



FEATURES

- **Simulation of:**
 - Current: 0...22 mA
 - Voltage: 0...11 V
 - 2-wire transmitter 4...20 mA
 - Potentiometer up to approx. 1000 Ω
- **Metering:**
 - Current 0...100 mA
 - Voltage 0...50 V
 - 2-wire transmitter 4...20 mA
- **Incl. mains adapter, accumulator and measuring lines**



FUNCTION

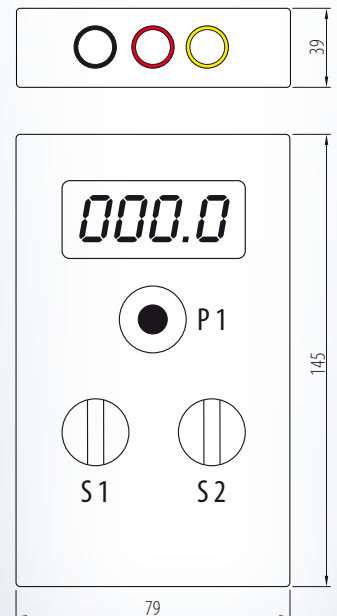
The universal hand-held Simulator is made for technicians to measure and simulate currents, voltages and resistances on-site.

The device has a replaceable fuse to prevent overcurrent damage.

Caution: To avoid damage to the simulator, first select function, then connect the measuring lines.

The range of application is divided as follows:

- **Current or voltage transmitter:**
For the calibration and testing of loops and transducers.
- **Voltmeter and amperemeter:**
With a resolution of 0,1 V respectively 0,1 mA, measurements can be made directly on measuring loops or devices to be checked.
- **2-wire simulator (4...20 mA):**
The Simulator can be used instead of a 2-wire transmitter, in order to control or adjust the measuring circuit.
- **Testing of 2-wire transmitter:**
The device generates a voltage of approx. 13 V, current limiting can be adjusted by a potentiometer, the current output (4...20 mA) appears on the LCD-display.
- **Simulation of a potentiometer transmitter:**
The internal 10-step potentiometer is switched on the sockets and the device can be used as an potentiometer up to approx. 1000 Ω.



Simulator

Function:

All output values are being adjusted by the 10-step potentiometer P1.

Appliance	Range	Accuracy	Switch setting		Connecting socket		
			S 1	S 2	black	red	yellow
current transmitter	0...22 mA max. 600 Ω	0,5 %	current	transmit	-	+	
voltage transmitter	0...11 V min. 10 kΩ	1 %	voltage	transmit	-	+	
simulation of a (4...20 mA) 2-wire transmitter	0...22 mA 10...30 V	2 %	2-wire	2-wire	-	+	
testing of a 2-wire transmitter (Poti 0...100 %)	max. 22 mA 13V	2 %	current	transmit	-	+	
current measuring	0...100 mA $R_i = 30 \Omega$	0,5 %	current	measu- ring	-	+	
voltage measuring	0...50 V $R_i = 100 \text{ k}\Omega$	1 %	voltage	measu- ring	-	+	
simulation of a potentiometer transmitter, 3-wire	approx. 15...1015 Ω	-	any	OFF/Poti	begin- ning CCW	wiper S	end CW

The unit is equipped with an replaceable safety fuse (200 mA) to avoid damage during current measuring.

The included mains adapter is used to charge the accu as well as for possible supply via grid energy. If the accu is almost discharged, the display shows "BAT". The charging is being indicated by integrated LED at the side. Charging time for the accumulator is approx. 15 hours (Simulator switched off). The integrated current and voltage limitation prevents accu from overloading.



Simulator incl. mains adapter,
accumulator and measuring lines

Accessories: case

Environmental conditions:

Storage temperature: -40...+70 °C

Operating temperature: 10...55 °C

Auxiliary power:

12 V DC from: mains adapter 230VAC/ 12VDC
or NiMH-accu 9 V, ≥ 100 mAh
or battery 9 V (not included)

**Caution: do not plug in mains adapter at
battery operation!**

Operating time at	Accu (100 mAh)	Battery
20 mA, load 300 Ω	4 h	16 h
20 mA, load 600 Ω	2 h	8 h
10 V, load 50 kΩ	16 h	64 h

Directive:

EMC Directive: 2014/30/EU*

Low Voltage Directive: 2014/35/EU

*minimum deviations possible during
HF-radiation influence

Characteristics of transmission:

Transmission error: < 0,12 %

Linearity error: < 0,5 %

Linearity error 2-wire: < 2 %

Temperature error: < 100 ppm/ K

Load influence I: < 50 ppm
of final value

Load influence U: < 0,5 %
at 1 kΩ load

Setting time: < 50 msec.

Mounting details:

Dimensions: 145 x 79 x 39 mm

Weight: 300 g (incl. accu)

Material: ABS

Flammability class: UL 94 HB

Approval: CE

Connection: safety socket 4 mm

Ordering information:

Type: Simulator

incl. mains adapter, accumulator,
measuring lines

Accessories: case

Schuhmann GmbH & Co. KG
Römerstraße 2
D-74363 Güglingen
Tel. + 49 71 35 50 56
Fax + 49 71 35 53 55
www.schuhmann-messtechnik.de