

## Wireless Pressure Measurement System PT-RF

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The PT-RF series of pressure transmitters are an alternative solution for universal pressure measurements for fluid technology applications, which will provide benefits for system operators, maintenance personnel and repair technicians as well as for original equipment manufacturers.

The advantages resulting from the use of the new technology for system operators, maintenance personnel and repair technicians are clear:

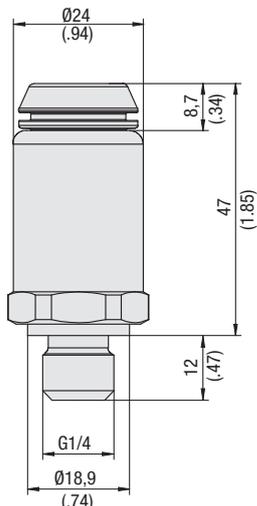
Measurements can be carried very easily, without extensive training and within a few seconds at the press of a button and then documented in a reliable process.

Unscrewing and re-installing pressure gauges or other measuring and display devices – practically a temporary opening of the system – is not required. Potential hazards for people, machines and the environment, for example from emitted waste oil in the test hose or leaks at the measuring point, as well as ingress of dirt into the system (e.g. in dusty environments) can be effectively excluded.

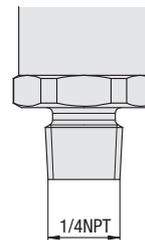
Original equipment manufacturers will also benefit from this new technology: If the pressure transmitters are installed at their factory already, the innovative technology can provide a competitive edge over alternative suppliers and open up specific advantages for the users, increasing the value retention of their own devices in the long term.

If the pressure transmitters are installed directly in the system or pipeline for permanent use, they protrude only slightly more than conventional hydraulic test couplings and meet the highest demands with regard to space requirements and weight.

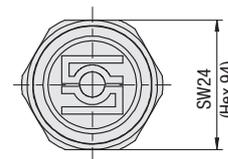
## Pressure Transmitter - Type PT-RF



Process connection G1/4 (B04)



Process connection 1/4NPT (N04)



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### Product Description

The pressure transmitters from the PT-RF series are integrated into fluid technology plants and systems permanently or temporarily using the appropriate process connection adapters. The energy required for a measurement is transferred to the pressure transmitter via the antenna of the reading device using wireless RFID technology. This means that the pressure transmitters require neither internal nor external power supply and are completely maintenance-free.

### Technical Data

#### Wetted Parts

- Suitable for liquid and gaseous media

#### Materials

- Housing: Stainless Steel 1.4305
- Sealing (B04): FKM (Viton®)
- Cap: Polyamide (glass fibre-reinforced)

#### Dimensions / Weight

- Dimensions: 59 x 26 mm / 2.32 x 1.02 in
- Weight: 80 g / .18 lbs

#### Temperature Range

- Media temp. (N04): -40°C ... +135°C / -40°F ... +275°F
- Media temp. (B04): -30°C ... +135°C / -22°F ... +275°F
- Ambient temp.: -40°C ... +85°C / -40°F ... +185°F
- Storage temp.: -55°C ... +125°C / -67°F ... +257°F

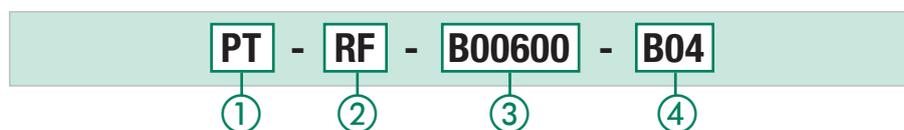
#### Electrical Data

- Sampling rate: typ. 250 ms / max. 400 ms
- Long-term stability: according to IEC EN 60770-1  
max. ± 0,25 % FS\* / a
- Load cycles (10<sup>6</sup>): 10
- Vibration loading: acc. to IEC 60068-2-6 (20 g)
- Shock loading: acc. to IEC 60068-2-27 (30 g) 11ms

#### Protection Rating

- IP69 protection rating: Dust tight and protected against high-pressure and steam cleaning

### Order Codes



#### ① Series and Type

Pressure Transmitter **PT**

#### ② Version

Signal transmission via RFID technology **RF**

#### ③ Pressure Range

see table

#### ④ Process Connection

G1/4 **B04**  
1/4 NPT **N04**

### Pressure Range and Accuracies

Version	Pressure Range and Accuracies					
Pressure Transmitter PT-RF	Pressure Range (bar/PSI)	Type of Measurement	Maximum Pressure (bar/PSI)	Burst Pressure (bar/PSI)	Accuracy (±% FS*) typ.	Accuracy (±% FS*) max.
B00016	0 ... 16	Relative pressure	32	48	0,25	0,5
	0 ... 232		464	696		
B00060	0 ... 60	Relative pressure	120	180	0,25	0,5
	0 ... 870		1740	2610		
B00160	0 ... 160	Relative pressure	320	480	0,25	0,5
	0 ... 2320		4641	6961		
B00400	0 ... 400	Relative pressure	800	1200	0,25	0,5
	0 ... 5801		11603	17405		
B00600	0 ... 600	Relative pressure	1200	1800	0,25	0,5
	0 ... 8702		17404	26107		

Temperature behaviour: max. ± 0,2 % FS\* /10K (test condition 25 °C; 45 % r. H.)

\* FS = Full Scale

### Process Connection Adaptors for Pressure Transmitter PT-RF

Various adaptors are available in addition to the pressure transmitters from the PT-RF series, allowing connection to the known STAUFF Test 20 system as well as installation in pipes.



**SDA-20-G1/4-W3**

Adaptor for process connection G1/4 (B04) on test coupling STAUFF Test 20 (connection thread M16 x 2)



**SRS-G1/4-\*\*\*-V-G-W3**

Straight fitting with adaptor  
Note: Please replace \*\*\* with tube-Ø and series (L or S).



**SMD-20-1/4NPT-W3**

Adaptor for process connection 1/4NPT (N04) on test coupling STAUFF Test 20 (connection thread M16 x 2)

Dimensional drawing: All dimensions in mm (in).

## Reader ■ Type Reader-PT-RF



B

## Order Code

**Reader-PT-RF**

①

## ① Series and Type

 Reader **Reader-PT-RF**

Standard option:

- Reader-PT-RF
- Quickguide
- USB 2.0 cable (1 m / 3.28 ft)
- 5 V DC / 1 A power supply incl. country-specific adaptors

## Technical Data

## Material

- Housing made of ABS

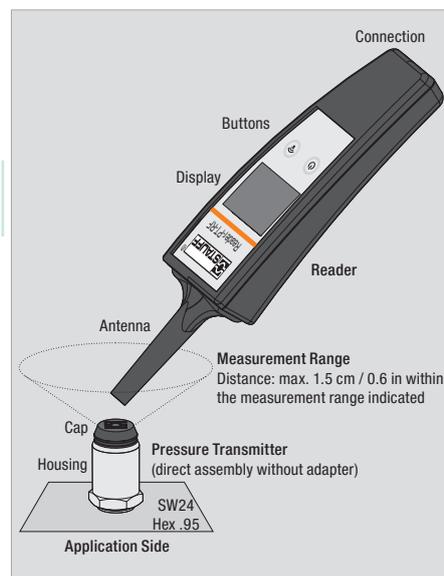
## Dimensions / Weight

- Dimensions: 76 x 35 x 240 mm / 3.0 x 1.38 x 9.45 in
- Weight: 220 g / .49 lbs

## Measurements / Display

- Pressure: in bar and PSI
- Temperature: in °C and °F
- Display: graphic, LED backlit
- Visible area: 55 x 46 mm / 2.17 x 1.81 in
- Resolution: 128 x 64 Pixel

## Set Up



## Product Description

The hand-held readers transfer the energy required for a measurement to the pressure transmitter using RFID technology. All that is required is a maximum distance of 1.5 cm / 0.6 in from the antenna to the tip of the pressure transmitter for the duration of the measurement.

When the pressure transmitter is activated by the press of a button, a current measured value is determined within only 0.5 seconds and then immediately transmitted back to the reading device together with other relevant information and then output on the illuminated display and stored. Over 15,000 of these measurement sets can be stored in the internal memory of the device.

## PC Software

The software included with the delivery allows transmission of the stored measured values from the reading device to the PC, subsequent evaluation and export, e.g. to Microsoft Excel®.

## Power Supply

- Battery: Lithium Ion (3,7 V DC / 900 mAh)
- Operating time approx. 6h (approx. 1800 individual measurement)

## Temperature Range

- Ambient temp.: -20 °C ... +70 °C / -4 °F ... +158 °F
- Storage temp.: -25 °C ... +60 °C / -13 °F ... +140 °F
- Storage temperature -20...+85 °C
- Rel. humidity < 80 %
- CE certified

## Electrical Data / Interface

- Sampling rate: typ. 250 ms / max. 400 ms
- Interface: Micro USB
- EMV: EN 61326-1:2013  
EN 300330

## Protection Rating

- IP65 protection rating: Dust tight and protected against water jets

## Type of Measurement

## Start Measurement

1. Switch on the reader using the function button.

During the brief start process, the charge state of the lithium ion battery (Battery) is shown on the display and the share of the currently occupied data memory (MemUsed) in percent as well as the current date and time.

2. Position the tip of the antenna of the reader inside the measurement range of the pressure transmitter and hold this position as long as possible during the entire measurement process.

## Individual Measurement (Single Value)

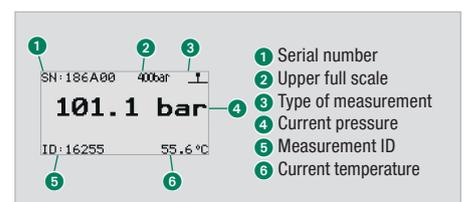
3. Start the individual measurement by tapping the function button once.

## Permanent Measurement (Multiple Values)

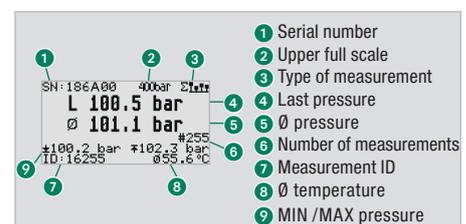
3. Start the permanent measurement by holding down the function button.

The simplest way of recognising the successful start of a permanent measurement is the change in the corresponding symbol in the upper right-hand corner of the display. The absolute number of the values determined as part of the measurement process is shown below the current pressure.

4. End a continuous measurement by releasing the function key.



Display after successful individual measurement



Display after successful permanent measurement

## Complete system ▪ Type PT-RF-SET



Complete system in case PT-RF-SET

### Product Description

The PT-RF-SET complete system is compiled in different versions according to customer requirements. All complete systems are supplied in a handy carrying case containing individually shaped foam inserts for a maximum of 10 pressure transmitters and 10 process connection adaptors and offering space for the following components:

#### Standard Option

- 1x Reader-PT-RF
- up to 3 Pressure Transmitters PT-RF
- up to 3 Process Connection Adaptors SDA or SMD
- 1x Quickguide
- 1x USB 2.0 cable (1 m / 3.28 ft)
- 1x Power Supply incl. country-specific adaptors

### Order Codes

<b>PT-RF</b>	-	<b>SET</b>	-	<b>2</b>	-	<b>400</b>	/	<b>600</b>	/	<b>000</b>	-	<b>B</b>
①		②		③		④		⑤		⑥		⑦

① <b>Series and Type</b>	Series PT-RF	<b>PT-RF</b>
② <b>Version</b>	Complete system in case	<b>SET</b>
③ <b>Number of Pressure Transmitters in the Set</b>	1x pressure transmitter	<b>1</b>
	2x pressure transmitter	<b>2</b>
	3x pressure transmitter	<b>3</b>
④ <b>Pressure Range / Version</b>	1 <sup>st</sup> pressure transmitter	<b>see table</b>
⑤ <b>Pressure Range / Version</b>	2 <sup>nd</sup> Pressure Transmitter	<b>see table</b>
⑥ <b>Pressure Range / Version</b>	3 <sup>rd</sup> Pressure Transmitter	<b>see table</b>
⑦ <b>Process Connection Adaptor</b>	Adaptor SDA for process connection G1/4 (B04)	<b>B</b>
	Adaptor SMD for process connection 1/4NPT (N04)	<b>N</b>

### Pressure Transmitter: Pressure Range and Version

Pressure Range	Version of Pressure Transmitter
000	When ordering a complete system with one or two pressure transmitters, the pressure range for the 2 <sup>nd</sup> and 3 <sup>rd</sup> pressure transmitter is given as "000".
016	Version pressure transmitter: <b>B00016</b> (pressure range: 0 ... 16 bar / 0 ... 232 PSI)
060	Version pressure transmitter: <b>B00060</b> (pressure range: 0 ... 60 bar / 0 ... 870 PSI)
160	Version pressure transmitter: <b>B00160</b> (pressure range: 0 ... 160 bar / 0 ... 2320 PSI)
400	Version pressure transmitter: <b>B00400</b> (pressure range: 0 ... 400 bar / 0 ... 5801 PSI)
600	Version pressure transmitter: <b>B00600</b> (pressure range: 0 ... 600 bar / 0 ... 8702 PSI)
e.g.	<b>400</b> (400 bar) <b>600</b> (600 bar) <b>000</b> (0 bar)

## Spare Parts / Accessories



Case-Reader-PT-RF

### Product Description

In addition to the Charger-Set-Reader-PT-RF which is available as a spare part, the Case-PT-RF-Set is also available as an individual item for assembling a complete system later on.

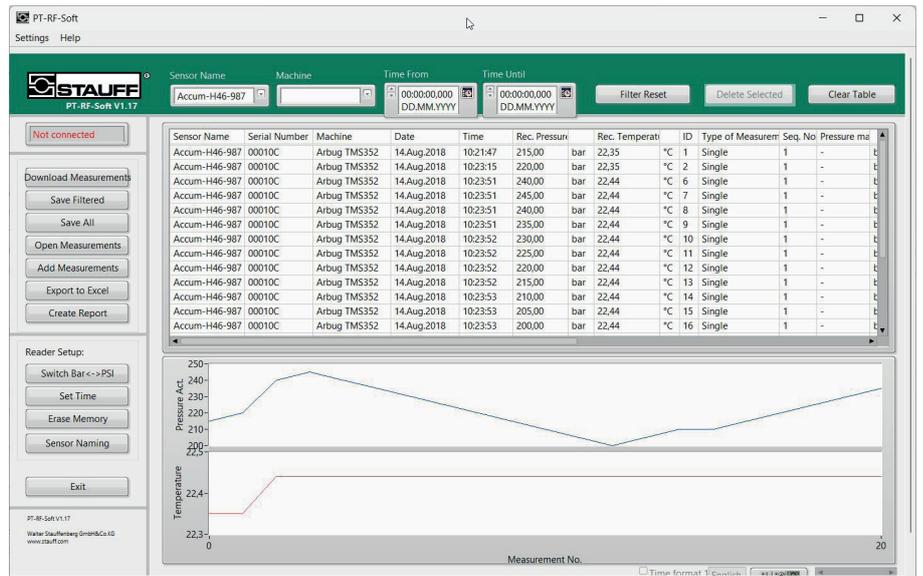
The Case-Reader-PT-RF is available if only a storage case for the reading device is required. It only provides space for the reading device and the associated accessories (without pressure transmitters and process connection adaptors).

### Order Codes

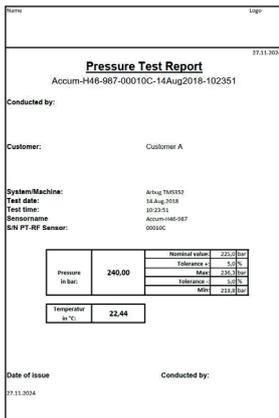
<b>Spare Parts / Accessories</b>	
①	
① <b>Spare Parts / Accessories</b>	
Case, small	<b>Case-Reader-PT-RF</b>
Case, large	<b>Case-PT-RF-SET</b>
5 V DC / 1 A power supply incl. country-specific adaptors and USB 2.0 cable	<b>Power-Supply-PT-RF-Reader-MULTI</b>
Adaptor for pressure transmitter (B04)	<b>SDA-20-G1/4-W3</b>
Adaptor for pressure transmitter (N04)	<b>SMD-20-1/4NPT-W3</b>
Straight fitting with adaptor	<b>SRS-G1/4-***-V-G-W3</b>

## Software PT-RF-Soft

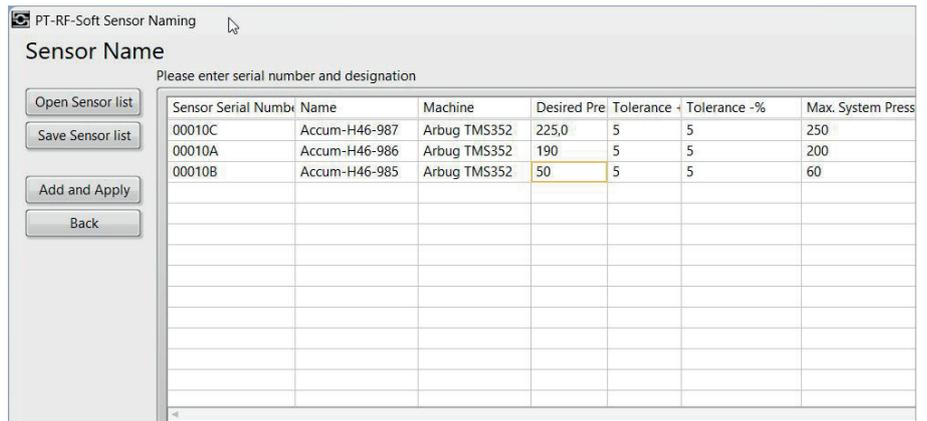
Option for complete documentation of test results, display of pressure curves, export of measurement data via CSV file and creation of customer-specific measurement reports.



Evaluation of the measured values recorded by the reader and direct comparison with previous measurement data.



Customer-specific reports can be created quickly and easily from the measurement data.



Serial numbers of the sensors can be clearly assigned to a measuring point or machine. New measurement data is assigned the correct name immediately after downloading.

## Application of the Wireless Pressure Measurement System PT-RF



Adaptor Type SBAA-P-FV



Adaptor Type SBAA-FV