

## Digital Measuring Sets PHYSICS, Schneider

### Precise and highly variable digital measuring sets PHYSICS 51, PHYSICS 300 and PHYSICS 1000

Ready to use set in a stable hard protective case including:  
digital measuring device PHYSICS, software PHYSICS View, temperature sensor, mains adapter 230 V, USB cable and DKD calibration certificate.

Various measurement tasks and functions are achievable e.g. temperature (Pt100, thermocouples, NTC, infrared), air humidity, air flow, pressure, power, flow rate, electrical values etc. Up to 3 channels or 3 measuring points can be covered simultaneously and subject to type of probe 4 internal per function channels can be processed.

#### Technical data PHYSICS 51:

Measured parameters: Temperature, air humidity  
Measuring input: 1 input channel  
Galvanic isolation: Semiconductor relays (50 V)  
Channels: 4 channels/plugs for dual probes and function channels  
Output: 2 output channels  
1 input channel for thermocouples, NTC resistance thermometers, humidity probes etc.  
Operating air humidity: 10 to 90 % R.H. (non condensing)  
Probe: Immersion thermo couple NiCr-Ni Type K, acc. to DIN EN 60584 class 2  
Measuring range: -100 up to +800 °C

#### Technical data PHYSICS 300:

Measured parameters: mbar, Pa, lux, °C, °F, Hz, kJ/kg, %H, ppm, mA, V, min, W/m<sup>2</sup>, mS, bar, g/Kg, m/s, pH  
Measuring input: 3 input channels for some 65 measuring units  
Galvanic isolation: Semiconductor relays (50 V)  
Channels: 4 channels/plugs for dual probes and function channels, 4 internal channels (e.g. balance/channel)  
Output: 2 output channels for analog, data, trigger, relay cable, memory modules etc.)  
Resolution options: 0.01 or 0.1  
Measuring functions: measuring value, zero-setting, set-point adjustment, 2-step adjustment, scaling (optional: multi-point calibration for temperature values)  
Functions: max./min. value, average value by time, single values or measuring points  
Measuring menu free programmable (numeric or graph display)  
Internal memory: 59 kB EEPROM (12000 values)  
Probe: Immersion resistance thermometer Pt100 acc. to DIN EN 60751 Class A, 4-wire connection  
Measuring range: -90 up to +350 °C

#### Technical data PHYSICS 1000:

Measuring input: 2 input channels for Pt100 temperature probes  
Measuring range: -200 °C up to +400 °C  
Resolution: 0.001 K / 0.01 K, non-linear calibration!  
Self calibration: Zero point, measuring current  
Accuracy: 0.01 % of value ±3 digits  
Temperature drift: 0.003 %/°C  
Output: 1 plug for USB, V24, Ethernet, Bluetooth  
Internal RAM memory: 99 values  
Output socket: Memory plug for 25,000 values  
Probe: Immersion resistance thermometer Pt100 acc. to DIN EN 60751 Class A, 4-wire connection  
Measuring range: -90 up to +350 °C

#### Technical data PHYSICS 51, PHYSICS 300 and PHYSICS 1000:

Keyboard: 7 silicone keys  
Batteries: 3 Mignon Alkaline  
Mains adapter: 230 V (AC) to 12 V (DC), 200 mA, galvanically isolated  
DC adapter cable: 10 – 30 V, 0.25 A, galvanically isolated  
Operating temperature: -10 to +60 °C  
Display illumination: 2 LEDs, white  
Language selection: German, English, French  
Dimensions and weight: L 127 × W 83 × H 42 mm, 290 g  
Casing: ABS (max. 70°C), light grey  
Degree of protection: IP 54  
Including DKD calibration certificate (for the measuring unit temperature)

| Article        | Order No.   |
|----------------|-------------|
| ① PHYSICS 51   | 10 16 56869 |
| ② PHYSICS 300  | 10 16 56868 |
| ③ PHYSICS 1000 | 10 16 55932 |



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## Probes

| Article                                                           | Order No.          |
|-------------------------------------------------------------------|--------------------|
| <b>Immersion resistance thermometer Pt100 for PHYSICS 51</b>      | <b>10 16 59954</b> |
| Measuring range: -90 – +350°C                                     |                    |
| <b>Immersion resistance thermometer Pt100 for PHYSICS 300</b>     | <b>10 16 59966</b> |
| Measuring range: -50 – +200°C                                     |                    |
| <b>Immersion thermocouple Type K for PHYSICS 51 and 300</b>       | <b>10 16 59961</b> |
| Measuring range: -100 – +500°C, sensor: 1.5 dia.                  |                    |
| <b>Immersion thermocouple Type K for PHYSICS 51 and 300</b>       | <b>10 16 59963</b> |
| Measuring range: -50 – +200°C                                     |                    |
| <b>Humidity psychrometer for PHYSICS 300</b>                      | <b>10 16 59937</b> |
| Suitable for high temperatures and long-term measurements         |                    |
| Psychrometer encoder Measuring range: 10 – 100 % r.H. at 0 – 90°C |                    |
| <b>Capacitive humidity sensor for PHYSICS 51 and 300</b>          | <b>10 16 59644</b> |
| Measuring range: 5 – 98 % r.H. / -20 – +80°C                      |                    |
| <b>Humidity psychrometer for PHYSICS 300</b>                      | <b>10 16 59638</b> |
| Hand-held psychrometer                                            |                    |
| Measuring range: 10 – 100 % r.H. at 0 – 60°C                      |                    |
| <b>Humidity/temperature sensor for PHYSICS 300</b>                | <b>10 16 59938</b> |
| With electronic box in all-weather protective housing             |                    |
| Measuring range: -30 – 60°C / 0 – 90 % r.H. non-condensing        |                    |
| <b>Room climate sensor/globe thermometer for PHYSICS 300</b>      | <b>10 16 59639</b> |
| Wet Bulb Globe Temperature measuring (WBGT)                       |                    |
| Measuring range: -50 – 200°C                                      |                    |
| <b>Sensor for barometric pressure for PHYSICS 300</b>             | <b>10 16 59645</b> |
| Measuring range: 700 – 1,050 mbar (0 – 1,050 mbar)                |                    |
| <b>Infrared temperature sensor for PHYSICS 300</b>                | <b>10 16 59128</b> |
| Measuring range: -20 – 350°C                                      |                    |
| <b>Humidity psychrometer for PHYSICS 300</b>                      | <b>10 16 59270</b> |
| Glas version with marks of immersion depths                       |                    |
| Measuring range: -50 – +310°C, resolution 0.001°C                 |                    |
| <b>Humidity psychrometer for PHYSICS 300</b>                      | <b>10 16 59265</b> |
| Metal version for 100 – 250 mm immersion depths                   |                    |
| Measuring range: -90 – +410°C, resolution 0.001°C                 |                    |

## Accessories

| Article                                               | Order No.          |
|-------------------------------------------------------|--------------------|
| Holster for digital measuring device                  | <b>10 16 55884</b> |
| Mains adapter 230 V, 200 mA                           | <b>10 16 55790</b> |
| USB cable (galvanically isolated, max. 115.2 kB)      | <b>10 16 55791</b> |
| V24 cable (galvanically isolated, max. 115.2 kB)      | <b>10 16 55855</b> |
| Ethernet cable (galvanically isolated, max. 115.2 kB) | <b>10 16 57512</b> |
| Bluetooth adapter plug, class 2                       | <b>10 16 58321</b> |
| Memory plug for 25,000 values                         | <b>10 16 57733</b> |
| Software PHYSICS view                                 | <b>10 16 58306</b> |

