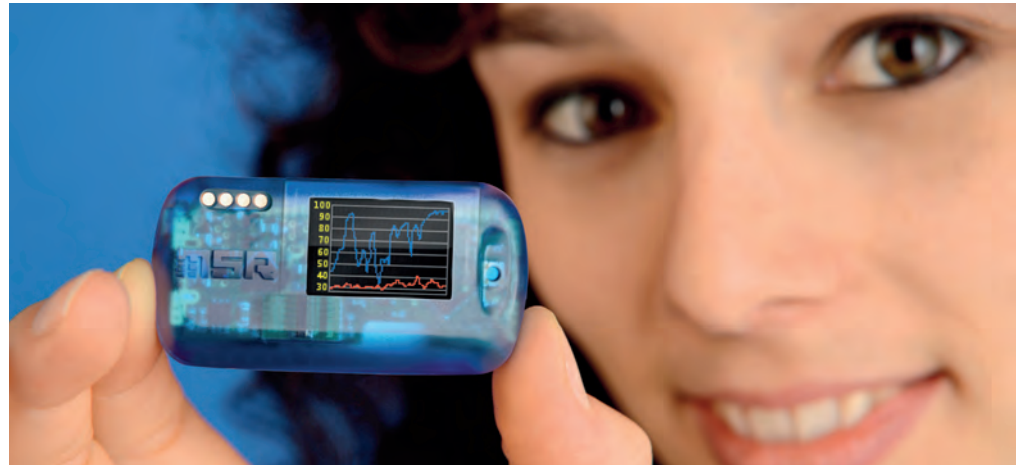
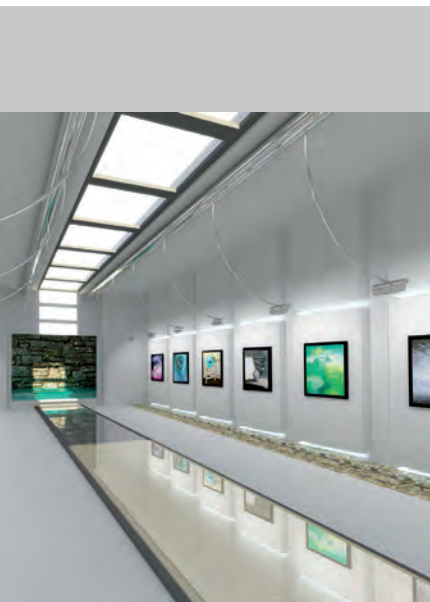


Flexible sensor combination options:

Wireless Data Logger MSR145WD with Bluetooth and FlexSensors



The MSR145WD wireless data logger, equipped with Bluetooth function, has a memory capacity of one million measured values. The versatile mini-logger can be used to wirelessly monitor measurement data, quickly read measured values, and transfer the data to the MSR SmartCloud as needed.

The use of Bluetooth Low Energy (BLE) short-range radio technology is ideal when measurement data from hard-to-reach locations needs to be monitored over long periods of time. Measured values can be retrieved at any time using the MSR Data-Logger app on a smartphone. A base station allows you to quickly send data from multiple MSR145WDs to the MSR SmartCloud via BLE/LAN.

The MSR SmartCloud allows you to view, manage and store measurement values online and to use alarm actions.



Technical Data Bluetooth Low Energy



- Bluetooth Low Energy (Bluetooth 5 Smart) 2.4 GHz
- radio range: up to 50 m
- communication with multiple MSR145WD loggers possible
- alarm function, transmission to MSR SmartCloud
- MSR DataLogger app (from Android 4.4+, iPhone 4S+, iPad 3+)
- base station (BLE receiver box) available as gateway

General Technical Data of the MSR 145WD Bluetooth Data Logger

| | |
|----------------------------------|---|
| Memory capacity: | Over 1 000 000 measured values. |
| Measurement/storage rate: | 1/s to every 12 h |
| OLED display: | High-contrast, brilliant OLED colour display to show data and graphical charts, resolution 96 x 64 pixels. |
| Interface: | USB, Bluetooth Low Energy (BLE) |
| PC-software: | Free MSR Setup, Reader, Viewer and Online software. |
| Operating conditions: | Temperature: -20...+65 °C |
| Storage conditions: | Temperature: +5...+45 °C (ideal storage condition for battery) Humidity: 10...95 % relative humidity, non-condensing |
| Standards | The MSR 145WD complies with EU-Directives RoHS/WEEE. |



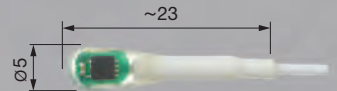
Housing and Battery Selection

| Housing | Sheat material | Battery | Size and weight (W x H x L) |
|-------------------------|----------------------|---------|-------------------------------|
| Standard IP 60 | PC, not encapsulated | 230 mAh | 35 x 17 x 57 mm, approx. 27 g |
| | PC, not encapsulated | 900 mAh | 35 x 25 x 57 mm, approx. 43 g |
| Waterproof IP 67 | PC, encapsulated | 230 mAh | 35 x 17 x 57 mm, approx. 36 g |
| | PC, encapsulated | 900 mAh | 35 x 25 x 57 mm, approx. 62 g |

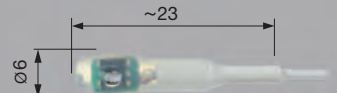
Selection of Sensors and Connections

You can select various internal sensors as well as up to five external sensors or connectors. The intelligent **FlexConnector** plug connection for interchangeable **FlexSensors** guarantees you the greatest possible flexibility. Info: www.msr.ch/en/msr145wd

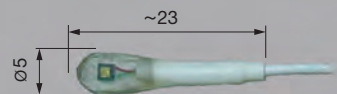
| Measured parameters | Working range | Accuracy (max. deviation) |
|---|---|--|
| Temperature | ext.: -40...+125 °C | ±0.2 °C (-10...+50 °C) ±1 °C (-40...+125 °C) |
| | int.: -20...+65 °C | ±0.2 °C (-10...+50 °C) |
| Connector for thermal element of type K (without sensor) | -200...+1350 °C | |
| Humidity with integrated temperature | 0...100 % rel. humidity ext. -40...+125 °C int. -20...+65 °C | ±1.8 % rel. humidity (10...85 %, 0...+40 °C) ±4 % rel. humidity (85...95 %, 0...+40 °C) |
| Air pressure absolute, with integrated temperature | 10...2000 mbar abs. ext.: -40...+85 °C int.: -20...+65 °C | ±2 mbar (750...1100 mbar absolute, +25 °C) |
| | 0...14 bar absolute -20...+65 °C | ±50 mbar (1...10 bar abs., +25 °C) |
| Fluid pressure with integrated temperature Material in contact with media: • Stainless Steel AISI 316L (DIN1.4404/1.4435) • O-Rings: Viton® 70° Shore | -1000..3000 mbar relative -20...+85 °C | ±30 mbar (1 % FS) |
| | 0...3000 mbar absolute -20...+85 °C | ±30 mbar (1 % FS) |
| | 0...30 bar absolute -20...+85 °C | ±0.3 bar (1 % FS) |
| | 0...400 bar absolute -20...+85 °C | ±4 bar (1 % FS) |
| | 0...1000 bar absolute -20...+85 °C | ±10 bar (1 % FS) |
| 3-axis-acceleration (static) | -15...+15 g -20...+65 °C | ±0.15 g (0...5 g, +25 °C) |
| Light | 0...65'000 lx | max. sensitivity at 500 nm |
| Connection for strain gauges | full bridge • rated output 1mV/V • bridge voltage 3 V | |
| Analogue inputs Resolution: 12 bit | 4 or 8 analogue inputs with freely selectable input configuration: 0...20 mA; 4...20 mA; 0...3.0 V; 0...5.0 V; 0...10.0 V; 0...12.0 V; 0...24.0V; 0...36.0 V; 0...48.0 V | |
| Control Terminal | alarm output • input for starting and stopping data recording • 3 V voltage output | |
| FlexConnector | Please find suitable FlexSensors on our website. | |



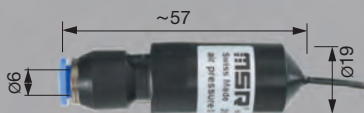
ext. temperature sensor



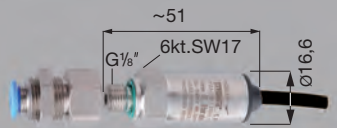
ext. humidity sensor



ext. light sensor



ext. air pressure sensor



ext. fluid pressure sensor

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