

# SITRANS P measuring instruments for pressure

## Transmitter for pressure with wireless communication

### WirelessHART pressure transmitter SITRANS P280

#### Overview



SITRANS P280 for flexible and cost-effective applications in pressure monitoring

- Supports the WirelessHART standard (HART V 7.1)
- Very high security level for wireless data transmission
- Built-in local user interface (LUI) with 3-button operation
- Optimum representation and readability using graphical display (104 x 80 pixels) with integrated backlight
- Stand-by (deep sleep phase) can be activated and deactivated device with push of a button
- Battery power supply
- Battery life time up to 5 years
- Extend battery life time with switch off the HART modem interface
- Optimized power consumption through new design, and increase in battery life time
- Simple configuration thanks to SIMATIC PDM
- Device meets IP65 degree of protection
- Can be used for absolute and gauge pressure measurements

#### Benefits

The SITRANS P280 is a pressure transmitter that features Wireless HART as the standard communication interface.

Also available is a wired interface to connect a HART modem:

- Flexible pressure measurements
- Save costs on wiring at difficult installation conditions. Wireless technology offers cost advantages in cases where extensive wiring cost would normally apply
- It enables additional hitherto unfeasible measuring points, particularly for monitoring purposes
- Easy installation on moveable equipment
- Enables cost-effective temporary measurements, for example for process optimizations
- Optimum solution in addition to wired communication and new possibilities for system solutions in process automation

#### Application

The SITRANS P280 is a WirelessHART field device for measuring absolute and gauge pressure.

The measuring ranges for absolute and gauge pressure measurements are 0 to 2, 10, 50, 200 and 400 bar (0 to 29, 145, 725, 2900 and 5800 psi).

The sensor is integrated into the transmitter's housing.

On the wireless communication side, the transmitter supports the WirelessHART standard. A HART modem can be connected to the transmitter particularly for initial commissioning.

It can be used in all industries and applications in non-explosive areas.

#### Design

The SITRANS P280 has a robust aluminum enclosure and is suitable for outside use. It conforms with the IP65 safety class.

The operation temperature range is -40 to +80 °C (-40 to +176 °F). Power supply is provided through an integrated battery, which is available as an accessory. The device is only approved for operation with this battery.

The antenna features a rotatable joint which can be used for directional alignment. Wireless signals can thus be optimally received and transmitted.

A special highlight is the possibility to operate directly on the device with 3 push buttons. It fits perfect with the strategy of all new Siemens field devices.

Using the device's push buttons, it is easy to turn the HART modem interface of the device on and off. The device can be put to passive status and reactivated at any time. This helps to extend the life time of the battery.

The SITRANS P280 transmitter features a ceramic measuring cell for gauge and absolute pressure measurements.

#### Function

The SITRANS P280 can join to a WirelessHART network. It can be parameterized and operated through this network. Measured process values are transmitted via the network to the SIEMENS IE/WSN-PA LINK.

Field device data received by the IE/WSN-PA LINK is transmitted to the connected systems, for example the process control system SIMATIC PCS 7. For an introduction of WirelessHART, please see the FI 01 catalogue Sec. 9 or [www.siemens.com/wirelesshart](http://www.siemens.com/wirelesshart).

Detailed information on IE/WSN-PA LINK can be found in the FI 01 catalogue Sec. 9 or [www.siemens.com/wirelesshart](http://www.siemens.com/wirelesshart).



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#### Design

Enclosure material	low-copper die-cast aluminum, GD-AISi12
Shock resistance	in accordance with DIN EN 60068-2-29 / 03.95
Resistance to vibration	in accordance with DIN EN 60068-2-6/ 12.07 20 ≤ f ≤ 2000 Hz 0.01 g <sup>2</sup> /Hz
Weight	
• without battery	1.5 kg (3.31 lb)
• with battery	1.6 kg (3.53 lb)
Dimensions (W x H x D)	See Dimensional drawing
Process connection	<ul style="list-style-type: none"> <li>• G<sup>1</sup>/<sub>2</sub>B male thread as per EN 837-1</li> <li>• 1/2-14 NPT</li> </ul>
Sensor break	Is recognized
• Displays and controls	
Display (with illumination)	
• Size of display	104 x 80 pixels
• Number of digits	adjustable
• Number of spaces after comma	adjustable
Setting options	<ul style="list-style-type: none"> <li>• on site with 3 push buttons</li> <li>• with SIMATIC PDM or HART Communicator</li> </ul>

#### Auxiliary power

Battery	3.6 V DC
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#### Communication

Radio	WirelessHART V7.1 conforming
Transmission frequency band	2.4 GHz (ISM-Band)
Transmission range under reference conditions	Up to 250 m (line of sight) in outside areas Up to 50 m (greatly dependent on obstacles) in inside areas
Communication interfaces	<ul style="list-style-type: none"> <li>• HART communication with HART modem</li> <li>• WirelessHART</li> </ul>

#### Certificates and approvals

Wireless communication approvals	R&TTE FCC
Classification according to PED 97/23/EC	Gases: Fluid group 1 Liquids: Fluid group 1; meets requirements as per Section 3, Subsection 3 (good engineering practice)

#### Selection and ordering data

**SITRANS P280 WirelessHART pressure transmitter** ▶ **7MP1120** - **0**

(Required battery not included with delivery, see accessories)

#### Measuring cell filling

Dry measuring cell

#### Measuring span

Gauge pressure  
0 ... 2 bar g (0 ... 29 psi g)  
0 ... 10 bar g (0 ... 145 psi g)  
0 ... 50 bar g (0 ... 725 psi g)  
0 ... 200 bar g (0 ... 2900 psi g)  
0 ... 400 bar g (0 ... 5800 psi g)

#### Absolute pressure

0 ... 2 bar a (0 ... 29 psi a)  
0 ... 10 bar a (0 ... 145 psi a)  
0 ... 50 bar a (0 ... 725 psi a)  
0 ... 200 bar a (0 ... 2900 psi a)  
0 ... 400 bar a (0 ... 5800 psi a)

#### Wetted parts

Ceramic

#### Display

Digital display, visible

#### Enclosure

Die-cast aluminum

#### Process connection

G<sup>1</sup>/<sub>2</sub> as per EN 837-1  
1/2-14 NPT

#### Explosion protection

Without

#### Antenna

Variable, attached to device

#### Further designs

Please add "-Z" to Order No. and specify Order code(s) and plain text.

Measuring point number (TAG Nr.) max. 16 digits entered in plain text  
Y15: .....

Measuring point message max. 27 characters entered in plain text:  
Y16: .....

#### Accessories

Lithium battery for SITRANS TF280/P280	▶ <b>7MP1990-0AA00</b>
Mounting bracket, steel	<b>7MF4997-1AC</b>
Mounting bracket, stainless steel	▶ <b>7MF4997-1AJ</b>
Cover, die-cast aluminum, without window	<b>7MF4997-1BB</b>
Cover, die-cast aluminum, with window	▶ <b>7MF4997-1BE</b>
IE/WSN-PA LINK	<b>see Sec. 9</b>
HART modem with RS232 interface	▶ <b>7MF4997-1DA</b>
HART modem with USB interface	▶ <b>7MF4997-1DB</b>
SIMATIC PDM	<b>see Sec. 9</b>

▶ Available ex stock

Order No.

0

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1

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A

Order code

**Y15**

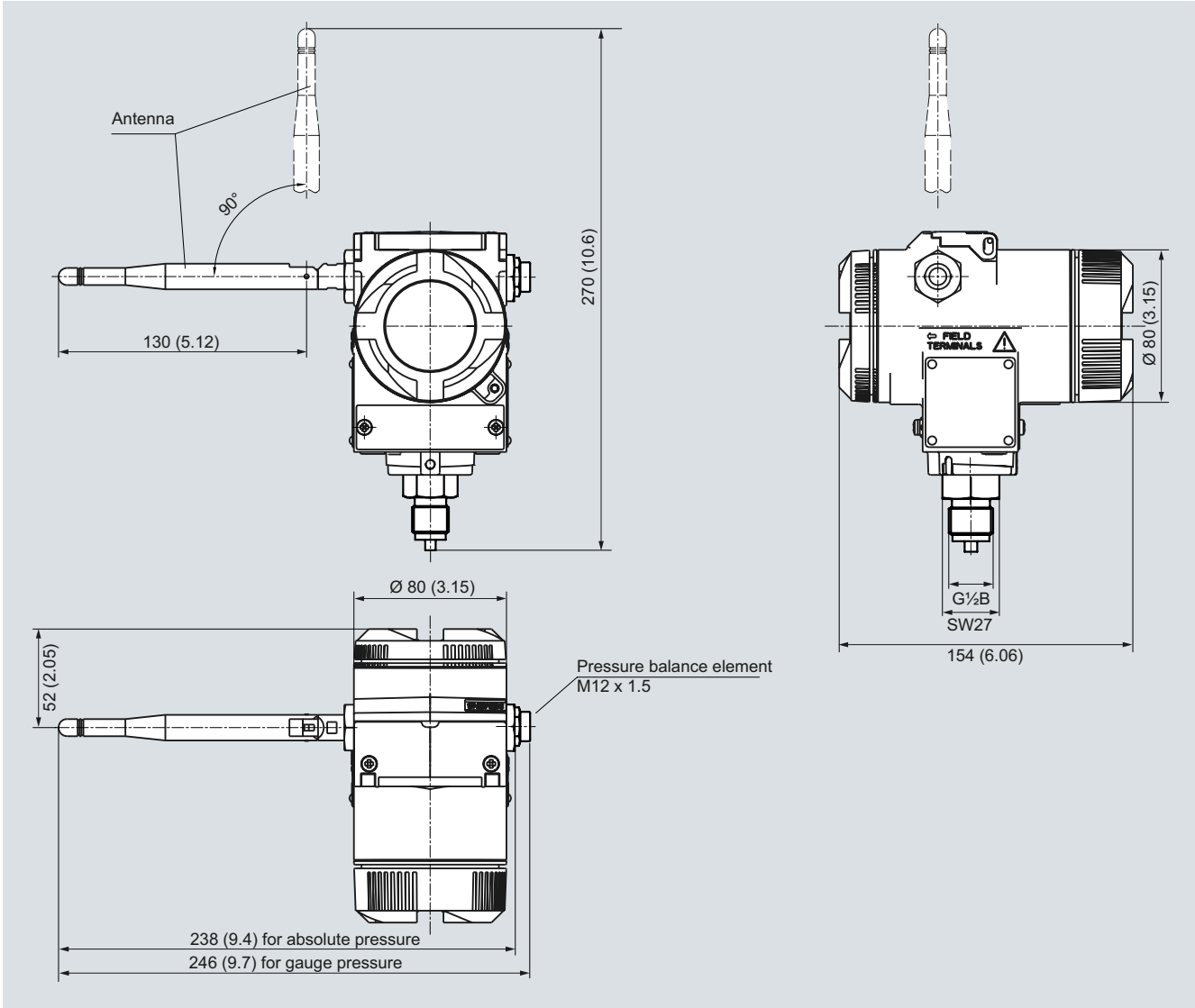
**Y16**

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WirelessHART pressure transmitter  
SITRANS P280

**Dimensional drawings**



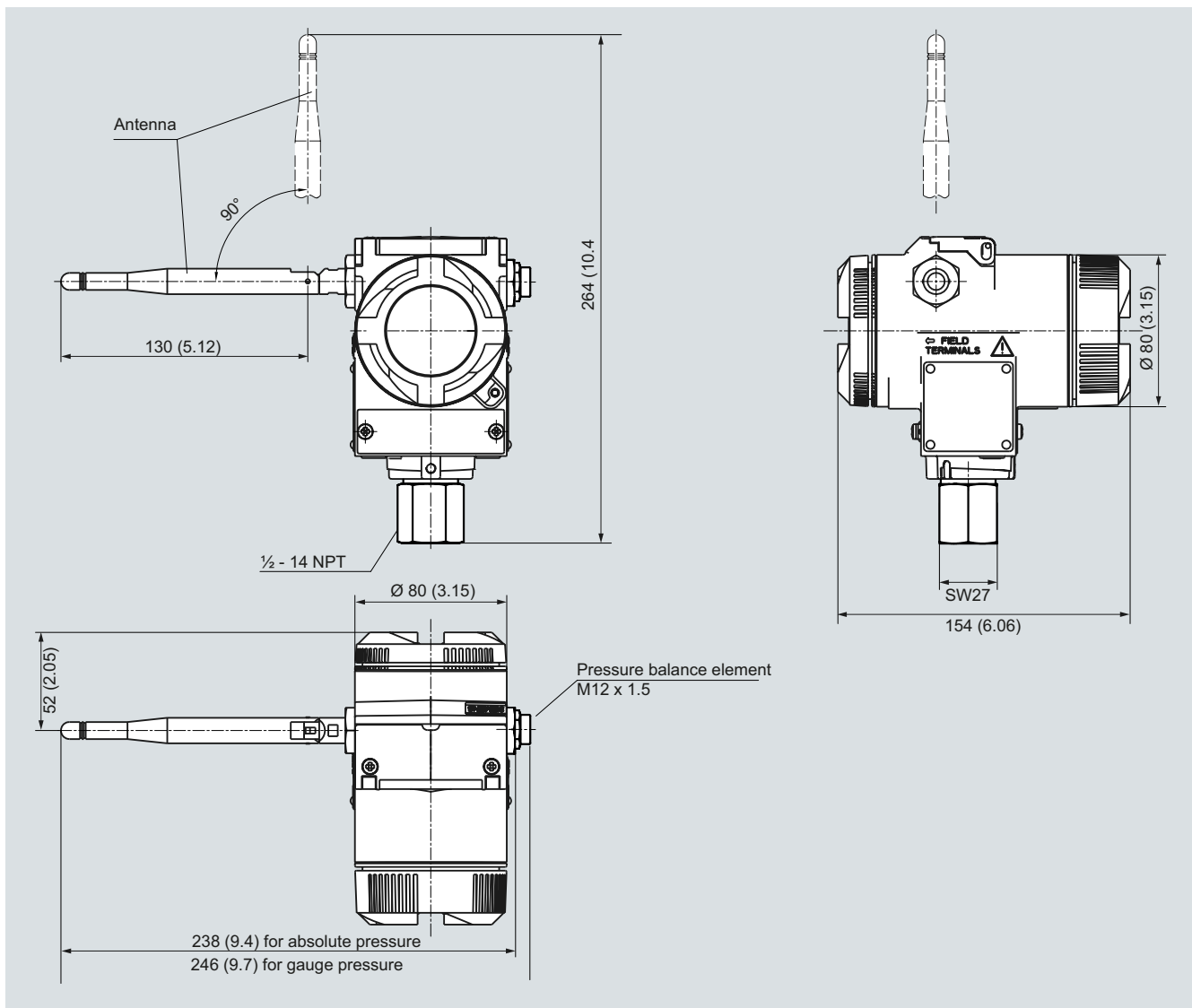
SITRANS P280 WirelessHART pressure transmitter, process connection G 1/2", dimensions in mm (inch)

# SITRANS P measuring instruments for pressure

## Transmitter for pressure with wireless communication

WirelessHART pressure transmitter  
SITRANS P280

2



SITRANS P280 WirelessHART pressure transmitter, process connection ½ - 14 NPT, dimensions in mm (inch)