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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 SWG50 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

Endress+Hauser
People for Process Automation

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
	**Permitted** Procedures, processes or actions that are permitted.
	**Preferred** Procedures, processes or actions that are preferred.
	**Forbidden** Procedures, processes or actions that are forbidden.
	**Tip** 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 an intelligent 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 up to four 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

Function

The WirelessHART adapter SWA70 can be retrofitted to any 2-wire or 4-wire HART field device as well as to 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 SWG50 or a compatible WirelessHART gateway, for example.

For more information, contact your Endress+Hauser sales organization: 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 supply 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 either the WirelessHART adapter, 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.

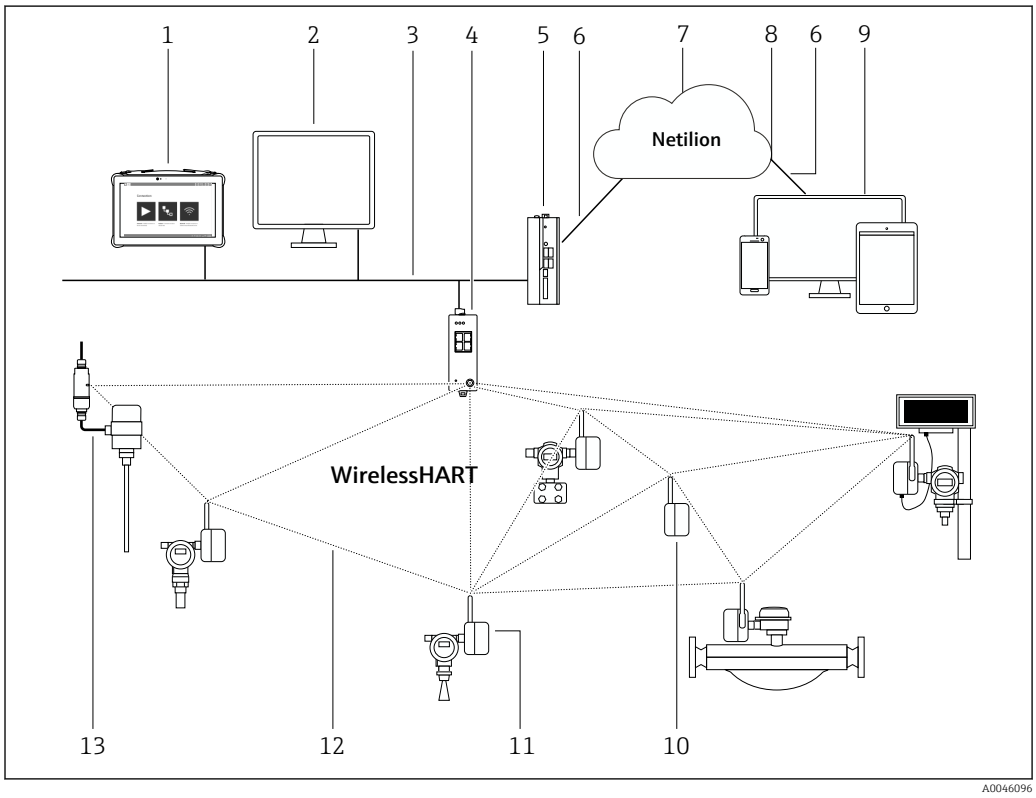
Operation options WirelessHART adapter

The WirelessHART adapter is operated as follows:
- Local operation via Endress+Hauser tablet PC Field Xpert SMTxx, even in hazardous areas
- Local configuration with FieldCare SFE500 or DeviceCare via DTM for SWA70
- Remote configuration with FieldCare SFE500 via WirelessHART-FieldGate SWG50 and DTM for SWA70 and SWG50

The field devices connected to theWirelessHART adapter can be connected to the Netilion Cloudvia the Endress+Hauser FieldEdge SGC500 and the Endress+Hauser WirelessHART-FieldGate SWG50.

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

System design



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 SWG50*
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 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 to a 4 to 20 mA field device or
- when using a wide-range power supply, 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)

Communication interface	▪ WirelessHART communication interface (IEC 62591) ▪ HART 7, backwards compatible with previous HART versions
Transmission frequency band	2.4 GHz (ISM band)
Range	The range depends on the alignment of WirelessHART adapter SWA70, the mounting location and the environmental conditions. Up to 250 m without obstacles when WirelessHART adapter SWA70 is optimally aligned
Transmission power	0 dBm or 10 dBm, can be configured to adapt to national regulations
Antenna	Omni-directional dipole antenna
Device variables	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. For example: ▪ HART field device: device variables ▪ 4 to 20 mA field device: scaled or linearized process values ▪ WirelessHART adapter: scaled loop current and other variables, chosen from: estimated battery life, battery voltage, energy used, adapter temperature.
Additional functions	▪ Event notification, can be configured for up to eight variables of the WirelessHART adapters and / or connected field devices ▪ Error notification and scaling or linearization of 4 to 20 mA signal of connected 4 to 20 mA field device ▪ Monitoring of energy consumption ▪ Locking of device parameter configuration
Diagnostics	▪ Diagnostic function in accordance with NAMUR NE 107, ASM and HART recommendations ▪ Local diagnosis via LEDs The LEDs are located on the main board and are not visible from the outside. LEDs for all power supply versions ▪ Yellow LED: status of communication between WirelessHART adapter and WirelessHART network ▪ Green LED: battery status ▪ Red LED: communication active and error message Additional LEDs with wide-range power unit and DC power unit 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.

Power supply

Supply voltage

The following power supply versions are available for the WirelessHART adapter.

Battery pack BU191
Special high-performance lithium-thionyl chloride battery pack, long battery life

Wide-range power unit
24 to 230 V AC/DC ± 10 %, 50/60 Hz

DC power unit
8 to 50 V DC, solar-powered for example

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.

Battery data

Nominal capacity of battery
19 Ah at 20 °C

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
< 2.2 W

Current consumption

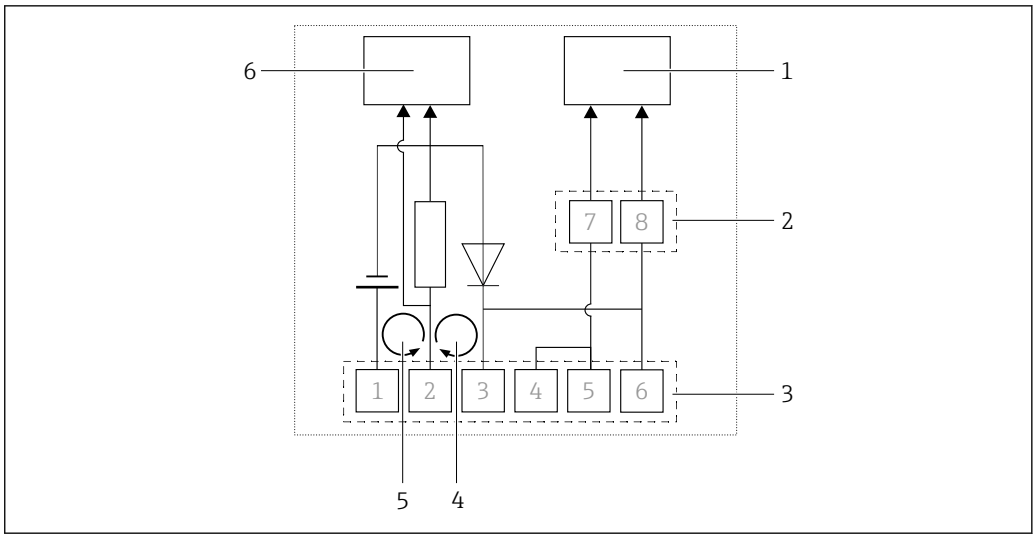
Wide-range power unit
< 350 mA

DC power unit
< 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.



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 (–)	▪ Current measurement and, if necessary, HART communication ▪ Loop current flows through the WirelessHART adapter	▪ 4 to 20 mA (as per NAMUR NE43) ▪ Supply voltage for 8 to 23 V field device, configurable, see the following diagram ▪ Integrated load: 270 Ohm
Integration of WirelessHART adapter into a current loop	2 (+) and 3 (–)	▪ Current measurement and, if necessary, HART communication ▪ Loop current flows through the WirelessHART adapter	▪ 4 to 20 mA (as per NAMUR NE43) ▪ Integrated load: 270 Ohm
Integration of WirelessHART adapter into a current loop	5 and 6	▪ Integration of HART communication ▪ Loop current does not flow through the WirelessHART adapter	▪ Input impedance for HART communication: > 10 kOhm at 1700 Hz ▪ DC input impedance: infinite
Configuration of WirelessHART adapter via HART modem	7 and 8	Temporary connection of HART modem via lugs	▪ Input impedance for HART communication: > 10 kOhm at 1700 Hz ▪ DC input impedance: infinite

Field device power supply

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

Failure current
I ≤ 3.6 mA or I ≥ 21 mA

Protection
Short-circuit protection, triggered if currents > 25 mA

Supply voltage
8 to 23 V DC, configurable in the DTM using the "Operating Voltage" parameter

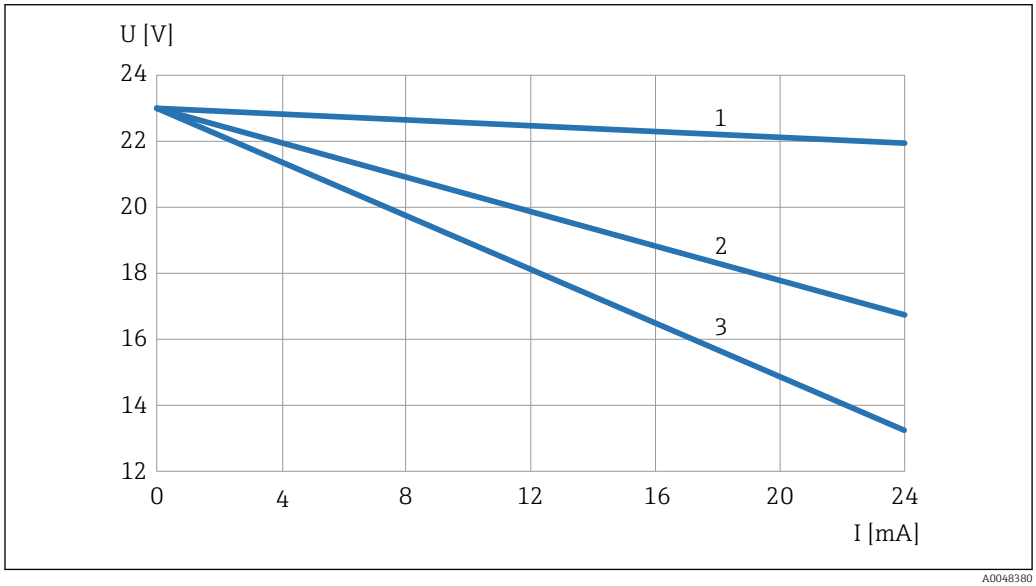
Connection of externally powered field devices to terminals 2 to 6

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



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

1 4 to 20 mA- field device supplied 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 powered by SWA70 Ex-versions

For the SWA70 variant with a battery pack, the values are lower due to the internal resistance of the battery pack.

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: → 13, Design, dimensions

Cable specification

- Standard installation cable 0.25 mm²
- For version "prepared for installation on device": 0.25 mm² cable supplied
- For "wide-range power unit" and "DC power unit" version for connection to M12 socket: 0.75 mm²

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

Mounting

Mounting options

The following mounting options are available for the WirelessHART adapter.

Prepared for installation on device
The WirelessHART adapter is mounted directly on a field device.

Prepared for installation remotely from device + wall / pipe mounting bracket, M20 cable gland
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.

Prepared for installation as router + wall / pipe mounting bracket
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.

Mounting instructions

- Pay attention to the range.
- Align the antenna of the WirelessHART adapter so it is completely vertical.
- Observe a distance of at least 6 cm from walls and pipes. Pay attention to the expansion of the Fresnel zone.
- Do not place the antenna of the WirelessHART adapter between the field device housing and a wall or post.
- Pay attention to the effect of vibrations at the mounting location.

For an optimal wireless network with several WirelessHART adapters, you should ideally avoid obstacles such as walls between the adapters.

For better connectivity, mount the WirelessHART adapter within line of sight of a WirelessHART network device.

Lightning arrester

- Do not mount WirelessHART adapter SWA70 at the highest point in the plant.
- WirelessHART adapter SWA70 with metal housing: connect protective ground to one of the protective ground connections of the housing. The WirelessHART adapter is equipped with one protective conductor terminal on the inside of the housing and one on the outside of the housing. The minimum cross-section of the protective ground 2.5 mm^2.

Environment

Ambient temperature range	▪ −40 to +80 °C (−40 to +176 °F) ▪ Ex versions for temperature class T3: −40 to 60 °C (−40 to 146 °F) ▪ Ex versions for temperature class T4: −40 to +50 °C (−40 to +122 °F) ▪ Version with battery pack: The battery pack capacity decreases significantly at temperatures below −30 °C (−22 °F).
Storage temperature	▪ WirelessHART adapter without battery pack: −40 to 85 °C (−40 to +185 °F) ▪ WirelessHART adapter with disconnected battery pack: −40 to +25 °C (−40 to +77 °F) ▪ Battery pack BU 191: −40 to +25 °C (−40 to +77 °F) ▪ WirelessHART adapter with wide-range power unit: −40 to +85 °C (−40 to +185 °F) ▪ WirelessHART adapter with DC power unit: −40 to +85 °C (−40 to +185 °F)
Climate class	EN 60721-3-4: 4K4H, suitable for stationary use at unprotected outdoor locations
Degree of protection	▪ Polyester housing F32: IP65/IP66; NEMA Type 4 ▪ Aluminum housing F33: IP67, NEMA Type 4X ▪ AISI 316L housing F39: IP66/IP67, NEMA Type 4X
Vibration resistance	EN 60068-2-64: 20 Hz ≤ f ≤ 2000 Hz: 0.01 g^2/Hz
Shock resistance	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.

Operating voltage of the 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 information on the start-up current, see Operating Instructions, Section "Field Device Power (Field device power supply)", parameter "Start-Up Current (Power consumption during commissioning)".

Operating voltage of the 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.

Operating voltage of the 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)

Operating voltage of the field device	Current	
	4 mA	22 mA
18 V	–40 °C (–40 °F)	–
20 V	–40 °C (–40 °F)	–
22 V	–40 °C (–40 °F)	–

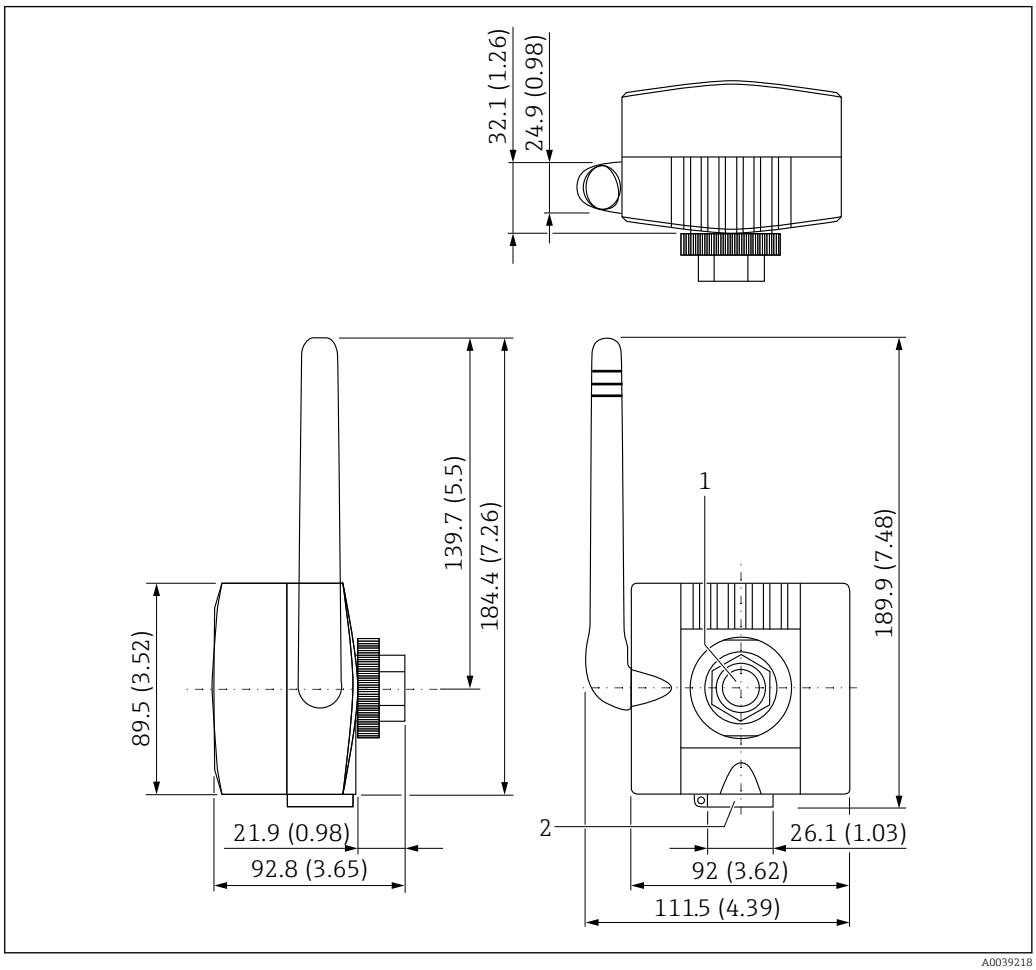
Non-Ex version with fixed current of 4 mA (Multidrop mode)

For information on the start-up current, see Operating Instructions, Section "Field Device Power (Field device power supply)", parameter "Start-Up Current (Power consumption during commissioning)".

Operating voltage of the 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



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

Operability

Operation 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 SFE500 or DeviceCare via DTM for SWA70
- Remote configuration with FieldCare SFE500 via WirelessHART-FieldGate SWG50 and DTM for SWA70 and SWG50
- Remote configuration with software and a gateway based on the device description (DTM or EDD)

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 SWG50.

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

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:

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 or in the Product Configurator at 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 delivery 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". → 15

	Mounting option		
Power supply version	**Prepared for installation on device**	**Prepared for installation remotely from device**	**Prepared for installation as a router**
Battery pack	▪ Adapter SWA70 ▪ Connection adapter ▪ 2-wire cable for field device connection	▪ Adapter SWA70 ▪ Wall / pipe mounting bracket ▪ M20 cable gland	▪ Adapter SWA70 ▪ Wall / pipe mounting bracket
Wide-range power unit	▪ Adapter SWA70 ▪ M12 socket, Ferrite sleeve ▪ Connection adapter ▪ 2-wire cable for field device connection	▪ Adapter SWA70 ▪ M12 socket, Ferrite sleeve ▪ Wall / pipe mounting bracket ▪ M20 cable gland	▪ Adapter SWA70 ▪ M12 socket, Ferrite sleeve ▪ Wall / pipe mounting bracket
DC power unit	▪ Adapter SWA70 ▪ M12 socket, Ferrite sleeve ▪ Connection adapter ▪ 2-wire cable for field device connection	▪ Adapter SWA70 ▪ M12 socket, Ferrite sleeve ▪ Wall / pipe mounting bracket ▪ M20 cable gland	▪ Adapter SWA70 ▪ M12 socket, Ferrite sleeve ▪ Wall / pipe mounting bracket

Accessories

The accessories currently available for the product can be selected at 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

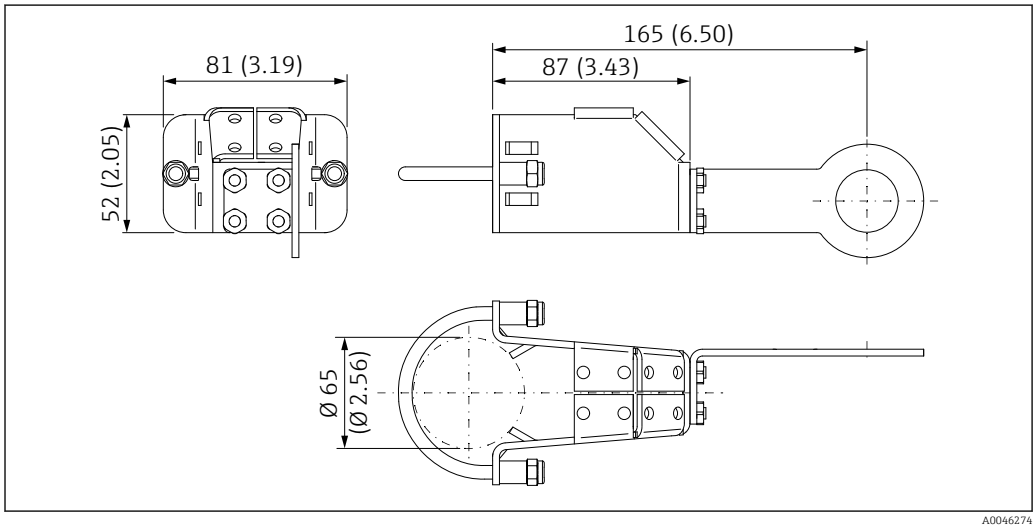
Mounting bracket

Order number
71093078

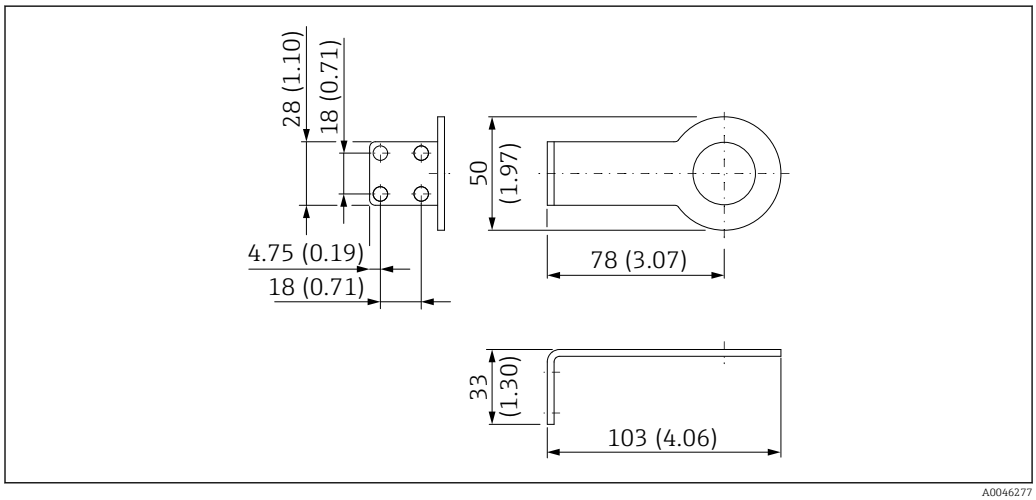
Material
Stainless steel 1.4404 (AISI 316 L)

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



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
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 → 14.
Standard documentation for SGC500	**Technical Information** TI01525S **Operating Instructions** BA02035S
Standard documentation for SMT50	**Technical Information** TI01555S **Operating Instructions** BA02053S
Standard documentation for SMT70	**Technical Information** TI01342S **Operating Instructions** BA01709S
Standard documentation for SMT77	**Technical Information** TI01418S **Operating Instructions** BA01923S
Standard documentation SWA50	**Operating Instructions** ▪ Bluetooth: BA01987S ▪ WirelessHART: BA02046S **Brief Operating Instructions** ▪ Bluetooth: KA01707S ▪ WirelessHART: KA01436S
Standard documentation for SWG50	**Technical Information** TI01677S **Operating Instructions** BA02235S

Radio approvals

Europe

This device meets the requirements of the Radio Equipment Directive (RED) 2014/53/EU.

Canada and USA

FCC ID: 2AIKP-SWA70A

IC: 21533-SWA70A

This device has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the device is operated in a commercial environment. This device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this device in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications made to this device that are not expressly approved by Endress+Hauser may void the FCC authorization to operate this device. This device must be installed to ensure a minimum antenna separation distance of 20 cm from all persons.

This device complies with Part 15 of the FCC Rules and with Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions:
- this device may not cause harmful interference, and
- this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes :
- l'appareil ne doit pas produire de brouillage, et
- l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Brazil

“Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário”.

Para maiores informações, consulte o site da ANATEL www.anatel.gov.br

7 Model SWA70

Indonesia

Cert. ID: **72110/SDPP1/2020**
PLG ID: **4962**

Japan

This device is granted pursuant to the Japanese Radio Law (電波法)

This device should not be modified (otherwise the granted designation number will become invalid)

R 202-LSF016

Mexico

La operación de este equipo está sujeta a las siguientes dos condiciones:
- (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y
- (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

IFETEL: RCPENSW17-0342

NOM: 1702CE03608 (wide range power supply)

Republic of Korea

A0039065

- Registration Nr:R-R-EH7-SWA70
- Applicant: Endress+Hauser SE+Co. KG
- Equipment name: WirelessHART-Adapter
- Model name: SWA70

Republic of Singapore

Complies with
IDMA Standards
DA108204

A0042672

State of Qatar

ictQATAR

Type approval reg no.: CRA/SM/2024/S-0016283

UAE

TRA REGISTERED No.: ER67777/18

Other radio approvals

All available radio approvals can be found on the product page of the WirelessHART adapter SWA70 or in the Endress+Hauser downloads area.

Certificates and approvals: → 14

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