Supplementary Components

You can download all instructions, catalogs and certificates for Supplementary Components free of charge at www.siemens.com/processinstrumentation

Overview

	Application	Description	Catalog page	Programming Software
Isolating power supplies and Output isolators				
	Isolating power supply for supplying 2- and 3-wire transmitters and for connecting mA sources in the hazardous area	**SITRANS I100** Isolating power supply with HART for rail mounting, with intrinsically-safe input.	7/4	
	Output isolator for controlling valve positioners, i/p converters or indicators in the hazardous area	**SITRANS I200** Output isolator with HART for rail mounting, with intrinsically-safe output	7/7	
Displays				
	2-wire loop powered, NEMA 4X enclosed remote digital display for process instrumentation and for hazardous locations	**SITRANS RD100** • Versatile loop-powered meter that displays process variables in level, flow, pressure, temperature and weighing applications • FM and CSA approved device that can be installed in range of environments, including hazardous areas • Large, easy-to-read display • Easy to install and set up using quick two-step process	7/10	-
	Universal input, panel mount remote digital display for process instrumentation. Supports RTD, TC, current and voltage inputs, and supporting software allows for remote configuration and data logging	**SITRANS RD200** • Universal remote display that accepts various inputs, making it an ideal fit for use with most field instruments • Standard panel mount display with optional enclosures • Two optional relays for alarm indication or process control applications • Meter Copy feature to reduce setup time, cost and errors • RD Software supporting remote configuration, monitoring and logging for up to 100 displays	7/12	-
Remote data manager				
	Remote data manager providing integrated web access, alarm event handling, and data capture for instrumentation	**SITRANS RD500** • Supports up to 128 devices with the flexible I/O modules and up to 247 Modbus serial devices, including field instruments • Out- of-the-box operation, no software required, works with standart web browser • Support Ethernet, GSM, GPRS and PSTN communication • Data and alarming through FTP, Email, SMS; HTML and OPC • Up to 2 GB of data logging memory	7/16	-

	Application	Description	Catalog page	Programming Software
WirelessHART products				
	WirelessHART adapter to enable standard 4 ... 20 mA or HART devices to wireless communication	**SITRANS AW200 - WirelessHART adapter** • Makes isolated information in HART field instruments airborne • Permits predictive instead of preventive maintenance strategies • Enables 4 ... 20 mA or HART devices to wireless communication • Up to 4 HART devices can be connected • Power up one connected field instrument	7/22	SIMATIC PDM • Local with HART modem • Wireless via WirelessHART
	Explosion protected WirelessHART adapter to enable standard 4 ... 20 mA or HART devices to wireless communication	**SITRANS AW210 - WirelessHART adapter** • Wireless transfer of the process variable of a 4 to 20 mA device via direct connection • Wireless communication with up to 8 HART field devices in multidrop mode • Suitable for use in explosion-protected areas • Loop-powered or external power supply • Supports burst mode and event notification for adapters and connected devices	7/28	SIMATIC PDM • Local with HART modem • Wireless via WirelessHART
	Gateway for the connection of WirelessHART field devices (HART V7.1) to Industrial Ethernet.	**IE/WSN-PA LINK** • Connection of up to 100 WirelessHART devices • Approved for operation in hazardous areas in Zone 2 • Open TCP/IP communication and Modbus TCP via the Ethernet interface • Can be used with HART-OPC servers of the HART Communication Foundation	7/32	

SITRANS I100

Overview

Analog input 0/4 to 20 mA

The isolating power supplies are used for the intrinsically safe operation of 2- and 3-wire transmitters and for connecting to intrinsically safe mA sources.

The 2- and 3-wire transmitters are supplied with auxiliary power from the transmitter supply unit.

For 2-wire transmitters the isolators transfer the HART communication signal bidirectionally.

Benefits

- Active output 0/4 to 20 mA
- Suitable for 2-, 3-wire transmitters, 2-wire HART transmitters and mA sources
- Intrinsically safe input [Ex ia] IIC
- Galvanic isolation between input, output and auxiliary power
- Open-circuit and short-circuit monitoring and messaging for input and output (can be switched off)
- Installation possible in Zone 2 and Div. 2
- Can be used up to SIL 2 (IEC 61508)

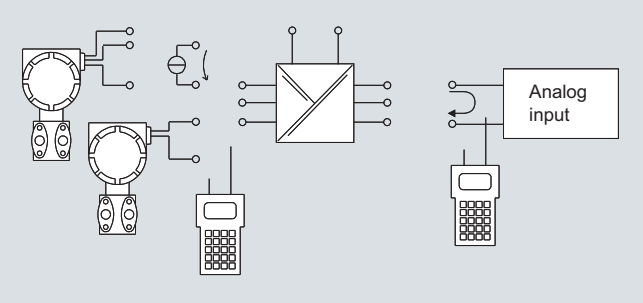
	Zones					
	0	1	2	20	21	22
Ex i interfaces	X	X	X	X	X	X
Installation in			X			X

Design

The HART isolating power supply is comprised of a compact plastic enclosure (IP30) and is equipped with push-in screw terminals.

On the front are a green LED for indicating the power supply status and a red LED for signaling errors.

The auxiliary power supply can be connected individually using push-in screw terminals or jointly for up to 40 units using pac-Bus.



SITRANS I100 isolating power supply, function block diagram

Technical specifications

SITRANS I100 Isolating Power Supplies with HART	
Ex i input	
Input signal	0/4 ... 20 mA with HART
Functional range	0 ... 24 mA
Max. input current for mA sources	50 mA
Transmitter supply voltage	≥ 16 V at 20 mA (for 2-, 3-wire)
Supply voltage residual ripple	≤ 25 mV_{eff}
No-load voltage	≤ 26 V
Short-circuit current	≤ 35 mA
Input resistance (AC impedance HART)	≈ 500 Ω
Input resistance for mA sources	30 Ω
Communication signal (on 2-wire transmitters)	Bidirectional HART transmission, 0.5 ... 30 kHz
Output	
Output signal	0/4 ... 20 mA with HART
Load resistance R_L	0 ... 600 W (terminal 1+/2-) 0 ... 379 W (terminal 3+/2-) (with internal 221 W resistance for HART)
Residual ripple	≤ 40 μA_{eff}
No-load voltage	≤ 15,5 V
Communication signal	Bidirectional HART transmission, 0.5 kHz ... 30 kHz
Response time (10 % ... 90 %)	≤ 25 ms
Transfer behavior Input/Output	1:1 (0 ... 20 mA --> 0 ... 20 mA, 4 ... 20 mA --> 4 ... 20 mA)
Measuring accuracy Accuracy, typical data expressed as % of calibrated span at U_N, 23 °C	
Linearity error	≤ 0,1 %
Offset error	≤ 0,1 %
Temperature influence	≤ 0,1 %/10 K
Power supply effect within voltage range	≤ 0,01 %
Load resistance effect	≤ 0,02 %

Rated conditions	
Degree of protection of enclosure	IP30
Degree of protection of terminals	IP20
Ambient conditions	
• Ambient temperature	-20 ... +60 °C/+70 °C (-4 ... +140 °F/+158 °F) (see "Operating instructions")
• Storage temperature	-40 ... +80 °C (-40 ... +176 °F)
• Relative humidity (no condensation)	≤ 95 %
Electromagnetic compatibility	Tested under the following standards and regulations: EN 61326-1 Use in the industrial environment
Mechanical specifications	
Screw terminals	
• One-wire connextion	
- Rigid	0,2 ... 2,5 mm^2 (0.00031 ... 0.0039 in^2)
- Flexible	0,2 ... 2,5 mm^2 (0.00031 ... 0.0039 in^2)
- Flexible with end ferrules (without/with plastic ferrule)	0,25 ... 2,5 mm^2 (0.00039 ... 0.0039 in^2)
• Two-wire connection	
- Rigid	0,2 ... 1 mm^2 (0.00031 ... 0.00155 in^2)
- Flexible	0,2 ... 1,5 mm^2 (0.00031 ... 0.0023 in^2)
- Flexible with end ferrules	0,25 ... 1 mm^2 (0.00039 ... 0.00155 in^2)
Weight	approx. 160 g (0.35 lb)
Type of installation	On DIN rail according to EN 50022 (NS35/15; NS35/7.5)
Mounting position	Vertical or horizontal
Enclosure material	PA 6.6
Fire protecting class (UL-94)	V0
Auxiliary power	
Rated voltage U_N	24 V DC
Voltage range	18 ... 31,2 V
Residual ripple within voltage range	≤ 3,6 V_{SS}
Rated current (U_N, 20 mA)	70 mA
Power consumption (U_N, 20 mA)	1,7 W
Power loss (at U_N, R_L = 250 Ω)	1,3 W
Operation indicator	Green "PWR" LED
Reverse polarity protection	Yes
Undervoltage monitoring	Yes (no faulty module/output states)
Galvanic isolation	
• Test voltage according to EN 60079-11	
- Ex i input to output	1,5 kV AC
- Ex i input to auxiliary power	1,5 kV AC
- Ex i input to Error contact	1,5 kV AC
• Test voltage according to EN 50178	
- Output to auxiliary power	350 V AC
- Error contact to auxiliary power and output	350 V AC

Error detection Ex i input	
• Open circuit	< 2 mA
• Short-circuit	> 22 mA
• Output behavior	= Input signal
• Output current at I_{in} = 0	I_{out} = 0 mA
Error detection output	
• Open circuit	< 2 mA
Error messaging Ex i input/output	
• Settings (LF switch)	Activated/deactivated
• Error indication	LED red "LF"
Error messaging and power supply failure	• Contact (30 V/100 mA), closed to ground in case of error • pac-Bus, floating contact (30 V/100 mA)
Certificates and approvals	
Explosion protection ATEX	
• EC type-examination certificate	DMT 03 ATEX E 010 X
• Degree of protection	II 3 (1) G Ex nA nC [ia] IIC T4 II (1) D [Ex iaD]
Installation	In Zone 2, Div. 2 and in the safe area
Other approvals	USA (FM) Kanada (CSA) Shipping (DNV)
Safety specifications (CENELEC)	
• Max. voltage U_o	27 V
• Max. current I_o	88 mA
• Max. power P_o	576 mW
• Max. connectable capacitance C_o for IIC/IIB	90 nF/705 nF
• Max. connectable inductance L_o for IIC/IIB	2,3 mH/14 mH
• Internal capacitance C_i and inductance L_i	Negligible
• Insulation voltage U_m	253 V
• When connecting mA sources:	
- Max. output voltage U_o	4,1 V
- Max. connectable voltage U_i	30 V
- Max. connectable current I_i	100 mA
- Internal capacitance Ci and inductance L_i	Negligible
• For more information and value combinations	See "Certification"

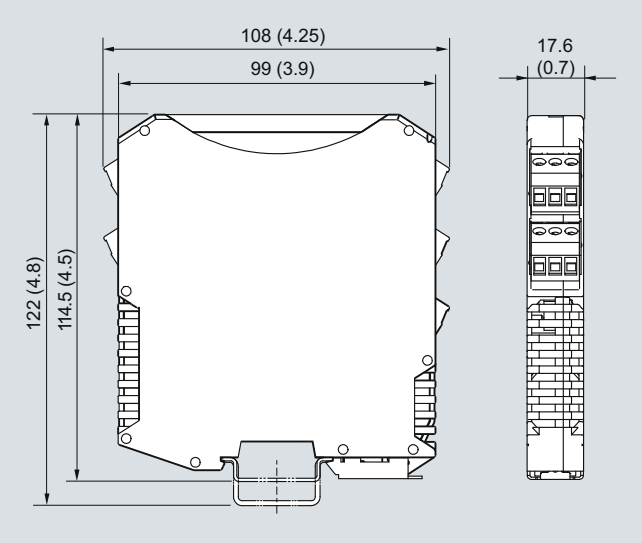
SITRANS I100

Selection and Ordering data

		Order No.
SITRANS I100 Isolating Power Supply with HART For rail mounting, for supplying 2-/3-wire transmitters and for mA sources, output 0/4 ... 20 mA, with intrinsically safe input	►	**7NG4124-0AA00**
Accessories		
pac-Bus basic set With 5 single elements and 1 terminal set (beginning and end)	►	**7NG4998-1AA**
pac-Bus extension set With 5 single elements	►	**7NG4998-1AB**

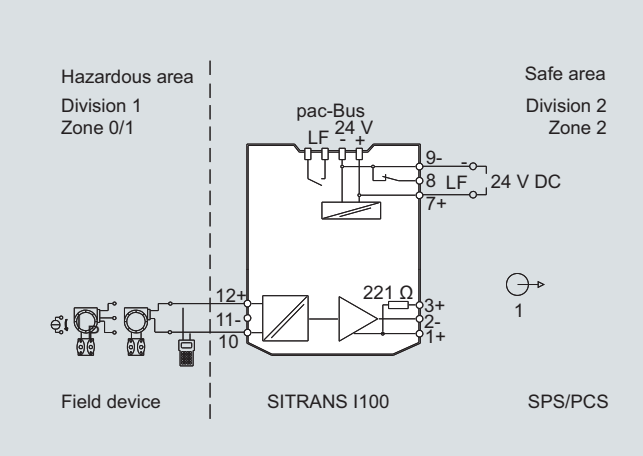
► Available ex stock.

Dimensional drawings

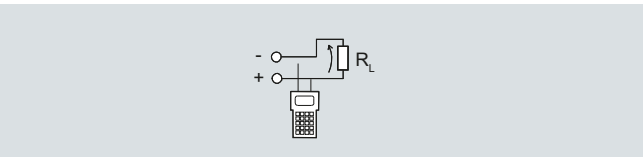


SITRANS I100 isolating power supply with HART, dimensions in mm (inch)

Schematics



SITRANS I100 isolating power supply with HART, connection diagram



SITRANS I100 isolating power supply with HART, output configuration

7

Overview

Analog output 0/4 to 20 mA for HART

The output isolators are used for the intrinsically safe operation of valve positioners, i/p converters or indicators.

Operation of intrinsically safe HART valve positioners (e.g. SIPART PS2 and SITRANS VP300) is also possible. The units transfer a superimposed HART communication signal bidirectionally.

Benefits

- For HART output signals 0/4 to 20 mA
- Intrinsically safe output [Ex ia] IIC
- Galvanic isolation between input, output and auxiliary power
- Open-circuit and short-circuit monitoring and messaging (can be switched off)
- Installation possible in Zone 2 and Div. 2
- Can be used up to SIL 2 (IEC 61508)

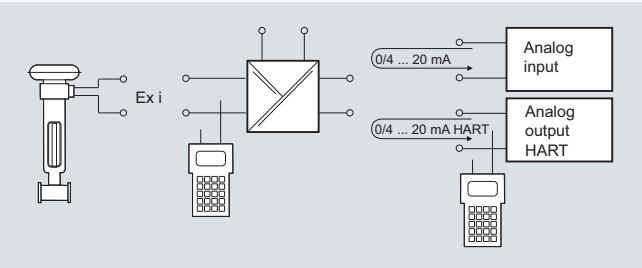
	Zones					
	0	1	2	20	21	22
Ex i interface	X	X	X	X	X	X
Installation in			X			X

Design

The HART output isolator is comprised of a compact plastic housing (IP30) and is equipped with push-in screw terminals.

On the front are a green LED for indicating the power supply status and a red LED for signaling errors.

The auxiliary power supply can be connected individually using push-in screw terminals or jointly for up to 40 units using pac-Bus.



SITRANS I200 output isolator, function block diagram

Technical specifications

SITRANS I200 output isolator with HART	
Input	
Input signal	0/4 ... 20 mA with HART
Functional range	0 ... 24 mA
Max. input current	50 mA
Input resistance (changeable switch LI)	225 Ω/550 Ω
Communication signal	Bidirectional HART transmission, 0.5 ... 30 kHz
Ex i output	
Output signal	0/4 ... 20 mA with HART
Connectable load resistance	0 ... 800 Ω
Min. load resistance for short-circuit monitoring	150 Ω
Residual ripple	≤ 50 mV
No-load voltage	≤ 25,6 V
Response time (10 % ... 90 %)	≤ 25 ms
Transfer behavior Input/Output	1:1 (0 ... 20 mA --> 0 ... 20 mA, 4 ... 20 mA --> 4 ... 20 mA)
Measuring accuracy Accuracy, typical data expressed as % of calibrated span at U_N, 23 °C	
Linearity error	≤ 0,1 %
Offset error	≤ 0,1 %
Temperature influence	≤ 0,1 %/10 K
Power supply effect within voltage range	≤ 0,01 %
Load resistance effect	≤ 0,02 %
Rated conditions	
Degree of protection of enclosure	IP30
Degree of protection of terminals	IP20
Ambient conditions	
• Ambient temperature	-20 ... +70 °C (-4 ... +158 °F) (see "Operating instructions")
• Storage temperature	-40 ... +80 °C (-40 ... +176 °F)
• Relative humidity (no condensation)	≤ 95 %
Electromagnetic compatibility	Tested under the following standards and regulations: EN 61326-1 Use in the industrial environment

SITRANS I200

Mechanical specification	
Screw terminals	
• One-wire connection	
- Rigid	0,2 ... 2,5 mm^2 (0.00031 ... 0.0039 in^2)
- Flexible	0,2 ... 2,5 mm^2 (0.00031 ... 0.0039 in^2)
- Flexible with end ferrules (without/with plastic ferrule)	0,25 ... 2,5 mm^2 (0.00039 ... 0.0039 in^2)
• Two-wire connection	
- Rigid	0,2 ... 1 mm^2 (0.00031 ... 0.00155 in^2)
- Flexible	0,2 ... 1,5 mm^2 (0.00031 ... 0.0023 in^2)
- Flexible with end ferrules	0,25 ... 1 mm^2 (0.00039 ... 0.00155 in^2)
Weight	Approx. 160 g (0.35 lb)
Type of installation	On DIN rail according to EN 50022 (NS35/15; NS35/7.5)
Mounting position	Vertical or horizontal
Enclosure material	PA 6.6
Fire protecting class (UL-94)	V0
Auxiliary power	
Rated voltage U_N	24 V DC
Voltage range	18 ... 31,2 V
Residual ripple within voltage range	≤ 3,6 V_{SS}
Rated current (U_N, 20 mA)	80 mA
Power consumption (U_N, 20 mA)	1,3 W
Power loss (at U_N, R_L = 500 Ω)	1,1 W
Operation indicator	Green "PWR" LED
Reverse polarity protection	Yes
Undervoltage monitoring	Yes (no faulty module/output states)
Galvanic isolation	
• Test voltage according to EN 60079-11	
- Ex i output to input	1,5 kV AC
- Ex i output to auxiliary power	1,5 kV AC
- Error contact to Ex i output	1,5 kV AC
• Test voltage according to EN 50178	
- Input to auxiliary power	350 V AC
- Error contact to auxiliary power and input	350 V AC
Error detection Ex i output	
• Open circuit	> 10 kΩ
• Short-circuit	< 15 Ω
• Input behavior	> 6 kΩ
• Open-circuit detection only for input current	≥ 3,6 mA
• Settings (LF switch)	Activated/deactivated
• Error indication	LED red "LF"
• Error messaging and power supply failure	• Contact (30 V/100 mA), closed to ground in case of error • pac-Bus, floating contact (30 V/100 mA)

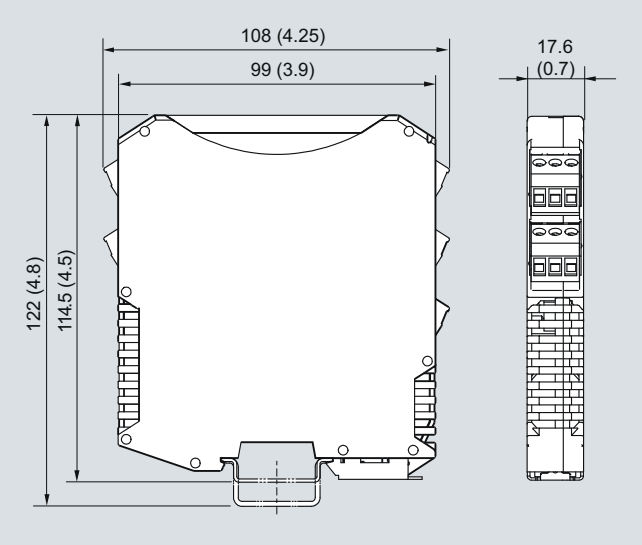
Certificates and approvals	
Explosion protection ATEX	
• EC type-examination certificate	DMT 03 ATEX E 012 X
• Degree of protection	II 3 (1) G Ex nA nC [ia] IIC T4 II (1) D [Ex iaD]
Installation	In Zone 2, Div. 2 and in the safe area
Other approvals	USA (FM) Canada (CSA) Shipping (DNV)
Safety specifications (CENELEC)	
• Max. voltage U_o	25,6 V
• Max. current I_o	96 mA
• Max. power P_o	605 mW
• Max. connectable capacitance C_o for IIC/IIB	103 nF/800 nF
• Max. connectable inductance L_o for IIC/IIB	1,9 mH/11 mH
• Internal capacitance C_i and inductance L_i	Negligible
• Insulation voltage U_m	253 V
• For more information and value combinations see "Certification".	

Selection and Ordering data

	Order No.
SITRANS I200 output isolator with HART ▶ For rail mounting, input 0/4 ... 20 mA, output 0/4 ... 20 mA, intrinsically safe	**7NG4131-0AA00**
Accessories	
pac-Bus basic set ▶ With 5 single elements and 1 terminal set (beginning and end)	**7NG4998-1AA**
pac-Bus extension set ▶ With 5 single elements	**7NG4998-1AB**

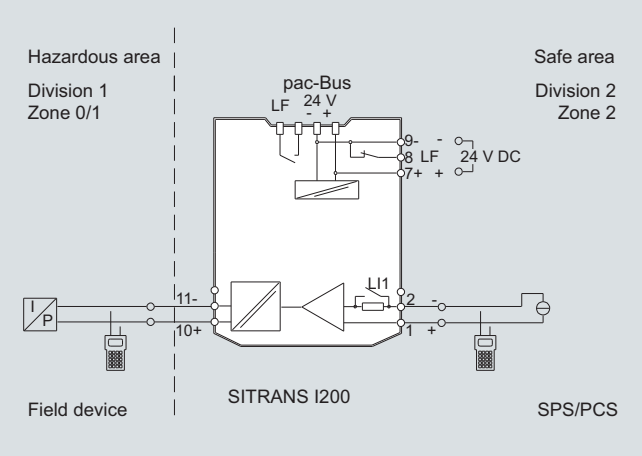
▶ Available ex stock.

Dimensional drawings



SITRANS I200 output isolator with HART, dimensions in mm (inch)

Schematics



SITRANS I200 output isolator with HART, connection diagram

SITRANS RD100

Overview

The SITRANS RD100 is a 2-wire loop powered, NEMA 4X enclosed remote digital display for process instrumentation.

Benefits

- Easy setup
- Approved for hazardous locations
- NEMA 4X, IP67 impact-resistant enclosure
- Simple two-step calibration
- Two modes of input allow for easy servicing, with no interruption of loop required

Application

The RD100 is very versatile. It can be installed indoors or outdoors, in hot or cold environments, and in safe or hazardous areas.

It has been approved by FM and CSA as Intrinsically Safe and non-incendive, and operates from -40 to +85 °C (-40 to +185 °F), adding only 1 V to the loop.

The RD100 has a large 1 inch (2.54 cm) high display making it easy to read.

Calibration consists of a quick two-step process involving the adjustment of only two non-interacting potentiometers.

- Key Applications: Remotely displays process variables in level, flow, pressure, temperature and weighing applications, in a 4 to 20 mA loop.

Technical specifications

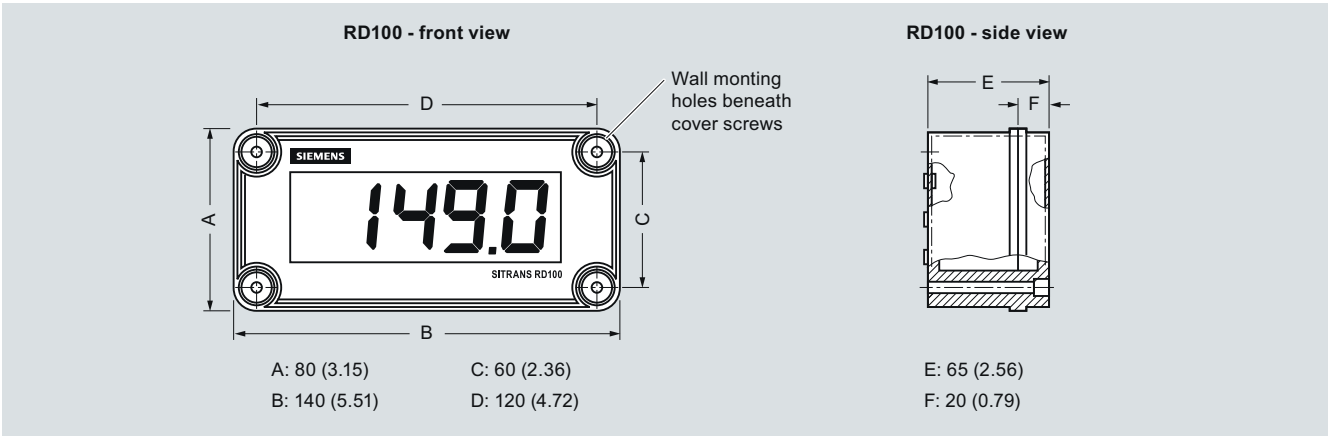
Mode of operation	
Measuring principle	Analog to digital conversion
Measuring range	4 … 20 mA
Measuring points	1 instrument only
Accuracy	± 0.1 % of span ± 1 count
Rated operating conditions	
Ambient conditions	
• Operating temperature range	-40 … +85 °C (-40 … +185 °F)
Design	
Weight	340 g (12 oz)
Material (enclosure)	Impact-resistant glass filled polycarbonate body and clear polycarbonate cover
Degree of protection	NEMA 4X, IP67
Power supply	
External loop power supply	30 V DC max.
Display	• 1 inch (2.54 cm) high LCD • Numeric range from -1 000 … +1 999
Certificates and approvals	
Hazardous	
• Intrinsically Safe	• CSA/FM Class I, II, III, Div. 1, Groups A, B, C, D, E, F, G T4 • CSA/FM Class I, Zone 0, Group IIC
• Non-incendive	• CSA/FM Class I, Div. 2, Groups A, B, C, D • CSA/FM Class II and III, Div. 2, Groups F and G
Options	
Mounting	• 2 inch (5.08 cm) pipe mounting kit (zinc plated or stainless steel) • Panel mounting kit

Selection and Ordering data		Order No.
SITRANS RD100 A 2-wire loop powered, NEMA 4X enclosed remote digital display for process instrumentation.		**7ML5741-** **AA00-0**
Conduit hole location (½")		
None	▶	**1**
Bottom		**2**
Rear		**3**
Top		**4**

▶ Available ex stock.

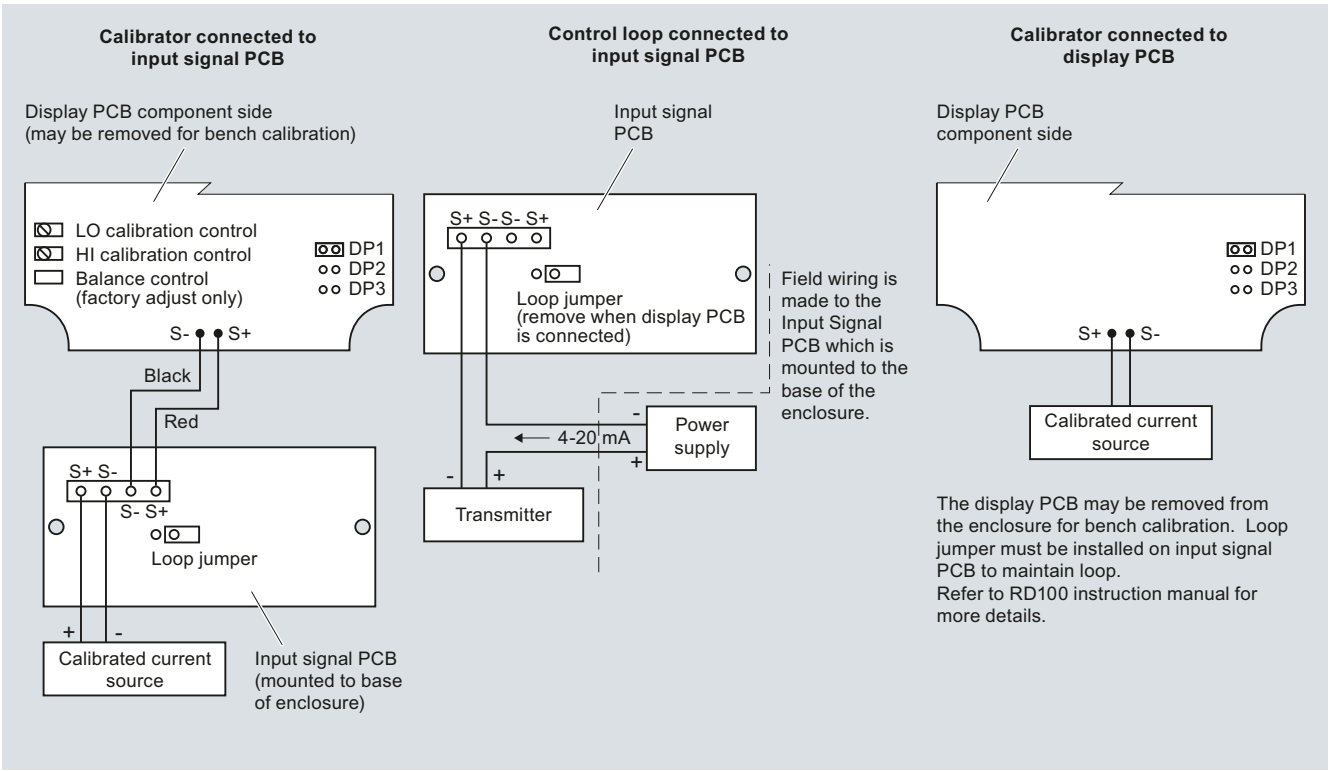
Selection and Ordering data	Order No.
Operating Instructions	
English	**7ML1998-5JU01**
French	**7ML1998-5JU11**
German Note: The Operating Instructions should be ordered as a separate line item. This device is shipped with the Siemens Milltronics manual CD containing Quick Starts and Operating Instructions.	**7ML1998-5JU31**
Accessories	
Panel mount kit	**7ML1930-1BN**
2 inch (5.08 cm) pipe mounting kit (zinc plated seal)	**7ML1930-1BP**
2 inch (5.08 cm) pipe mounting kit (stainless steel, Type 304, EN 1.4301)	**7ML1930-1BQ**

Dimensional drawings



SITRANS RD100 dimensions in mm (inch)

Schematics



SITRANS RD100 connections

SITRANS RD200

Overview

The SITRANS RD200 is a universal input, panel mount remote digital display for process instrumentation.

Benefits

- Easy setup and programming via front panel buttons or remotely using RD software
- Display readable in sunlight
- Universal input: accepts current, voltage, thermocouple and RTD signals
- Single or dual 24 V DC transmitter power supply
- Serial communication using built in protocol or Modbus RTU
- Two optional relays for alarm indication or process control applications
- Linear or square root function supported
- Meter Copy feature to reduce setup time, cost or errors
- RD software supporting remote configuration, monitoring and logging for up to 100 displays
- Other features include: 4 to 20 mA Analog Output Option, Supports Pump Alternation control, and optional NEMA 4 and 4X FIELD ENCLOSURES

Application

The RD200 is a universal remote display for level, flow, pressure, temperature, weighing, and other process instruments.

Data can be remotely collected, logged and presented from as many as 100 displays on your local computer using the free downloadable RD Software.

The display accepts a single input of current, voltage, thermocouple, and RTD. This makes the RD200 an ideal fit for use with most field instruments.

The RD200 can be set up as a standard panel mount, or combined with optional enclosures to allow it to house up to 6 displays.

- Key Applications: Tank farms, pump alternation control, local or remote display of level, temperature, flow, pressure and weighing instrument values, PC monitoring and data logging with RD Software.

Technical specifications

Mode of operation	
Measuring principle	Analog to digital conversion
Measuring points	• 1 instrument • Remote monitoring of 100 instruments with PC and RD software
Input	
Measuring range	
• Current	• 4 … 20 mA, 0 … 20 mA
• Voltage	• 0 … 10 V DC, 1 … 5 V, 0 … 5 V
• Thermocouple temperature	• Type J: -50 … +750 °C (-58 … +1 382 °F) • Type K: -50 … +1 260 °C (-58 … +2 300 °F) • Type E: -50 … +870 °C (-58 … +1 578 °F) • Type T: -180 … +371 °C (-292 … +700 °F) • Type T, 0.1 resolution: -180.0 … +371 °C (-199.9 … +700 °F)
• RTD temperature	• 100 Ω RTD: -200 … +750 °C (- 328 … + 1 382 °F)
Output signal	
Output	• PDC output • 4 … 20 mA (optional) • Modbus RTU
Relays	2 SPDT Form C relays, rated 3 A at 30 V DC or 3 A at 250 V AC, non-inductive, auto-initializing (optional)
Communications	• RS 232 with PDC or Modbus RTU • RS 422/485 with PDC or Modbus RTU
Accuracy	
4 … 20 mA optional output	± 0.1 % FS ± 0.004 mA
Process input	± 0.05 % of span ± 1 count, square root: 10 … 100 % FS
Thermocouple temperature input	• Type J: ± 1 °C (± 2 °F) • Type K: ± 1 °C (± 2 °F) • Type E: ± 1 °C (± 2 °F) • Type T: ± 1 °C (± 2 °F) • Type T, 0.1°Resolution: ± 1 °C (± 1.8 °F)
RTD temperature input	• 100 Ω RTD: ± 1 °C (± 1 °F)
Rated operating conditions	
Ambient conditions	
Storage temperature range	-40 … +85 °C (-40 … +185 °F)
Operating temperature range	0 … 65 °C (32 … 149 °F)
Design	
Weight	269 g (9.5 oz) (including options)
Material (enclosure)	• 1/8 DIN, high impact plastic, UL94V-0, color: gray • Optional plastic, steel and stainless steel (Type 304, EN 1.4301) NEMA 4 enclosures
Degree of protection	Type 4X, NEMA 4X, IP65 (front cover); panel gasket provided

Electrical connection	
• mA output signal	2-core copper conductor, twisted, shielded, 0.82 … 3.30 mm² (18 … 12 AWG), Belden 8 760 or equivalent is acceptable
• Electrical connection and relay connection	Copper conductor according to local requirements, rated 3 A at 250 V AC
Power supply	
Input voltage option 1	85 … 265 V AC, 50/60 Hz; 90 … 265 V DC, 20 W max.
Input voltage option 2	12 … 36 V DC; 12 … 24 V AC, 6 W max.
Transmitter power supply	One or two isolated transmitter power supplies (optional)
• Single power supply	One 24 V DC ± 10 % at 200 mA max.
• Dual power supplies	Two 24 V DC ± 10 % at 200 mA and 40 mA max.
External loop power supply	35 V DC max.
Output loop resistance	• 24 V DC, 10 … 700 Ω max. • 35 V DC (external), 100 … 1 200 Ω max.
Displays and controls	
• Display	• 14 mm (0.56 inch) high LED • Numeric range from -1 999 … +9 999 • 4 digits, automatic lead zero blanking • 8 intensity levels
• Memory	• Non-volatile • Stores settings for minimum of 10 years if power is lost
• Programming	• Primary: front panel • Secondary: meter copy or PC with SITRANS RD software
Certificates and approvals	CE, UL, $_{C}$UL
Options	
• Enclosures	Plastic, steel and stainless steel (Type 304, EN 1.4301) NEMA 4 and 4X enclosures

SITRANS RD200

Selection and Ordering data		Order No.
SITRANS RD200		**7ML5740-**
A universal input, panel mount remote digital display for process instrumentation.		**-0A**
Input voltage		
85 ... 265 V AC, 50/60 Hz; 90 ... 265 V DC, 20 W max.	►	**1**
12 ... 36 V DC; 12 ... 24 V AC, 6 W max.		**2**
Transmitter supply		
None		**A**
Single 24 V DC transmitter supply[1]	►	**B**
Dual 24 V DC transmitter supply[1][2]		**C**
Output		
None	►	**A**
2 relays		**B**
4 ... 20 mA output		**C**
Communication		
Modbus disabled	►	**0**
Modbus enabled		**1**
Approvals		
CE, UL, cUL		**1**

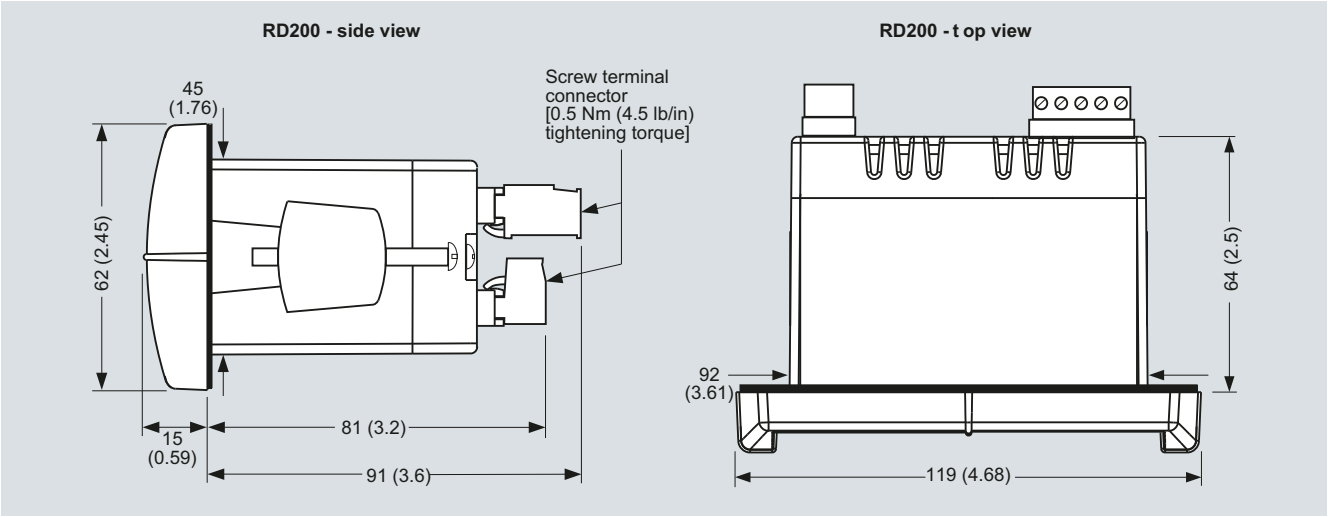
1) Available with input voltage option 1 only
2) Available with output option C only

► Available ex stock when configured with the following options only: Input voltage: 1, Transmitter supply: B, Output : A, Communication: 0.

Selection and Ordering data	Order No.
Operating Intructions	
English	**7ML1998-5JS01**
Spanish	**7ML1998-5JS21**
German Note: The Operating Instructions should be ordered as a separate line item. This device is shipped with the Siemens Milltronics manual CD containing Quick Starts and Operating Instructions.	**7ML1998-5JS31**
Other Operating Instructions	
SITRANS RD Enclosures, English	**7ML1998-5JX01**
SITRANS RD Enclosures, German	**7ML1998-5JX31**
SITRANS RD Serial Adapters, English	**7ML1998-5JV01**
SITRANS RD Serial Adapters, German	**7ML1998-5JV31**
SITRANS RD Software, English	**7ML1998-5JW01**
SITRANS RD Software, German	**7ML1998-5JW31**

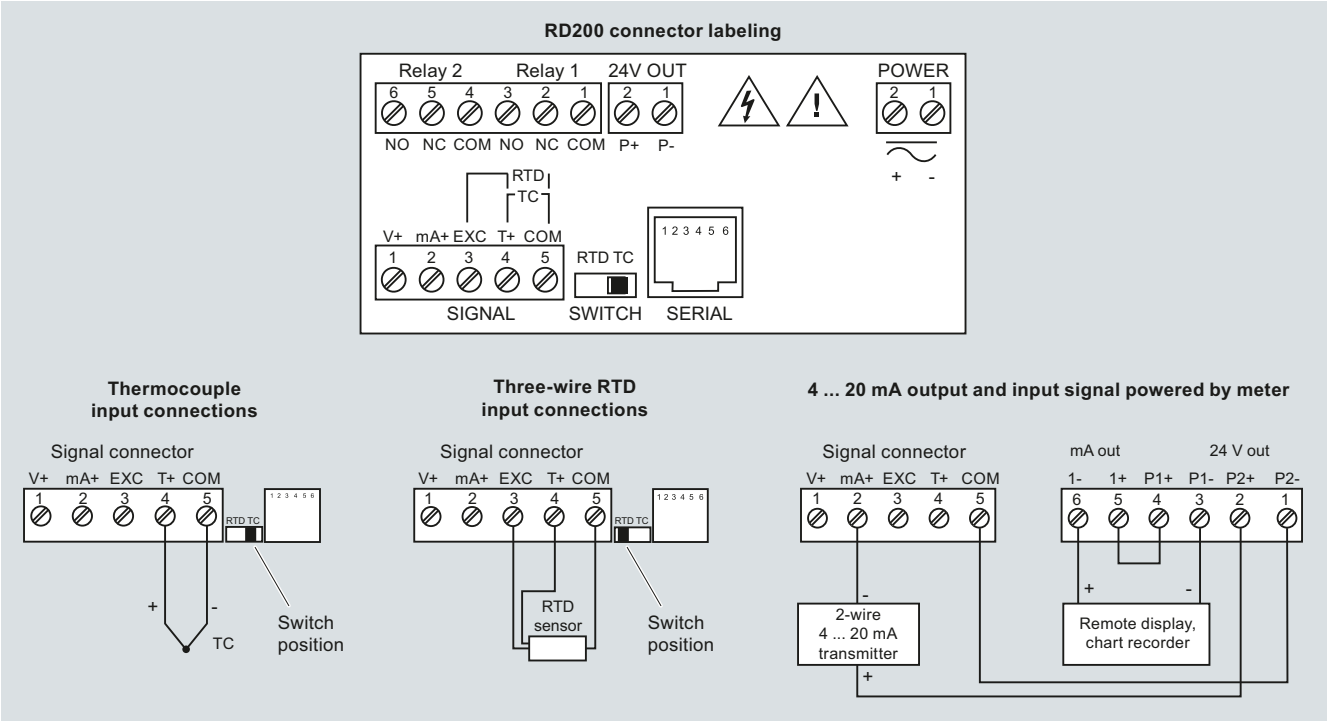
Accessories	
SITRANS RD200 copy cable 2.1 m (7 ft)	**7ML1930-1BR**
SITRANS RD200 RS 232 serial adapter (copy cable included)	**7ML1930-1BS**
SITRANS RD200 RS 422/485 serial adapter (copy cable included)	**7ML1930-1BT**
RS 232 to RS 422/485 isolated converter	**7ML1930-1BU**
RS 232 to RS 422/485 non-isolated converter	**7ML1930-1BV**
SITRANS RD200 RS 232 and RS 485 isolated multi-input adapter board	**7ML1930-1BW**
USB to RS 422/485 isolated converter	**7ML1930-1BX**
USB to RS 422/485 non-isolated converter	**7ML1930-1BY**
USB to RS 232 converter	**7ML1930-1DC**
RD Software CD for 1 ... 100 displays	**7ML1930-1CC**
Low cost polycarbonate plastic enclosure for 1 display	**7ML1930-1CF**
Thermoplastic enclosure	
For use with 1 display	**7ML1930-1CG**
For use with 2 displays	**7ML1930-1CH**
For use with 3 displays	**7ML1930-1CJ**
For use with 4 displays	**7ML1930-1CK**
For use with 5 displays	**7ML1930-1CL**
For use with 6 displays	**7ML1930-1CM**
Stainless steel enclosure (Type 304, EN 1.4301)	
For use with 1 display	**7ML1930-1CN**
For use with 2 displays	**7ML1930-1CP**
For use with 3 displays	**7ML1930-1CQ**
For use with 4 displays	**7ML1930-1CR**
For use with 5 displays	**7ML1930-1CS**
For use with 6 displays	**7ML1930-1CT**
Steel enclosure	
For use with 1 display	**7ML1930-1CU**
For use with 2 displays	**7ML1930-1CV**
For use with 3 displays	**7ML1930-1CW**
For use with 4 displays	**7ML1930-1CX**
For use with 5 displays	**7ML1930-1CY**
For use with 6 displays	**7ML1930-1DA**

Dimensional drawings



SITRANS RD200, dimensions in mm (inch)

Schematics



SITRANS RD200 connections

Remote data manager

SITRANS RD500

Overview

The SITRANS RD500 is a remote data manager providing remote monitoring through integrated web access, alarm event handling, and data capture for instrumentation and other devices.

Benefits

- RD500 supports report and alarm events via email, SMS, and FTP transfer
- Web provides worldwide access to instrument data and RD500 configuration and setup
- Simple configuration using a standard web browser, no programming or additional software required.
- Offers scalability with optional I/O modules for current (4 to 20 mA), voltage (0 to 10 V), thermocouple (TC), resistance temperature detector (RTD), and digital input, output and counter
- 10 base-TI 100 Base-TX Ethernet and support for GSM, GPRS, 3G, and PSTN provide flexible remote communications options
- Supports up to 128 devices with the flexible I/O modules and supports addressing for up to 247 Modbus serial devices via RS 232 and RS 485 serial ports
- Integrated FTP server and client supports FTP data synchronization to central servers
- Compact flash slot supports up to 2 gigabytes of expandable memory for data capture and storage, 1 gigabyte industrial compact flash card included
- Log files formats are CSV (comma separated values) for data files and HTML for report files
- Supports modbus TCP via Ethernet and GPRS for easy integration into control systems
- Optional 3G modem offers VPN support

Application

The RD500 is an easy-to-use remote data monitoring solution, using a web-based application and hardware modules. The unique modular approach allows a variety of process signals to be monitored, while the serial ports allow data to be collected from Modbus RTU devices.

The RD500 comprises a master communications module, and up to 16 slave modules. Various module types are available, allowing up to a maximum of 128 conventional inputs and outputs. The RD500's serial ports can support addressing for up to 247 Modbus RTU slave devices including field instruments.

The RD500's built-in web server, FTP, and email client allows the process to be monitored remotely. Alarm notifications are communicated through email and SMS text messages to one or more recipients to ensure that appropriate actions are taken by personnel.

The RD500 supports modems, providing flexibility for applications in which GSM/GPRS/3G cellular or landline connectivity is desired.

The RD500 is configured via a web-based interface - a standard browser is all the software you need to configure your system.

- Key Applications: Remote monitoring, inventory management, web enabled instrumentation or other devices

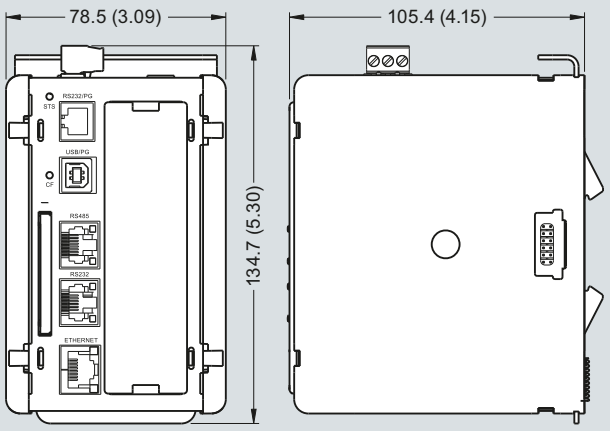
Technical specifications

Mode of operation	
Measuring principle	Remote data monitor
Measuring points	• Up to 128 standard input/ outputs • Addressing for up to 247 Modbus serial devices
Input	See table on page 7/18
Output	See table on page 7/18
Accuracy	See table on page 7/18
Rated operating conditions	
Storage temperature range	-30 … +70 °C (-22 … +158 °F)
Operating temperature	0 … 50 °C (32 … 122 °F)
Operating and storage humidity	80 % max relative humidity, non-condensing, from 0 … 50 °C (32 … 122 °F)
Design	
Material (enclosure)	High impact plastic and stainless steel
Installation category	I
Pollution degree	2
Weight	456.4 g (15.1 oz)
Mounting	Snaps onto standard DIN style top hat (T) profile mounting rails according to EN 50022 – 35 x 7.5 and – 35 x 15
Power	24 V DC ± 10 % 400 mA min. (1 module) 3.5 Amps max. (16 modules) Must use Class 2 or SELV-rated power supply
Display	
Status LEDs	• STS - status LED indicates condition of master • TX/RX - transmit/receive LEDs show serial activity • Ethernet - link and activity LEDs • CF - CompactFlash LED indicates card status and read/write activity
Memory	
On-board user memory	4 Mbytes of non-volatile Flash memory
On-board SDRAM	2 Mbytes
Memory card	CompactFlash Type II slot for Type I and Type II cards; 1 Gbytes (optional 2 Gbytes)
Certificates and approvals	
Safety	• UL listed to U.S. and Canadian safety standards for use in Class I, II and III, Division 1 and 2 hazardous locations • CE, C-TICK

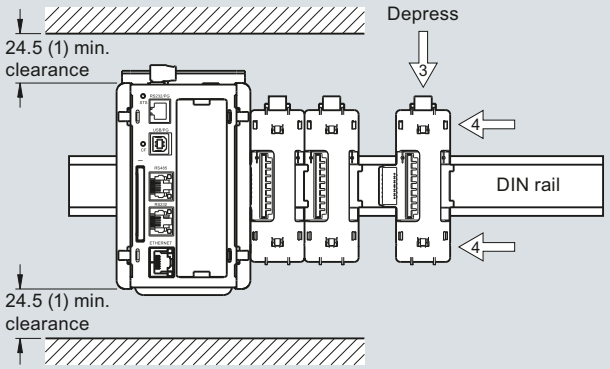
Communication	
USB/PG port	Adheres to USB specifications 1.1. Device only using Type B connection.
Serial ports	Format and baud rates for each port are individually software programmable up to 115, 200 baud
RS 232/PG port	RS 232 port via RJ12
Comms ports	RS 422/485 port via RJ45 and RS 232 port via RJ 12
Ethernet port	10 BASE-T/100 BASE-TX; RJ45 jack is wired as a NIC (Network Interface Card)

Dimensional drawings

Dimensions



Mounting



SITRANS RD500, dimensions in mm (inch)

SITRANS RD500

SITRANS RD500 Module Specifications

	8 inputs, 6 solid state outputs	8 inputs, 6 relay outputs	8 channel, 4 … 20 mA	8 channel ± 10 V	6 channel, RTD	8 channel thermo-couple module
Order number	**7ML1930-1ES**	**7ML1930-1ER**	**7ML1930-1EP**	**7ML1930-1EQ**	**7ML1930-1ET**	**7ML1930-1EU**
Application	8 inputs, 6 outputs used to monitor contact or sensor inputs	8 inputs, 6 outputs used to monitor contact or sensor inputs	16 bit analog input module provides high density signal measurement for data monitoring applications and accepts 0/4 … 20 mA process signals	16 bit analog input module provides high density signal measurement for data monitoring applications and accepts ± 10 V process signals	16 bit analog input module provides high-density signal measurement for data acquisition applications and accepts various RTD inputs	16 bit thermocouple input module provides high density signal measurement for data acquisition applications and accepts wide range of thermocouple types
Accuracy	Not applicable	Not applicable	± 0.1 % of span	± 0.1 % of span	± (0.2 % of span, 1 °C) 0 … 50 °C (32 … 122 °F); ± (0.1 % of span, 1 °C) 18 … 28 °C (64 … 82 °F); includes NIST conformity, A/D conversion errors, temperature coefficient and linearization conformity at 23 °C after 20 minutes warm-up	± (0.3 % of span, 1 °C); includes NIST conformity, cold junction effect, A/D conversion errors, temperature coefficient and linearization conformity at 23 °C after 20 minute warm-up
Mounting	Snaps onto standard DIN style top hat (T) profile mounting rails according to EN 50022 – 35 x 7.5 and - 35 x 15					
Inputs	Dip switch selectable for sink or source	Dip switch selectable for sink or source Max. voltage • 30 V DC, reverse polarity protected Off voltage • < 1.2 V On voltage • > 3.8 V Input frequency • filter switch on: 50 Hz • filter switch off: 300 Hz	8 single-ended Ranges • 0 … 20 mA or 4 … 20 mA Resolution • full 16-bit sample time: 50 … 400 ms depending on number of enabled inputs	8 single-ended Ranges • 0 … 10 V DC or ± 10 V DC Resolution • full 16-bit sample time: 50 … 400 ms depending on number of enabled inputs	6 single-ended Resolution • full 16-bit sample time: 67 … 400 ms depending on number of enabled inputs	8 single-ended Resolution • full 16-bit sample time: 50 … 400 ms depending on number of enabled inputs
Outputs	Solid state output, switched DC, contact rating 1 A DC max.	Form A, NO pairs share common terminals: 1&2, 3&4, 5&6 current rating by pair: 3 Amps at 30 V DC/125 V AC resistive 1/10 HP at 125 V AC	Not applicable	Not applicable	Not applicable	Not applicable

SITRANS RD500

Selection and Ordering data	Order No.
SITRANS RD500 The SITRANS RD500 is a remote data manager providing integrated web access, alarm event handling and data capture for instrumentation.	**7ML5750-** **■■A00-0**
Communications Connection Ethernet[1]	**1**
Digital Communications to Instruments RS 485 Modbus RTU	**A**

[1] Configuration limited to 16 modules.

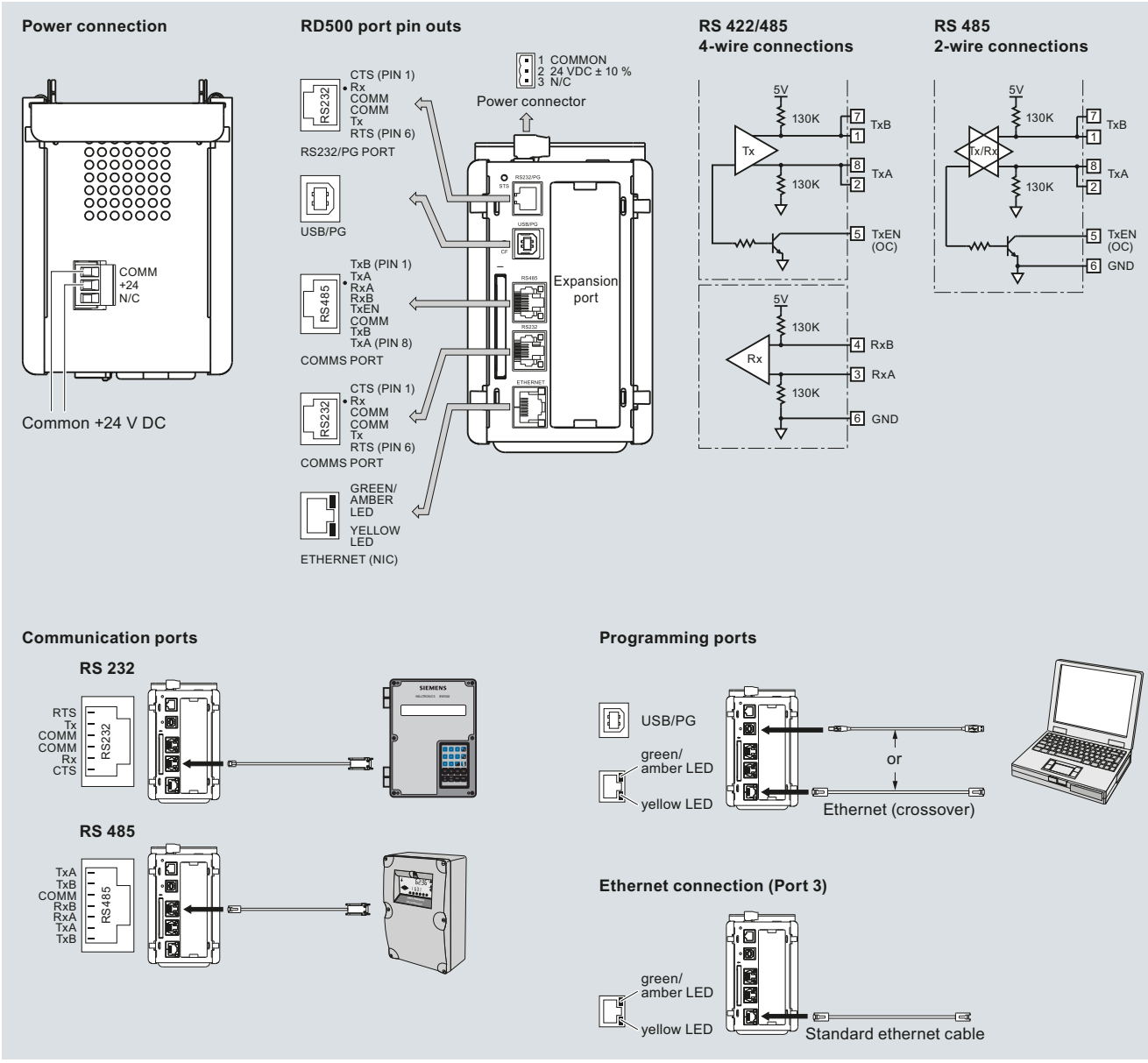
Selection and Ordering data	Order No.
Input configuration modules	
Note: one RD500 supports 16 input modules maximum	
RD500 8 channel 0 (4) ... 20 mA input module	**7ML1930-1EP**
RD500 8 channel ± 10 V input module	**7ML1930-1EQ**
RD500 8 digital inputs/pulse counters, 6 relay outputs module	**7ML1930-1ER**
RD500 8 digital inputs/pulse counters, 6 solid state outputs module[1]	**7ML1930-1ES**
RD500 6 channel input, RTD module	**7ML1930-1ET**
RD500 8 channel thermocouple module	**7ML1930-1EU**
Optional equipment	
Multitech GPRS modem, external[1]	**7ML1930-1EX**
Multitech GPRS modem, internal (including antennae)	**7ML1930-1EY**
Industrial CompactFlash card, 2 GB[2]	**7ML1930-1FB**
Industrial CompactFlash card, 1 GB[2]	**7ML1930-1FC**
RJ11 serial to terminal block RS 232	**7ML1930-1FD**
RJ45 serial to terminal block RS 485	**7ML1930-1FE**
GPRS Spare modem antenna	**7ML1930-1FF**
RD500 Spare Module base	**7ML1930-1FG**
RD500 Spare End terminator	**7ML1930-1FH**
5' Ethernet Cat 5e Red X/O cable for configuration	**7ML1930-1FM**
USB cable type A to B	**7ML1930-1FN**
Operating Instructions	
Application manual, English	**7ML1998-5MA01**
Application manual, German	**7ML1998-5MA31**
Note: Additional Operating Instructions should be ordered as a separate line item. This device is shipped with the Siemens Milltronics manual CD containing Quick Starts and Operating Instructions.	

Other Operating Instructions	
RD500 Remote Data Manager manual, English: web access, alarm event handling, and data capture	**7ML1998-5MK01**
RD500 Remote Data Manager manual, German: web access, alarm event handling, and data capture	**7ML1998-5MK31**
RD500 8 channel 0 (4) ... 20 mA input module manual, English	**7ML1998-5MB01**
RD500 8 channel 0 (4) ... 20 mA input module manual, German	**7ML1998-5MB31**
RD500 8 channel ±10 V input module manual, English	**7ML1998-5MC01**
RD500 8 channel ±10 V input module manual, German	**7ML1998-5MC31**
RD500 8 inputs, 6 relay outputs module manual, English	**7ML1998-5MD01**
RD500,8 inputs, 6 relay outputs module manual, German	**7ML1998-5MD31**
RD500 8 inputs, 6 solid state outputs module manual, English	**7ML1998-5ME01**
RD500 8 inputs, 6 solid state outputs module manual, German	**7ML1998-5ME31**
RD500 6 channel input, RTD module manual, English	**7ML1998-5MF01**
RD500 6 channel input, RTD module manual, German	**7ML1998-5MF31**
RD500 8 channel thermocouple module manual, English	**7ML1998-5MJ01**
RD500, 8 channel thermocouple module manual, German	**7ML1998-5MJ31**

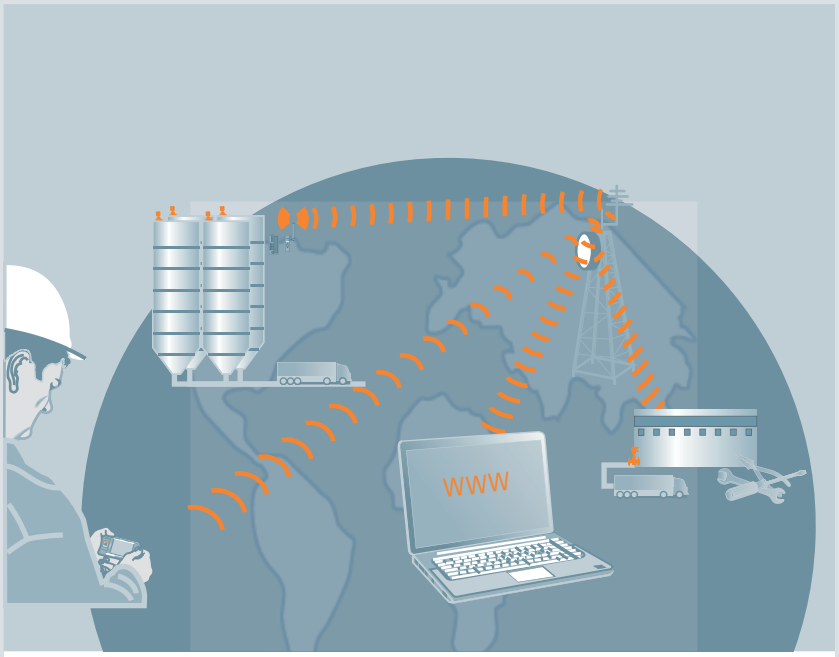
[1] Antenna, power cord, and cable included
[2] Industrial CompactFlash card, 1 Gbyte, is included with RD500

SITRANS RD500

Schematics



SITRANS RD500 connections



With SITRANS RD500, monitor inventory levels, process, environmental, and remote maintenance applications, and get web access to most types of field instrumentation, including flow, level, pressure, temperature measurement, and weighing.

SITRANS AW200 - WirelessHART adapter

Overview

SITRANS AW200 WirelessHART adapter

The SITRANS AW200 WirelessHART adapter is a battery-powered communication component, which integrates HART and 4 to 20 mA field devices into a WirelessHART network. On the wireless communication side, the adapter supports the WirelessHART standard. HART and 4 to 20 mA field devices are connected on the field device side.

The SITRANS AW200 WirelessHART adapter

- Support the WirelessHART standard (HART V 7.1)
- Fatures a very high degree of security for wireless data transmission
- Integrates one 4 to 20 mA field device or up to four HART field devices (in multidrop mode) into a WirelessHART network
- Features intelligent energy management for the power supply of connected field devices
- Can be easily parameterized using SIMATIC PDM

Benefits

- High quality and service life
- Save on wiring costs for difficult installation conditions (e.g. moveable equipment parts) or for temporary installations
- Subsequent integration of an installed field device with HART interface into maintenance and diagnostic systems if the control system does not feature the required communication mechanisms. This application is described in Section 9 of this catalogue under "WirelessHART - Technical Description".
- Proven HART devices can continue to be used for wireless communication, without any limitations .
- Field devices with a 4 to 20 mA interface (without HART) can also be connected.
- Intelligent energy management to achieve the best possible life time for the installed battery unit.
- Optimum addition to wired communication and expansion of solution options for system solutions in process automation.
- Burst mode and event notification parameterization for the adapter and connected field devices.

Application

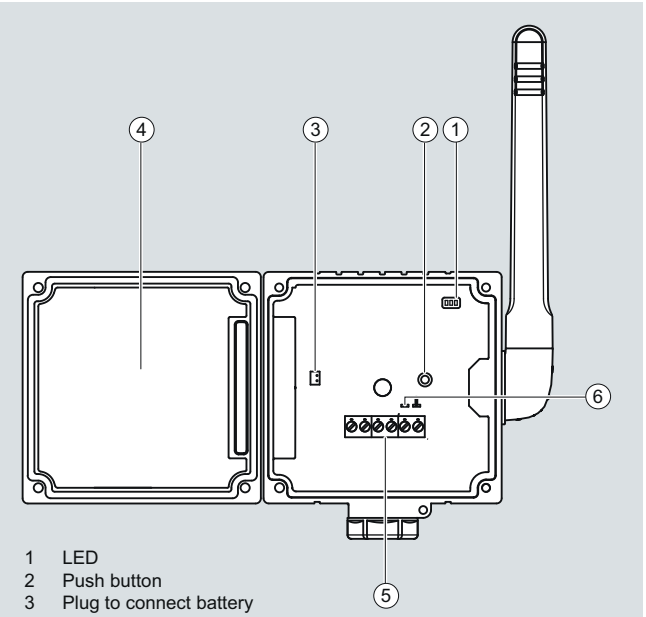
The WirelessHART adapter can be used in a number of different applications, e.g.

- Access to installed basis
  Diagnostic information is obtained from existing wired HART devices through a permanent electrical connection of a WirelessHART adapter, and is sent to an asset management software near the system, e.g. SITRANS MDS.
- Status monitoring of the plant
  Wireless devices are mounted at critical points in the plant, which are not usually connected to the control room due to difficult accessibility or extensive costs for wiring. Better data flow and diagnostics increase the system's reliability, transparency and safety.
- Process optimization
  A temporary installation of a standard 4 to 20mA or HART device together with the WirelessHART adapter SITRANS AW200 allows flexible monitoring and plant optimization at lower costs and reduced effort.
- Process monitoring
  Measured values from e.g. tanks or silos are transmitted to a superordinate system in regular time intervals, together with the device and battery status.

Design

The SITRANS AW200 WirelessHART adapter consists of

- A housing with mounted antenna
- Electronics
- A high-performance lithium battery unit



1 LED
2 Push button
3 Plug to connect battery
4 Battery compartment
5 Terminals 1 to 6
6 Terminals for HART modem

SITRANS AW200 WirelessHART adapter, assembly

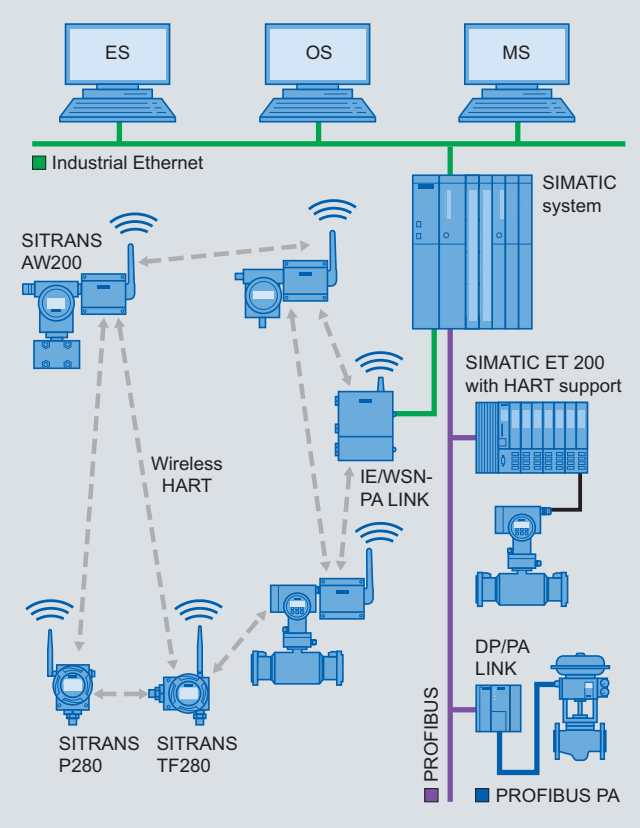
The housing can be opened by loosening 4 screws. This allows to access the electronics and battery unit. The battery unit can be removed without the use of tools, since it is connected to the housing with clips.

The back of the housing features a connection part with a fixing nut onto which different replaceable connecting pieces can be screwed to mount the adapter directly on a field device.

The bottom of the housing contains an optional cable opening which can be used for a cable gland. In the case of an offset mounted adapter, it is possible to feed up to 2 cables.

SITRANS AW200 - WirelessHART adapter

Function



SITRANS AW200 WirelessHART adapter functional diagram

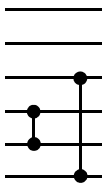
Measured values and diagnostic information of connected field devices with HART communication are transmitted via a wired connection to the WirelessHART adapter. The adapter transmits this information in the form of wireless signals to the IE/WSN-PA LINK, the Siemens WirelessHART gateway. From here, the information is available to the network of the system.

Where a field device with a 4 to 20 mA output signal is connected to the adapter, only the measured value will be transmitted.

Following parameterization and integration into a WirelessHART network, each WirelessHART adapter is able to recognize its neighbors. It notes the strength of the wireless signal, synchronizes itself, receives network information and then establishes connections to the neighbors in the wireless network. A WirelessHART network organizes itself. Manual settings for organizational purposes are not required.

Two- and four-wire field devices can be connected to a WirelessHART adapter. In the case of a connected two-wire field device, power can be supplied by the adapter. Where multiple two-wire field devices are connected (multi drop operation), the adapter must be connected to an external power supply.

The WirelessHART adapter may also be connected in parallel to an already existing installation which consists of a power supply and a HART field device.

Interface	Connection	Function
1		Power supply for the field device
2		HART/4 ... 20 mA
3		External supply/Dimensions
4		High-resistance HART connection
5, 7		High-resistance HART connection
6, 8		Mass, high-resistance connection

Terminal block with 6 screw connection clamps

Parameterization

The SITRANS AW200 configured via HART. This can be done using a handheld communicator or even more conveniently with a HART modem and the SIMATIC PDM parameterization software.

Initial start-up of the adapter is usually carried out via SIMATIC PDM and HART modem or a handheld communicator. During initial start-up, the network ID and join key is set up in the adapter, among others. Using these parameters, the adapter is then integrated into an existing WirelessHART network.

Once it is integrated into the network, the adapter and connected HART devices can be conveniently operated via the WirelessHART network or with the onsite HART modem.

Siemens HART field devices for the adapter

HART and 4 to 20mA field devices can be connected to the SITRANS AW200 WirelessHART adapter. Depending on the electrical data of the field devices, they can receive their power supply from the WirelessHART adapter or will require an external power supply. Please find current information about connectivity to field devices from Siemens as FAQ under http://www.siemens.com/automation/service&support.

Note:

Siemens will only approve the Siemens HART field devices listed there for the adapter, and will only supply technical support for these devices.

Based on HART specifications, it is generally possible to connect devices that are not listed, however with the following limitations:

- All warranties and liabilities will be excluded.
- No technical support

SITRANS AW200 - WirelessHART adapter

Technical specifications

Input	
Input	Point-to-Point connection to a HART field device or Point-to-Point connection to a 4 ... 20 mA field device or up to four HART field devices with external power supply which are integrated using the multidrop method
Communication	HART communication using multi-drop method, 4 ... 20 mA power signal with Point-to-Point connection
Protocol	HART V7 (compatible with previous HART versions)
Transfer rate	1200 bits/s using HART multi-drop method
Output	
Communication	WirelessHART V7
Transfer rate	Nominal 250 kBits/s
Transmission frequency band	2.4 GHz (ISM band)
Range (under reference conditions)	Outside areas up to 250 m, within buildings up to 50 m
RF signal strength	Can be configured: 0 dBm and 10 dBm
Output signals	
• WirelessHART adapter	Measured voltage and up to three other variables may be selected from the following: adapter temperature, battery voltage, energy consumed, expected battery life time
• 4 ... 20 mA field device	Scaled or linearized process values
• HART field device	Up to four process variables, can be configured via PDM or gateway
Measuring accuracy (as per reference conditions IEC 61298-2)	
Max. measuring error (4 ... 20 mA circuit)	0.125 % re: measuring range
Effect of ambient temperature (4 ... 20 mA circuit)	5 µA/10 K
Rated conditions	
Location	Outside/Inside
Ambient conditions	
• Ambient temperature	-40 ... +80 °C (-40 ... +176 °F) The capacity of the battery decreases rapidly if ambient temperature falls below -30 °C.
• Storage temperature	-40 ... +85 °C (-40 ... +185 °F) without batteries < 21 °C with batteries
• Relative humidity	Max 90 % at 25 °C (non-condensating)
• Resistance to vibration	20 ≤ f ≤ 2000 Hz: 0,01 g^2/Hz as per IEC 68-2-64
• Shock resistance	15 g, 11 ms as per IEC 68-2-27
Electromagnetic compatibility	As per EN 61326, EN 301 489-1/17 and NAMUR NE 21

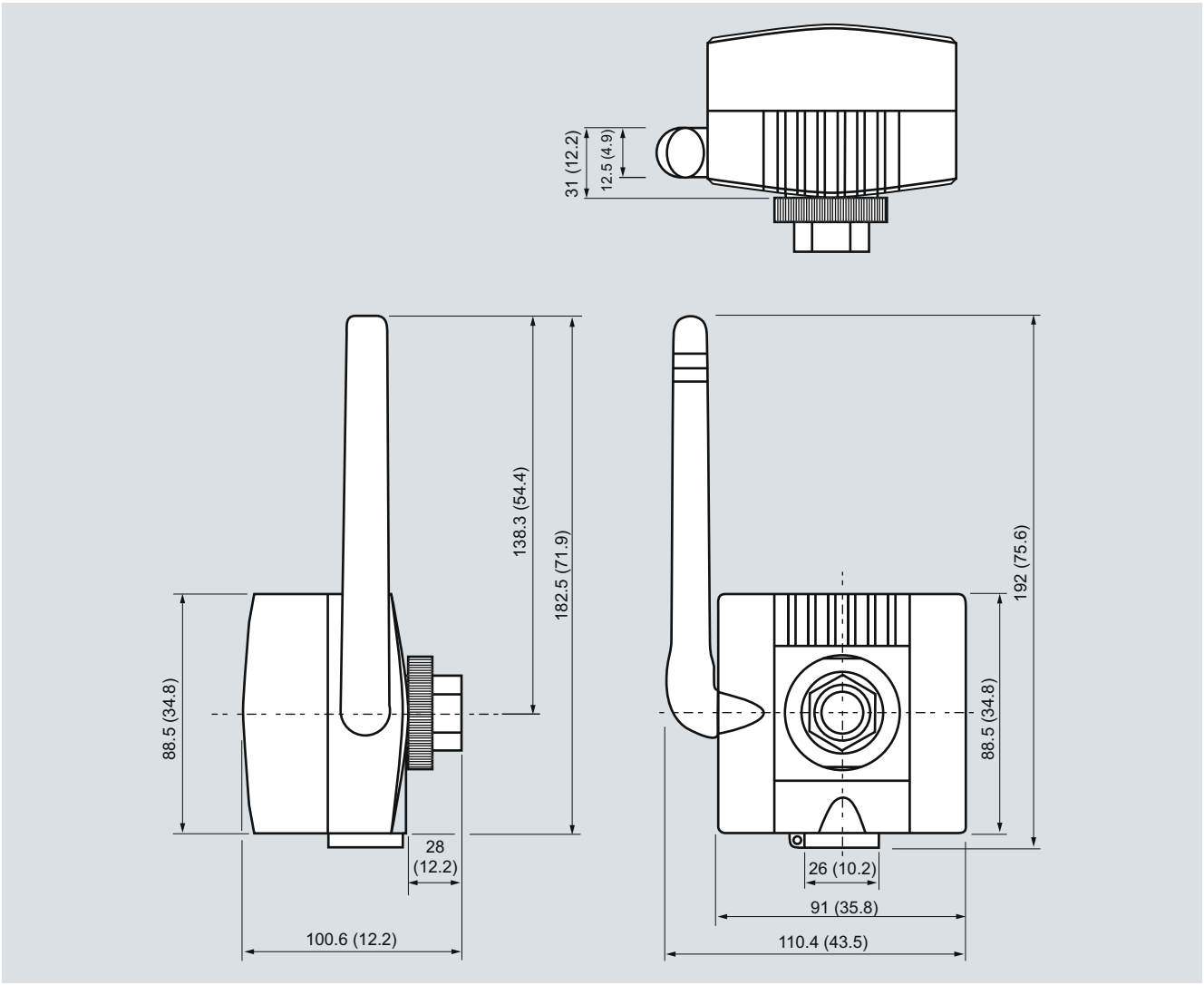
Design	
Weight	0.5 kg without battery, 0.75 kg with battery
Enclosure	
• Material	Polyester (PBT FR)
• Cable entry	2x M20x1.5
Degree of protection	IP65, IP66; NEMA 4
Antenna	Omnidirectional dipolar aerial, vertical rotation
Mounting adapter	M20 x 1.5 on M20 x 1.5, M20 x 1.5 on G½, M20 x 1.5 on ½"- 14 NPT, M20 x 1.5 on ¾" -14 NPT
Power supply	
Battery	Lithium thionylchlorid high-performance battery unit
Supply voltage	5 ... 7.2 V DC
Capacity	19 Ah at 20 °C
Service life	up to 5 years, depending on update rate, connected field device and ambient conditions
Voltage supply for one field device (independent of multidrop)	
• No-load voltage	8 ... 23 V DC
• Current	4 ... 20 mA DC (as per NAMUR recommendation NE 43)
• Fault current	I ≤ 3.6 mA or I ≥ 21 mA
• Protection	Short-circuit proof, activated at voltages > 25 mA
External voltage supply for one or more field devices (multidrop)	
• Voltage	< 30 V DC
• Current	< 25 mA
Certificates and approvals	
Wireless communication approvals	ETSI (R&TTE) FCC Part 15.247 for wireless applications in the 2.4 GHz transmission frequency band EN 300328

Selection and ordering data	Order No.
SITRANS AW200 adapter for WirelessHART communication	**7MP3112-□□□□0-0AA0**
WirelessHART adapter AW200 with 4 ... 20 mA- or HART interface Without battery	**1**
Power supply Battery powered	**A**
Certificates and approvals[1] Without	**A**
Enclosure Polyester	**0**
Accessories	
Lithium battery for SITRANS AW200	**7MP3990-0AA00**
Thread adapter for direct mounting of the adapter to a field device	
• M20 thread adapter	**7MP3990-0BA00**
• Thread adapter G½	**7MP3990-0BB00**
• Thread adapter ½" - 14 NPT	**7MP3990-0BC00**
• Thread adapter ¾" - 14 NPT	**7MP3990-0BD00**
Mounting bracket for attaching to wall/pipe, material: stainless steel SS304, including cable gland	**7MP3990-0CA00**

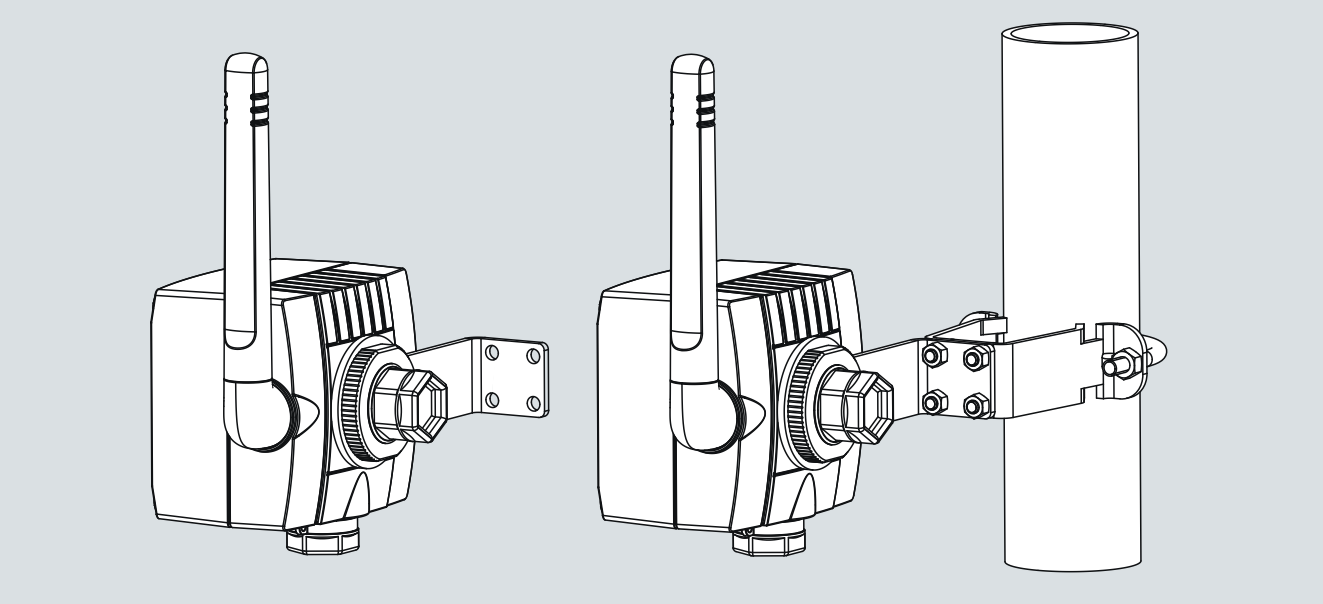
1) Additional approvals in process.

SITRANS AW200 - WirelessHART adapter

Dimensional drawings

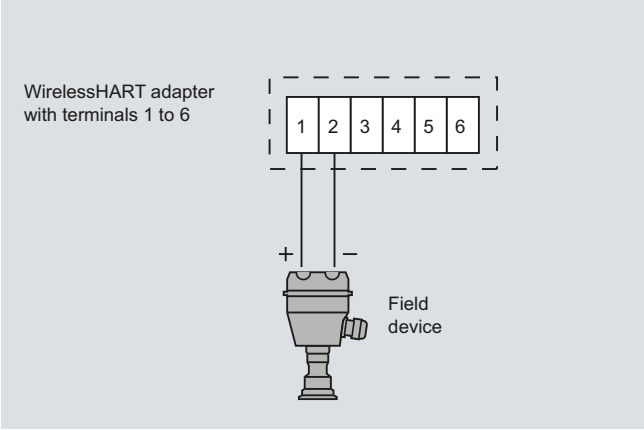


SITRANS AW200 WirelessHART adapter, dimensions in mm (inch)

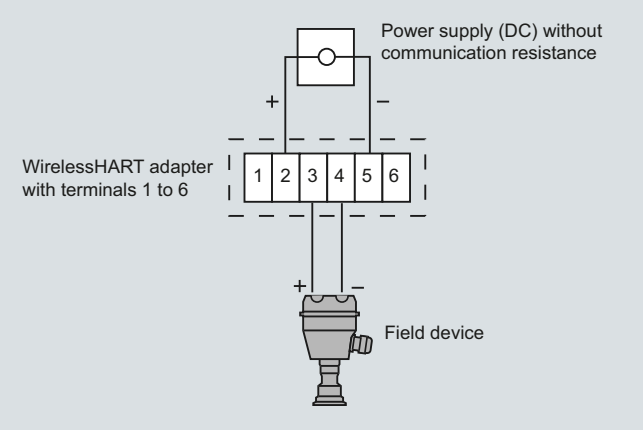


SITRANS AW200 with built-in mounting bracket for wall or pipe mounting

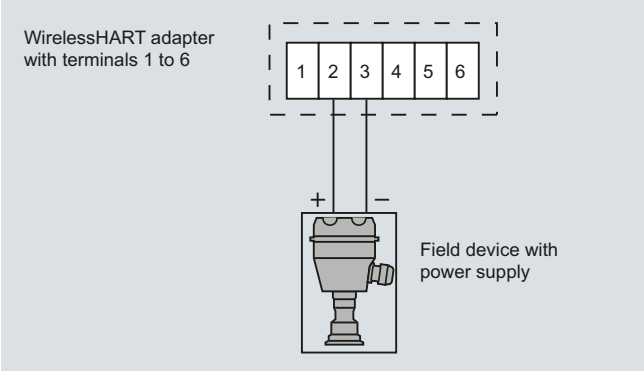
Schematics



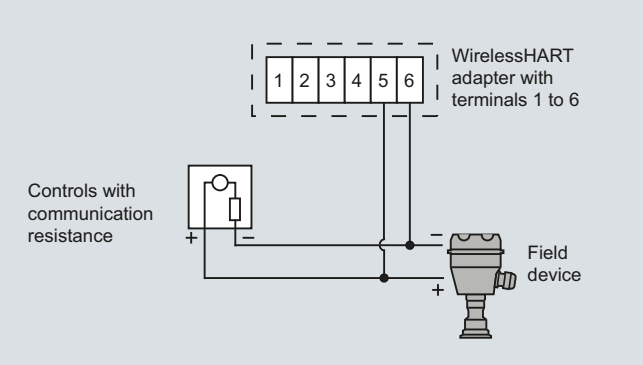
Connection of a two-wire field device, power supply provided by adapter



Connection of a two-wire field device with external power supply



Connection of a four-wire field device



Connection of adapter parallel to wired 4 to 20 mA communication

SITRANS AW210 - WirelessHART adapter

Overview

SITRANS AW210 WirelessHART adapter

The WirelessHART adapter SITRANS AW210 is a communication component which can integrate a wide range of field devices into a WirelessHART network. On the wireless communication side, the adapter supports the WirelessHART standard. HART and 4 to 20 mA field devices are connected on the field device side.

The WirelessHART adapter SITRANS AW210

- Supports the WirelessHART standard (HART V 7.1)
- Features an extremely high degree of security for wireless data transmission.
- Integrates a 4 to 20 mA field device into a WirelessHART network
- Integrates up to eight HART field devices (in multidrop mode) into a WirelessHART network
- Can be powered with the 4 to 20 mA loop or an external power supply
- Power management can be activated to minimize energy consumption
- Easy to configure with SIMATIC PDM, AMS, Handheld 475.

Benefits

- "Intrinsically safe" or "Explosion proof"
- High quality and service life
- Extremely rugged enclosure
- No additional cabling required with loop power supply
- Subsequent integration of an installed field device with HART interface into maintenance and diagnostic systems if the control system does not feature the required communication mechanisms
- Proven HART devices can continue to be used for wireless communication without any limitations
- Field devices with a 4 to 20 mA interface (without HART) can also be connected
- Ideal addition to wired communication and to the range of system solutions in process automation
- Burst mode and event notification configuration for the adapter and connected field devices

Application

The WirelessHART adapter can be used in a number of different applications:

- Access to installed basis
  Diagnostic information is obtained from existing wired HART devices thanks to the permanent electrical connection of a WirelessHART adapter and power from the 4 to 20 mA loop. This information is sent to central system-based asset management software such as SITRANS MDS.
- Status monitoring of the plant
  Wireless devices are mounted at critical points in the plant which are not usually connected to the control room due to difficult access or high wiring costs. Better data flow and diagnostics increase plant reliability, transparency and safety.
- Process optimization
  Temporary installation of a 4 to 20mA or standard HART device together with a SITRANS AW210 WirelessHART adapter allows easier, flexible monitoring and plant optimization at lower costs. SITRANS AW210 can also be usefully used where there is already an external power supply, or one is needed anyway.
- Process monitoring
  Measured values, for example from tanks or silos, are transmitted to a higher-level system at regular intervals together with the device status. SITRANS AW210 is particularly easy to use with 4-wire devices, as they have an external power supply.

Design

SITRANS AW210 WirelessHART Adapter consists of:

- An enclosure with a fitted aerial
- Electronics

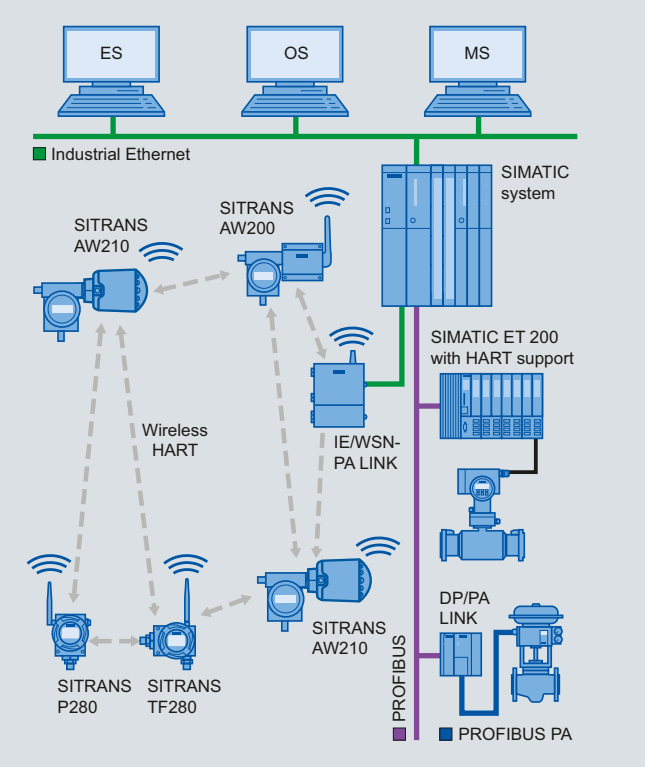
1 Ground connection
2 Enclosure with potted aerial
3 ½" NPT screw connection

SITRANS AW210 Wireless-HART Adapter, assembly

The enclosure contains the potted electronics and the wireless module. The aerial is fitted at the top in the enclosure.

On the base of the enclosure is the connector with a ½" NPT female thread. Six cables run from this connector to connect the adapter.

Function



SITRANS AW210 WirelessHART Adapter, functional diagram

The measured values and diagnostic information from the connected field devices with HART communication are transmitted to the WirelessHART adapter over wired connections. The adapter transmits this information as wireless signals to the IE/WSN-PA link, the Siemens WirelessHART gateway. The measured values, all parameters and diagnostic information about the plant network can be accessed from this gateway.

If a field device with a 4 to 20 mA output signal is connected to the adapter, the current will be converted to a digital measured value and transmitted on the basis of a measuring range specified in SITRANS AW210.

Following configuration and integration into a WirelessHART network, each WirelessHART adapter is able to recognize its neighbors. It notes the strength of the wireless signal, synchronizes itself, receives network information and then establishes connections to its neighbors in the wireless network. A WirelessHART network organizes itself. Manual settings for organization are not required.

Two-wire and four-wire field devices can be connected to a WirelessHART adapter. Either up to 2 or up to 8 HART field devices can be connected to the adapter, depending on the selected product version. The adapter either has an external voltage supply or is loop-powered. The WirelessHART adapter can therefore also be connected in parallel to an existing installation consisting of a voltage supply and a HART field device.

Parameter assignment

SITRANS AW210 is configured via HART. Configuration can be carried out using handheld communicator 475 or, more conveniently, with a HART modem and the SIMATIC PDM configuration software.

Initial startup of the adapter is usually carried out via SIMATIC PDM and a HART modem or a handheld communicator. During initial startup, the network ID and join key are set in the adapter. These parameters are used to integrate the adapter into an existing WirelessHART network.

Following integration into the network, the adapter and HART devices connected can be conveniently operated via the WirelessHART network or locally, as detailed above.

Siemens HART field devices for the adapter

In principle, all HART devices certified by the HART Communication Foundation (HCF) can be operated with the SITRANS AW210 WirelessHART adapter. See http://www.siemens.com/automation/service&support for FAQ with the latest information on connectivity for Siemens field devices.

Note:

Siemens has only approved the Siemens HART field devices listed there for the adapter, and will only provide technical support for these devices.

Based on HART specifications, it is generally possible to connect devices that are not listed, however with the following restrictions:

- All warranties and liability will be excluded
- No technical support

Technical specifications

Input	
	Point-to-point connection to a HART field device or Point-to-point connection to a 4 ... 20 mA field device or Up to eight HART field devices with an external voltage supply integrated using multidrop
Communication	• HART communication with multidrop, as primary or secondary HART master (can be specified) • 4 ... 20 mA current signal with a point-to-point connection scaling in user-defined measuring range in SITRANS AW210 - Linear - User-defined scaling with up to 32 points
Protocol	HART V7 (compatible with previous HART versions)

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SITRANS AW210 - WirelessHART adapter

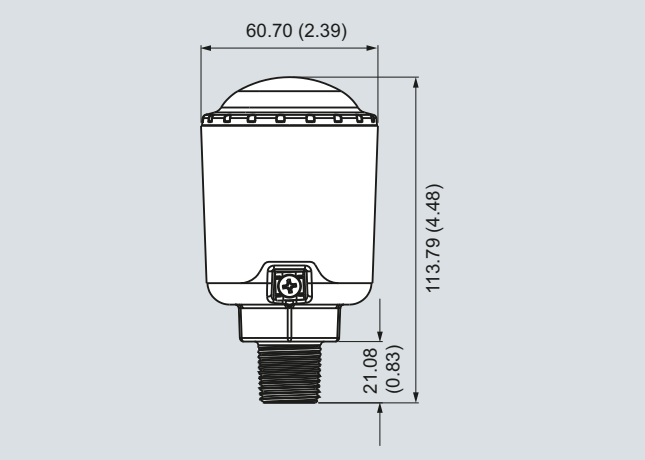
Output	
Communication	WirelessHART V7
Transmission frequency band	2.4 … 2.4835 GHz (ISM band), 16-channel frequency hopping spread spectrum
Range (under reference conditions)	Outside up to 235 m (771 ft)
RF signal strength	10 dBm
Output signals	
• WirelessHART adapter	• HART Cmd 3 Measured current and up to 4 other dynamic variables (measured values, derived values) or device variables • HART Cmd 9 Up to 8 dynamic variables with status • HART Cmd 48 Additional status information
• 4 ... 20 mA field device	Scaled or linearized process values
• HART field device	• HART Cmd 3 Measured current and up to 4 other dynamic variables (measured values, derived values) or device variables • HART Cmd 9 Up to 8 dynamic variables with status • HART Cmd 48 Additional status information
Update time for output signals	You can set the update times separately for the adapter and the connected devices. The possible settings are: • 1, 2, 4, 8, 16, 32 s • 1, 2, 5, 10, 30, 60 min (times also depend on the gateway)
Measuring accuracy	
Max. measuring error (4 ... 20 mA circuit)	1 % of measuring range, 40 … 85 °C (104 … 185 °F)
Rated conditions	
Location	Outside/inside
Ambient conditions	
• Ambient temperature	-40 ... +85 °C (-40 ... +185 °F) In hazardous areas up to 75 °C (167 °F)
• Storage temperature	-40 ... +85 °C (-40 ... +185 °F)
Electromagnetic compatibility	To EN 301 489-17 and EN 300 328-1
Design	
Weight	0.46 kg (1.01 lb)
Enclosure	
• Material	
- Enclosure	Aluminum alloy, RoHS-compliant polyurethane corrosion-resistant coating
- Cap	Resin
• Cable entry	½" NPT female thread
Degree of protection	IP68
Aerial	Potted in enclosure
Auxiliary power	
Power supply	Loop power 1 … DC 2.5 V, can be set by user in 0.5 V DC increments
Loop-powered, operating current	DC 3.2 … 25 mA operating current; overvoltage, surge and reverse polarity protection

Certificates and approvals	
Wireless communication approvals	• CE (R&TTE, EMC) • FCC Part 15.247 for wireless applications in the 2.4 GHz transmission frequency band • IC
Explosion protection	
Intrinsic safe "i" gas and vapor	II 1G Ex ia IIC T*; IP68 T* = T5 for Ta = -40 ... +85 °C T* = T6 for Ta = -40 ... +75 °C
Intrinsic safe dust	II 1 D Ex iaD 20 IP68 T95C; Ta = -40 ... +85 °C
Non-sparking (zone 2)	II 3 G Ex nA nC IIC T* Gc; IP68 T* = T5 for Ta = -40 ... +85 °C T* = T6 for Ta = -40 ... +75 °C
Explosion protection to FM for US Intrinsic safe, Non-sparking	IS/I,II,III/1/ABCDEFG/ T5 Ta = -40 ... +85 °C, T6 Ta = -40 ... +75 °C NI/I/2/ABCD/ T5 Ta = -40 ... +85 °C, T6 Ta = -40 ... +75 °C S/II,III/2/EFG/ T5 Ta = -40 ... +85 °C, T6 Ta = -40 ... +75 °C I/0/AEx ia/IIC/ T5 Ta = -40 ... +85 °C T6 Ta = -40 ... +75 °C; 20/AEx iaD/T95°C; Ta = -40 ... 85°C I/2/AEx nA nC/IIC/ T5 Ta = -40 ... +85 °C, T6 Ta = -40 ... +75 °C; IP68
Explosion protection to FM for CA Intrinsic safe, Non-sparking	IS/I,II,III/1/ABCDEFG/ T5 Ta = -40 ... +85 °C T6 Ta = -40 ... +75 °C; NI/I/2/ABCD/ T5 Ta = -40 ... +85 °C T6 Ta = -40 ... +75 °C; S/II,III/2/EFG/ T5 Ta = -40 ... +85 °C T6 Ta = -40 ... +75 °C; I/0/Ex ia/IIC/ T5 Ta = -40 ... +85 °C T6 Ta = -40 ... +75 °C; I/2/Ex nA nC/IIC/ T5 Ta = -40 ... +85 °C T6 Ta = -40 ... +75 °C II/1/EFG Ta = -40 ... +85°C; IP68
Flameproof gas and vapor	II 2 G Ex d IIC T* Gb; IP68 T* = T5 for Ta = -40 ... +85 °C T* = T6 for Ta = -40 ... +75 °C
Protection by enclosure dust	II 2 D Ex tb IIIC T95°C Ta = -40 ... +85°C; IP68
Explosion protection to FM for US Explosionproof, flameproof, gas, dust	XP/I/1/ABCD I/1 AEx d IIC T5, T6 Gb DIP/II,III/1/EFG 21/AEx tb IIIC T95°C T5 Ta = -40 ... +85°C, T6 Ta = -40 ... +75°C Type 6P, IP68
Explosion protection to FM for CA Explosionproof, flameproof, gas, dust	XP/I/1/ABCD I/1 Ex d IIC T5, T6 Gb DIP/II,III/1/EFG T5 Ta = -40 ... +85°C, T6 Ta = -40 ... +75°C

SITRANS AW210 - WirelessHART adapter

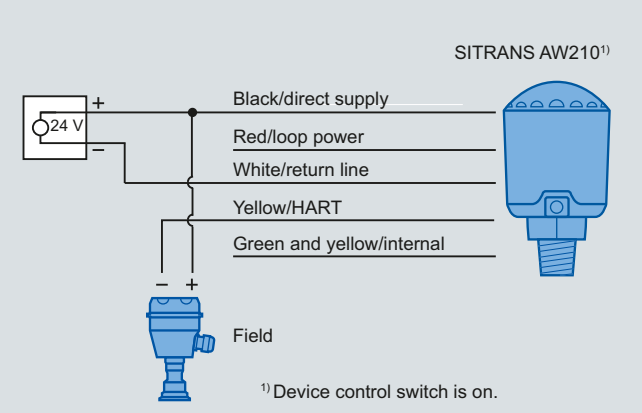
Selection and ordering data	Order No.
SITRANS AW210 Adapter for WirelessHART communication	7MP3111-■■■■0-0AA0
WirelessHART-Adapter AW210 with 4 ... 20 mA- or HART interface	
2 devices	1
8 devices	2
Auxiliary Power	
Loop powered or 24 V DC (external)	A
Certificates and approvals	
Intrinsically safe gas, vapors and dust (ATEX) , Intrinsic Safe (FM)	B
Explosionproof gas, vapour and dust (ATEX), Explosionproof (FM)	C
Enclosure	
Aluminum	0

Dimensional drawings

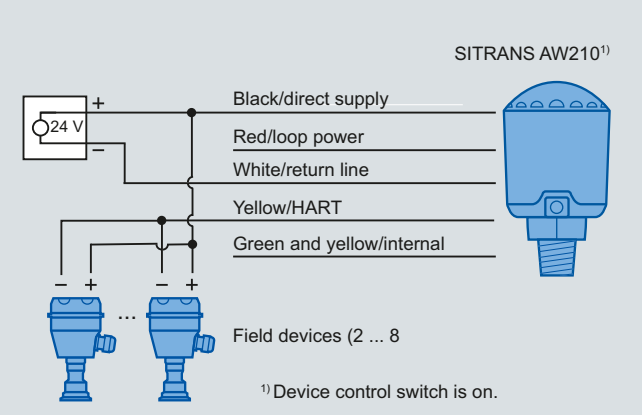


SITRANS AW210 WirelessHART adapter, dimensions in mm (inches)

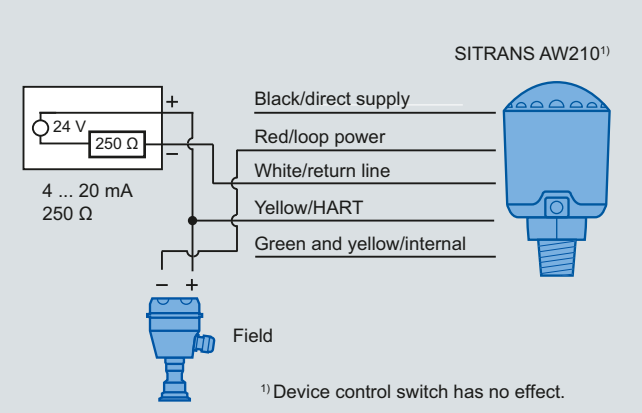
Schematics



External 24 V DC power supply, connection of one device



External 24 V DC power supply, connection of multiple devices



Loop power for connection of one 4 ... 20 mA HART device

7

IE/WSN-PA LINK

Overview

- The IE/WSN-PA LINK is a network transition for the connection of WirelessHART field devices (HART V7.1) to Industrial Ethernet, as an alternative or supplement to the wired connection.
- Connection of up to 100 WirelessHART devices
- Approved for operation in hazardous areas in Zone 2
- Open TCP/IP communication and Modbus TCP via the Ethernet interface
- Can be used with HART-OPC servers of the HART Communication Foundation

Note:
A general introduction to WirelessHART and information on the WirelessHART adapter and the WirelessHART field devices can be found in Catalog FI 01 or on the Internet at http://www.siemens.com/wirelesshart

Benefits

- Extended possible solutions for connecting process industry field devices by means of alternative or supplementary WirelessHART communication
- Reliable data transmission using intermeshed network technology; the self-organizing network with alternative paths enables radio obstacles to be bypassed
- Reduction of cabling costs under difficult installation conditions, e.g. if the field devices are located on inaccessible plant components or are only required temporarily
- To improve process monitoring and for maintenance tasks, sensors can be retrofitted
- Existing transmitters can be integrated wirelessly into maintenance and diagnostics systems by means of WirelessHART adapters
- Without additional software, restricted monitoring is possible via web services and the integrated web server of the IE/WSN-PA LINK.

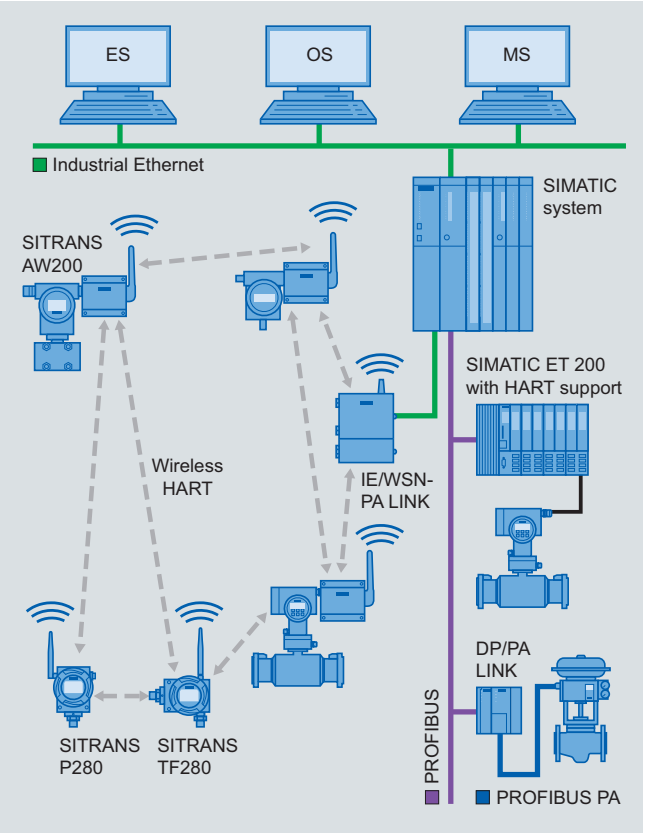
Application

The IE/WSN-PA LINK connects wireless HART field devices by radio to the Ethernet. On the radio side, the IE/WSN-PA LINK supports the WirelessHART standard and on the Ethernet side the TCP/IP and Modbus TCP communication.

The IE/WSN-PA LINK thus enables wireless diagnostics, maintenance and process monitoring.

Monitoring

WirelessHART is particularly suitable for use in plant sections that are to be included in monitoring, but which do not have any existing MSR cabling, e.g. external tank stores or other installations where high cabling costs are anticipated. Data for the visualization can be retrieved from the IE/WSN-PA link via Industrial Ethernet or Modbus TCP.



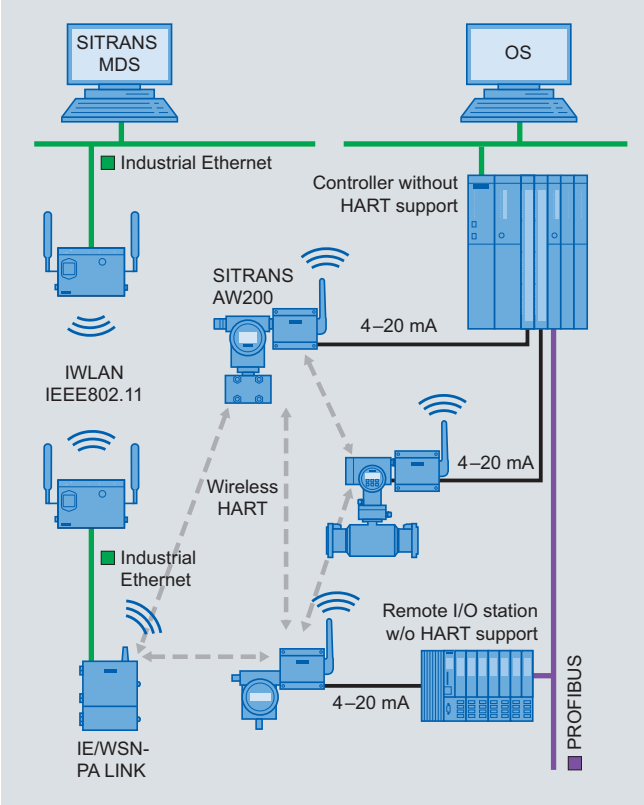
Monitoring of process states via WirelessHART

Retrofitting for diagnostics and maintenance

For this application, wireless adapters are looped into the 4-20 mA interface or screwed directly onto the HART device. The acyclic HART message frames are transmitted by radio between IE/WSN-PA LINK and a wireless adapter. Without affecting the operation of the plant, the wireless adapter modulates the acyclic HART message frames to the 4-20 mA interface or extracts them from the 4-20 mA interface.

The IE/WSN-PA LINK collects the data of all wireless adapters and transfers it via Industrial Ethernet to the diagnostics and maintenance station.

If greater distances between the IE/WSN-PA LINK and the monitoring station are to be spanned without cabling, this can be implemented by means of Industrial Wireless LAN with the access points and client modules of the SCALANCE W family.



Retrofitting of plants for diagnostics and maintenance

Design

- 2 x 10/100/1 000 Mbit/s RJ45 ports, electrical (no integral switch; interfaces can be used, for example, for continuous connection to the plant network as well as the temporary connection of a PC)
- 1 x screw terminal for connection to Modbus RTU via RS 485
- 1 x screw terminal for the 24 V DC connection
- Rugged metal enclosure with IP65 protection for use outdoors, also in hazardous zone 2
- Mounting: wall or mast mounting (vertical);
  U-bolts for mast mounting are included in the scope of delivery.

Product versions

- With integral, non-detachable antenna
- With N connector for connection of external antennas

Function

WirelessHART

The IE/WSN-PA LINK establishes on the radio side an intermeshed wireless sensor network for communication with wireless field devices (e.g. transmitters). The data from the wireless field devices is received by the IE/WSN-PA LINK and transmitted via Industrial Ethernet to the connected systems. The supported wireless network is an open wireless network specified by the HART Communication Foundation (HCF) in accordance with the WirelessHART (HART V7.1) standard.

On the field device side, the IE/WSN-PA LINK requires field devices that support WirelessHART (HART). Existing field devices can be integrated by means of wireless adapters into the WirelessHART communication. To this end, the adapters are looped into the 4-20 mA interface. In addition, as many as four standard HART field devices with external power supply can be connected to the adapter in multidrop mode. Individually connected devices can be operated with the battery of the adapter.

The adapter wirelessly transmits all data and process values of the connected devices. The advantage of this solution is that tried and tested devices can continue to be used.

Industrial Ethernet

Via the Ethernet interface the IE/WSN-PA LINK supports the use of the HART OPC server and the Modbus TCP protocol.

Configuration

The configuration is web-based, without additional software, and performed from the PC. By means of the web user interface it is also possible to display the device states and measured values of the WirelessHART devices.

Integration

Integration into automation systems

The IE/WSN-PA LINK can be integrated into automation systems via Ethernet or Modbus TCP. Communication modules (CP 343-1 or CP 443-1) are required to connect the IE/WSN-PA LINK to SIMATIC S7-300/400. Function blocks and technical support can be found at:

www.siemens.com/simatic-net/ik-info

Integration in PCS 7

For integration of the IE/WSN-PA LINK into PCS 7 you can obtain function blocks and technical support at:

www.siemens.com/simatic-net/ik-info

Technical specifications

Order No.	6GK1 411-6CA40-0AA0	6GK1 411-6CA40-0BA0
Product type designation	IE/WSN-PA LINK	IE/WSN-PA LINK
Data transmission rate		
• at interface 1	10 … 100 Mbit/s	
• at interface 2	10 … 100 Mbit/s	
• at interface 3	9.6 to 57.6 kbps	
Interfaces		
Number of electrical connections		
• at interface 1 in accordance with Industrial Ethernet	1	
• at interface 2 in accordance with Industrial Ethernet	1	
• at interface 3 in accordance with RS 485	1	
• For power supply	1	
Design of electrical connection		
• at interface 1 in accordance with Industrial Ethernet	RJ45 port	
• at interface 2 in accordance with Industrial Ethernet	RJ45 port	
• at interface 3 in accordance with RS 485	2-pin terminal strip	
• For power supply	3-pin terminal strip	
Interfaces Wireless		
Number of radio cards permanently installed	1	1
Number of internal antennas	1	0
Number of electrical connections for external antenna(s)	0	1
Design of electrical connection for external antenna(s)	-	N-Connector

IE/WSN-PA LINK

Supply voltage, current consumption, power loss	
Type of power supply	DC
Supply voltage, external	24 V
• Minimum	20 V
• Maximum	28 V
Current consumed from external power supply at 24 V DC, maximum	0.5 A
Effective power loss, maximum	12 W
Permitted ambient conditions	
Ambient temperature	
• During operating phase	-40 … +60 °C
• During storage	-40 … +85 °C
• During transport	-40 … +85 °C
Relative humidity at 25 °C without condensation during operating phase, maximum	90 %
IP degree of protection	IP 65
Design, dimensions and weights	
Housing width	229 mm
Housing height	
• Without antenna	306 mm
• With antenna	354 mm
Housing depth	89 mm
Net weight	4.54 kg
Type of mounting	
• Wall mounting	Yes
• Mast mounting	Yes
Type of mounting	Material for mast mounting included in scope of delivery
Radio frequencies	
Radio frequency with WirelessHART in the 2.4 GHz frequency band	
• Start value	2.4 GHz
• Full-scale value	2.5 GHz
Performance data WirelessHART	
Number of WirelessHART devices which can be operated	100
Network latency	
• Maximum with 100 field devices and WirelessHART network	10 s
• Maximum with 50 field devices and WirelessHART network	5 s
Transition link between two devices with WirelessHART network	
• Maximum	100 m
• Note	The values may deviate if obstacles affecting radio transmission are present
HART protocol is supported	Yes
Product properties, functions, components General	
Protocol is supported	
• Address Resolution Protocol (ARP)	Yes
• HTTP	Yes
• HTTPS	Yes
• Modbus TCP	Yes
• Modbus TCP secure	Yes
• Modbus RTU	Yes
Product functions Management, configuration, programming	
Product function	
• Web-based management	Yes
• DHCP client	Yes

Product functions Diagnostics	
Product function	
• Web-based diagnostics	Yes
• WirelessHART diagnostics via Modbus	Yes
Product functions Security	
Product function	
• Password protection - multilevel	Yes
• WirelessHART join key	Yes
• ACL - MAC-based	Yes
• WirelessHART network ID	Yes
SSL protocol is supported	Yes
Encryption principle	AES 128 bit
Product functions Time	
NTP protocol is supported	Yes
Standards, specifications, approvals	
Standard for WirelessHART	HART V 7.1
Standard for wireless communication IEEE 802.15.4	Yes
Certificate of suitability	
• CE mark	Yes
• Referred to CSA	CSA Division 2 & Dust Ignition-proof for Class I, Division 2, Groups A, B, C, and D. Dust Ignition-proof for Class II, Groups E, F, and G / Suitable for Class III Hazardous Locations. / Install per Siemens drawing A5E02467236A. Temperature Code: T4 (-40°C < Ta < 60°C) CSA Enclosure Type 4X
• Referred to FM	FM Division 2, Non-Incendive for Class I, Division 2, Groups A, B, C, and D. Dust Ignition-proof for Class II, III, Division 1, Groups E, F, and G / Indoor and outdoor locations / NEMA Type 4X Temperature Code: T4 (-40°C < Ta < 60°C)
• Referred to ATEX	ATEX type n, see note: Certificate number: Baseefa10ATEX0044X, ATEX marking: Ex II 3 G, Ex nA nL IIC T4 (-40 °C <= Ta <= 60 °C), rated voltage: 28 V, ATEX Dust Ignition-proof: Certificate number: Baseefa10ATEX0045X, ATEX marking: II 3 D, Ex tD A22 IP66 T135 (-40 °C <= Ta <= 60 °C), rated voltage: 28 V. Note on type n: Conditions for safe handling during installation: The device does not pass the 500 V insulation test in accordance with paragraph 6.8.1 of EN 60079-15:2005. This must be taken into account when installing the device.
• Referred to IECEx	IECEx type n, see note: Certificate number: IECEx BAS 10.0014X, Ex nA nL IIC T4 (-40 °C <= Ta <= 60 °C), rated voltage: 28 V, IECEx Dust Ignition-proof, see note: Certificate number: IECEx BAS 10.0015X, Ex tD A22 IP66 T135 (-40 °C <= Ta <= 60 °C), rated voltage: 28 V. Note on type n: Conditions for safe handling during installation: The device does not pass the 500 V insulation test in accordance with paragraph 6.8.1 of EN 60079-15:2005. This must be taken into account when installing the device.
Referred to NEMA	-
Wireless approval	FCC and IC approval

-	-
IC approval	

Selection and Ordering data

	Order No.
IE/WSN-PA LINK Gateway between WirelessHART and Industrial Ethernet; transmission frequency: 2.4 GHz	
• With integral, non-detachable antenna	**6GK1 411-6CA40-0AA0**
• N connector for connection of external antennas	**6GK1 411-6CA40-0BA0**
Antennas	
Antennas with omni-directional characteristics; country permits, compact instructions (hard copy), German/English	
Wall or mast-mounting	
• **Antenna ANT792-6MN** Antenna gain including N-Connect connector 6 dBi, 2.4 GHz	**6GK5 792-6MN00-0AA6**
Roof mounting	
• **ANT795-6MN antenna** Antenna gain incl. N-Connect connector 6/8 dBi, 2.4/5 GHz	**6GK5 795-6MN00-0AA6**
• **Antenna mounting tool (ANT795-6MN)** Mounting tool for installation of ANT795-6MN under a roof	**6GK5 795-6MN01-0AA6**
LP798-1N Lightning Protector Lightning protector with N/N female/female connector, IP65 (-40 … +100 °C)	**6GK5 798-2LP00-2AA6**
Antenna cables	
IWLAN N-Connect male/male flexible connection cable Flexible connecting cable for connecting an external antenna; assembled with two N-Connect male connectors	
• 1 m	**6XV1 875-5AH10**
• 2 m	**6XV1 875-5AH20**
• 5 m	**6XV1 875-5AH50**
• 10 m	**6XV1 875-5AN10**
HF coupling N-Connect male/male connector for connecting the LP798-1N lightning protector	**6GK5 798-0CP00-1AA0**
Accessories	
IE FC M12 Plug PRO M12 plug-in connector suitable for on-site assembly (D-coded, IP65/IP67), metal housing, FastConnect connection system, for connecting HARTING adapter cables to the Industrial Ethernet	
• 1 unit	**6GK1 901-0DB20-6AA0**
IE FC TP Standard Cable GP 2 x 2 (Type A) 4-core, shielded TP installation cable for connection to IE FC Outlet RJ45/IE FC RJ45 Plug; PROFINET-compatible; with UL approval; sold by the meter; max. length 1000 m, minimum order quantity 20 m	**6XV1 840-2AH10**

	Order No.
IE FC Stripping Tool Preadjusted stripping tool for fast stripping of the Industrial Ethernet FC cables	**6GK1 901-1GA00**
Network components for IWLAN	see "Industrial Wireless Communication"
HARTING adapter cable [1] M12 female NPT 1/2 thread to RJ45 11cm, (minimum order quantity: 10); The adapter is provided for easy connection of the link to the Industrial Ethernet;	**21 03 683 6420** Not included in the scope of delivery of the IE/WSN-PA link; You can find ordering information on the Internet at: http://www.harting.de/kontakt/adressen/
SITOP compact 24 V/ 0.6 A 1-phase power supply with wide-range input 85 – 264 V AC/110 – 300 V DC, stabilized output voltage 24 V, rated output current value 0.6 A, slim design	**6EP1 331-5BA00**

[1] When using the Harting adapter cable for the Ethernet connection, the requirements for intrinsic safety approval are not applicable. When used in an application relevant to intrinsic safety guidelines, it requires acceptance by the appropriate approval agency.

More information

Current approvals can be found on the Internet at:

http://support.automation.siemens.com/WW/view/en/46374734

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Notes