> <p>For an optimal wireless network with several WirelessHART adapters, ideally avoid obstacles such as walls between the adapters.</p> <p>Mount the WirelessHART adapter within the visual range of another WirelessHART adapter, a WirelessHART FieldPort (e.g. SWA50) or a WirelessHART gateway (e.g. SWG70).</p>
<b>Lightning protection</b>	<ul style="list-style-type: none"> <li>▪ Do not mount WirelessHART adapter SWA70 at the highest point in the plant.</li> <li>▪ WirelessHART adapter SWA70 with metal housing: connect protective ground to protective ground connection of housing. The protective ground connection is located on the inside and outside of the housing. The minimum cross-section of the protective ground 2.5 mm<sup>2</sup>.</li> </ul>

## Environment

<b>Ambient temperature range</b>	<ul style="list-style-type: none"> <li>▪ -40 to +80 °C (-40 to +176 °F)</li> <li>▪ Ex versions for temperature class T3: -40 to 60 °C (-40 to 146 °F)</li> <li>▪ Ex versions for temperature class T4: -40 to +50 °C (-40 to +122 °F)</li> <li>▪ Version with battery pack: The battery pack capacity decreases significantly at temperatures below -30 °C (-22 °F).</li> </ul>
<b>Storage temperature</b>	<ul style="list-style-type: none"> <li>▪ WirelessHART adapter without battery pack: -40 to 85 °C (-40 to +185 °F)</li> <li>▪ WirelessHART adapter with disconnected battery pack: -40 to +25 °C (-40 to +77 °F)</li> <li>▪ Battery pack BU 191: -40 to +25 °C (-40 to +77 °F)</li> <li>▪ WirelessHART adapter with wide-range power unit: -40 to +85 °C (-40 to +185 °F)</li> <li>▪ WirelessHART adapter with DC power unit: -40 to +85 °C (-40 to +185 °F)</li> </ul>
<b>Climate class</b>	EN 60721-3-4: 4K4H, suitable for stationary use at unprotected outdoor locations
<b>Degree of protection</b>	<ul style="list-style-type: none"> <li>▪ Polyester housing F32: IP65/IP66; NEMA Type 4</li> <li>▪ Aluminum housing F33: IP67, NEMA Type 4X</li> <li>▪ AISI 316L housing F39: IP66/IP67, NEMA Type 4X</li> </ul>
<b>Vibration resistance</b>	EN 60068-2-64: 20 Hz ≤ f ≤ 2000 Hz: 0.01 g <sup>2</sup> /Hz
<b>Shock resistance</b>	EN 60068-2-27: 15 g, 11 ms

**Electromagnetic compatibility (EMC)**

All modules are suitable for industrial use and meet the requirements of EU directive 2014/30/EU "Electromagnetic compatibility".

## Interference emission

- WirelessHART adapter with battery pack: EN 61326-1:2013, Class B
- WirelessHART adapter with wide-range power unit: EN 61326-1:2013, Class A
- WirelessHART adapter with DC power unit: EN 61326-1:2013, Class B

## Interference immunity

- EN 61326-1:2013 Table 2 (industry)
- NAMUR recommendation EMC (NE21)k

## Temperature restrictions

This section applies to WirelessHART adapters with a battery pack.


The temperature restrictions listed are based on the assumption that more than 30 % battery capacity is remaining.

**Ex version, 4 to 20 mA supply mode**

The application range is limited in the event of high measuring currents close to 22 mA.

Terminal voltage of field device	Current	
	4 mA	22 mA
8 V	-40 °C (-40 °F)	-30 °C (-22 °F)
10 V	-40 °C (-40 °F)	-30 °C (-22 °F)
12 V	-40 °C (-40 °F)	-30 °C (-22 °F)
14 V	-40 °C (-40 °F)	-25 °C (-13 °F)
16 V	-40 °C (-40 °F)	-25 °C (-13 °F)
18 V	-40 °C (-40 °F)	-
20 V	-40 °C (-40 °F)	-
22 V	-40 °C (-40 °F)	-

**Ex version with fixed current of 4 mA (Multidrop mode)**

 For the start-up current, see the Operating Instructions, "Field device power (Field device power supply)" section, "Start-up current (Start-up current) parameter."

Terminal voltage of field device	Start-up current (Start-up current)									
	4 mA	6 mA	8 mA	10 mA	12 mA	14 mA	16 mA	18 mA	20 mA	22 mA
8 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)
10 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-30 °C (-22 °F)	-15 °C (+5 °F)	-10 °C (+14 °F)
12 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-35 °C (-31 °F)	-20 °C (-4 °F)	-	-
14 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-35 °C (-31 °F)	-25 °C (-13 °F)	-10 °C (+14 °F)	-	-
16 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-25 °C (-13 °F)	-	-	-	-
18 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-30 °C (-22 °F)	-5 °C (+23 °F)	-	-	-	-	-
20 V	-40 °C (-40 °F)	-35 °C (-31 °F)	-	-	-	-	-	-	-	-
22 V	-	-	-	-	-	-	-	-	-	-

**Non-Ex version, 4 to 20 mA supply mode**

The application range is limited in the event of high measuring currents close to 22 mA.

Terminal voltage of field device	Current	
	4 mA	22 mA
8 V	-40 °C (-40 °F)	-30 °C (-22 °F)
10 V	-40 °C (-40 °F)	-30 °C (-22 °F)
12 V	-40 °C (-40 °F)	-30 °C (-22 °F)
14 V	-40 °C (-40 °F)	-25 °C (-13 °F)
16 V	-40 °C (-40 °F)	-25 °C (-13 °F)
18 V	-40 °C (-40 °F)	-
20 V	-40 °C (-40 °F)	-
22 V	-40 °C (-40 °F)	-

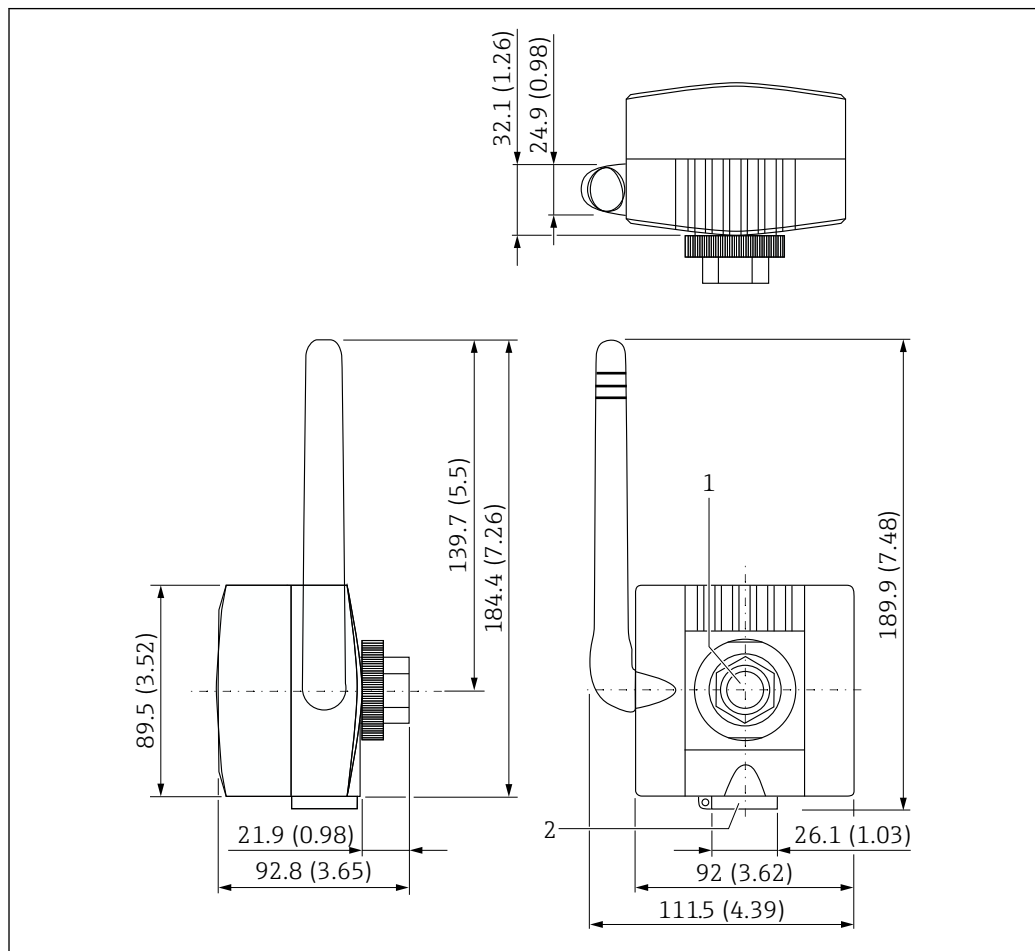
**Non-Ex version with fixed current of 4 mA (Multidrop mode)**

For the start-up current, see the Operating Instructions, "Field device power (Field device power supply)" section, "Start-up current (Start-up current) parameter."

Terminal voltage of field device	Start-up current (Start-up current)									
	4 mA	6 mA	8 mA	10 mA	12 mA	14 mA	16 mA	18 mA	20 mA	22 mA
8 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)
10 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-35 °C (-31 °F)
12 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-35 °C (-31 °F)
14 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-35 °C (-31 °F)	-35 °C (-31 °F)	-35 °C (-31 °F)
16 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-35 °C (-31 °F)	-20 °C (-4 °F)	-
18 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-35 °C (-31 °F)	-	-
20 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-35 °C (-31 °F)	-	-	-	-
22 V	-40 °C (-40 °F)	-40 °C (-40 °F)	-40 °C (-40 °F)	-	-	-	-	-	-	-

## Mechanical construction

### Design, dimensions



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4 Dimensions (in mm (in))

1 Rear cable entry for direct installation on field device, internal thread M20x1.5

2 Lower cable entry for remote mounting of field device or for WirelessHART adapters with wide-range power unit or DC power unit for external power supply, internal thread M20x1.5

### Weight

- Polyester housing F22 with power supply unit: 0.785 kg
- Aluminum housing F33 with power supply unit: 0.9 kg
- AISI 316L housing F39 with power supply unit: 1.9 kg

### Material

#### Housing

- Polyester, aluminum or AISI 316L. See ordering information
- Color of polyester and aluminum: light grey, RAL 7035 with blue logo

#### Cable glands

Depends on housing version: PA, nickel-plated brass or stainless steel

#### Connection adapter

1.4404 (AISI 316L)

#### Seals

EPDM-70

## Human interface

### Operating concept

The WirelessHART adapter is operated as follows:

- Local operation via Endress+Hauser Field Xpert SMT7x tablet PC, even in hazardous areas
- Local configuration with FieldCare or DeviceCare via DTM for SWA70
- Remote configuration with FieldCare via WirelessHART-Fieldgate SWG70 and DTM for SWA70 and SWG70
- Remote configuration with software and a gateway based on the device description (DTM or DD)

### Local operation

- Push-button for selecting various functions
- LEDs for indicating communication status, battery status, supply voltage level and error messages

The push-button and LEDs are located on the main board and are not visible from the outside.

## Certificates and approvals

The latest approvals for the product are available from [www.endress.com](http://www.endress.com):

1. Select the product using the filters and search field.
2. Open the product page.
3. Select **Downloads**.
  - ↳ A list of all approvals and declarations appears.

## Ordering information

Detailed ordering information is available from your nearest sales organization [www.addresses.endress.com](http://www.addresses.endress.com) or in the Product Configurator at [www.endress.com](http://www.endress.com):

1. Select the product using the filters and search field.
2. Open the product page.
3. Select **Configuration**.



### Product Configurator - the tool for individual product configuration

- Up-to-the-minute configuration data
- Depending on the device: Direct input of measuring point-specific information such as measuring range or operating language
- Automatic verification of exclusion criteria
- Automatic creation of the order code and its breakdown in PDF or Excel output format
- Ability to order directly in the Endress+Hauser Online Shop

### Scope of delivery

The scope of supply depends on the power supply version and mounting option ordered.



You select the power supply version via order code 40 "Power supply" and the mounting option via order code 50 "Version". → 13

Power supply version	Mounting option		
	Prepared for installation on device	Prepared for installation remotely from device	Prepared for installation as a router
<b>Battery pack</b>	<ul style="list-style-type: none"> <li>▪ Adapter SWA70</li> <li>▪ Connection adapter</li> <li>▪ 2-wire cable for field device connection</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adapter SWA70</li> <li>▪ Wall / pipe mounting bracket</li> <li>▪ M20 cable gland</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adapter SWA70</li> <li>▪ Wall / pipe mounting bracket</li> </ul>

<b>Wide-range power unit</b>	<ul style="list-style-type: none"> <li>▪ Adapter SWA70</li> <li>▪ M12 socket, ferrite sleeve</li> <li>▪ Connection adapter</li> <li>▪ 2-wire cable for field device connection</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adapter SWA70</li> <li>▪ M12 socket, ferrite sleeve</li> <li>▪ Wall / pipe mounting bracket</li> <li>▪ M20 cable gland</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adapter SWA70</li> <li>▪ M12 socket, ferrite sleeve</li> <li>▪ Wall / pipe mounting bracket</li> </ul>
<b>DC power unit</b>	<ul style="list-style-type: none"> <li>▪ Adapter SWA70</li> <li>▪ M12 socket, ferrite sleeve</li> <li>▪ Connection adapter</li> <li>▪ 2-wire cable for field device connection</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adapter SWA70</li> <li>▪ M12 socket, ferrite sleeve</li> <li>▪ Wall / pipe mounting bracket</li> <li>▪ M20 cable gland</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adapter SWA70</li> <li>▪ M12 socket, ferrite sleeve</li> <li>▪ Wall / pipe mounting bracket</li> </ul>

## Accessories

The accessories currently available for the product can be selected at [www.endress.com](http://www.endress.com):

1. Select the product using the filters and search field.
2. Open the product page.
3. Select **Spare parts & Accessories**.

### Device-specific accessories

#### Mounting bracket

Order number  
71093078

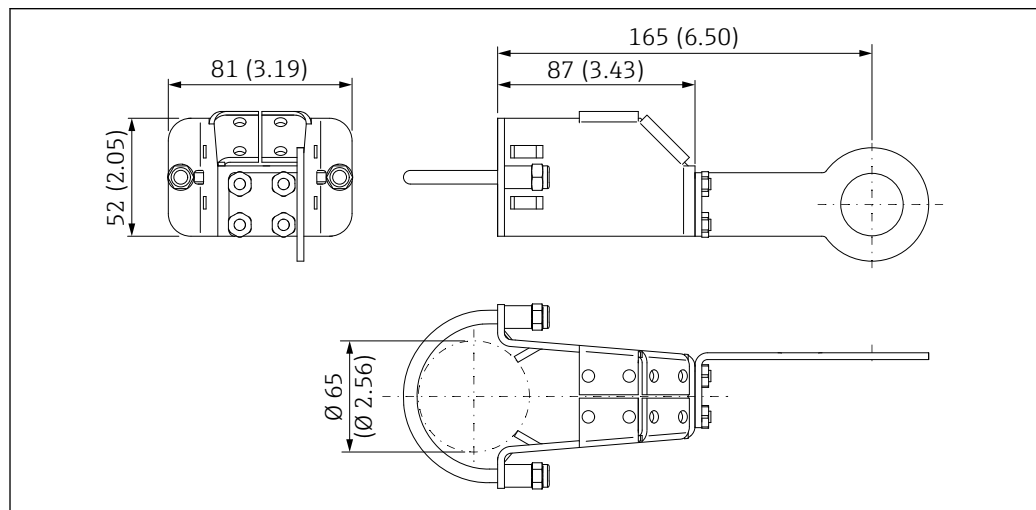
Material  
Stainless steel 1.4404 (AISI 316 L)

#### Mounting options

The mounting bracket can be mounted as follows:

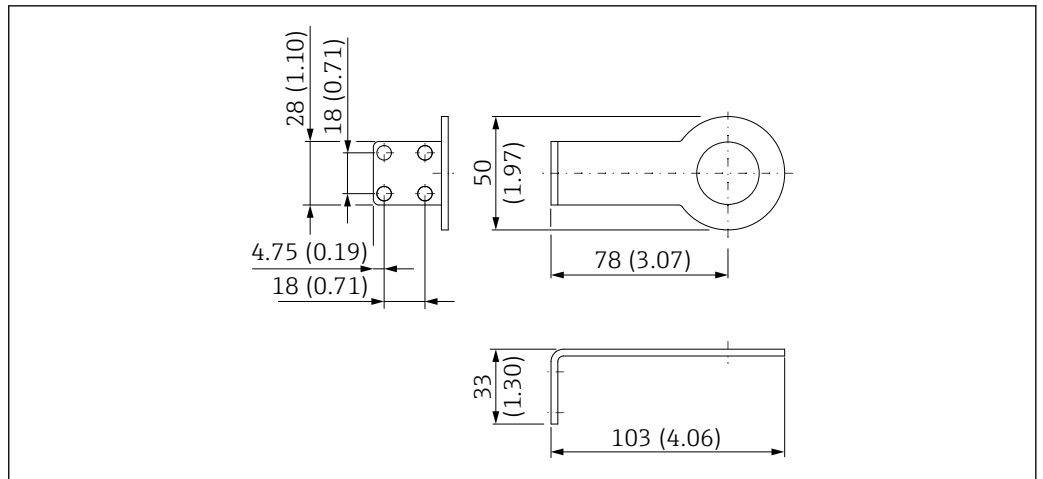
- On pipes with a maximum diameter of 65 mm
- On walls

#### Dimensions



5 Dimensions of mounting bracket – pipe mounting

A0046274



A0046277

6 Dimensions of retaining bracket – wall mounting

### Adapter set (connection adapter)

An adapter set includes a connection adapter and the seal. The connection adapter has a double thread and is used to mount the WirelessHART adapter directly on a field device.

#### M20 – M20

- Order number: 71093797
- Material: 1.4404 (AISI 316L)
- O-ring: 17.0x2.0 EPDM

#### M20 – G1/2

- Order number: 71093798
- Material: 1.4404 (AISI 316L)
- O-ring: 17.0x2.0 EPDM

#### M20 – NPT1/2

- Order number: 71093799
- Material: 1.4404 (AISI 316L)
- O-ring: 17.0x2.0 EPDM

#### M20 – NPT3/4

- Order number: 71093800
- Material: 1.4404 (AISI 316L)
- O-ring: 17.0x2.0 EPDM

#### M20 cable gland

- Order number: 71093795
- O-ring: 17.0x2.0 EPDM

#### Battery insert

- Order number: 71092238
- Approvals: ATEX, FM, CSA, IEC

## Documentation

Standard documentation for  
SWA70


**Operating Instructions**  
BA00061S

**Brief Operating Instructions**  
KA00063S

**Competence Brochure**  
CP00013S

WirelessHART solutions for practice-oriented solutions

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**Supplementary device-dependent documentation for SWA70** All explosion-protection data are provided in separate Ex documentation. The relevant Ex documentation is delivered with the Ex devices as standard.  
You can also find the Ex documentation via the Product Configurator →  13.

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**Standard documentation for SGC500**

**Technical Information**  
TI01525S

**Operating Instructions**  
BA02035S

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**Standard documentation for SMT70**

**Technical Information**  
TI01342S

**Operating Instructions**  
BA01709S

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**Standard documentation SWA50**

**Operating Instructions**  
BA00061S

**Brief Operating Instructions**  
KA00063S

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**Standard documentation for SWG70**

**Technical Information**  
TI00027S

**Operating Instructions**  
BA00064S

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## Registered trademarks

### HART®

Registered trademark of the FieldComm Group, Austin, Texas USA

### WirelessHART®

Registered trademark of the FieldComm Group, Austin, Texas USA



71560554

[www.addresses.endress.com](http://www.addresses.endress.com)

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