

Simulator

Application

- Measuring current and voltage signals
- Output of current and voltage signals
- Current sink mode (electr. load) for simulation of sensors
- Temperature measurement (with measurement adapter HPT-2)

Application Examples

- Adjustment of indicators or converters
- Checking complete measurement circuits
- Checking a 2-wire sensors
- Adjustment and checking of evaluation units

Features

- Simple menu prompting
- Supply with long-living NiMH battery
- 24 V sensor supply with HSG-3
- Intelligent charge electronic integrated
- Two languages German / English

Options / Accessoires

- Factory calibration certificate
- Certificate of German DKD
- Carrier bag HTT-SG3
- Pt100 adapter HPT-2 for Pt100 measurement
- Fast battery recharger
- Ex-factory cables for simulation or measurement
- Cable loom with test pins



Simulator **HSG-3**
with adapter **HPT-2**



Power supply for **HSG-3**



Simulator **HSG-3**

Specification

Inputs	V (DC)	0...50 V, Ri=100 kΩ
	mV (DC)	0...250 mV, Ri=100 kΩ
	mA (DC)	0...45 mA, Ri=50 Ω
	Pt100 (with HPT)	-200...600 °C
	Outputs	V
	mV	0...250mV, max. 10 mA
	mA	0...25 mA
	current sink	burden max. 500 Ω
	sensor supply	4...25 mA
	sensor supply	24 VDC, 50 mA max.
Accuracy input		< 0,2 % of f. s. ± 1 digit
Accuracy output		< 0,2 % of full scale
Acc. temp. measur.	(-200...+200 °C)	0,2 % of meas. value
with adapter HPT-2	(+200...+600 °C)	0,5 % of meas. value
Temperature coefficient	for range 10...20 °C and 25...40 °C	±75 ppm per °C
Resolution	voltage mV	0,1 mV
	voltage V	10 mV
	current mA	10 μA
	temperature °C	0,1 °C
	Indicator	LCD
	max. height	12,7mm

Style	casting housing	83 x 190 x 55 mm
Protection class		IP54
Ambient	working temperature	+10...40 °C
	storage temperature	-20...70 °C
	humidity	0...95 % (no condensate)
Supply	4x batteries NiMH	1,2 V 1200 mAh
Operating time	about 3 h (full load)	i.e. output 25 mA
Charge state	"low bat" will be shown if battery capacity is going down	
Charge drive		charge switch off trickle charge
Deep discharge	autom. switch off if battery voltage < 4 V	
Power supply	for supply and charge 9...18 VDC / 2 VA	
Controls	keypad	4 buttons handling
Measurement conn.	3x 4 mm plugs	
Supply conn.	2,1 mm plug	

Order Code






Type	Model	Certificate*	
HSG-3	Simulator incl. battery and power supply	DKD certificate Factory calibration certificate	* only for HSG-3 and HPT-2
HSG-3-KABEL	Cable loom with test pins 1m		
HSG-3-AKKU	Replace battery		
HSG-3-SL	Fast battery recharger for HSG-3-Akku		
HSG-M12-TEST	Adapter cable 4 mm plug-/M12-connector 2 m		
HSG-M12-SIMU	Adapter cable 4 mm plug-/M12-plug 2 m		
HTT-SG-3	Carrier bag for HSG-3		
HPT-2	Measurement adapter Pt100 for HSG-3		
Order example	HSG-3 / DKD		

Manual HSG-3





Basic functions

For switching on please press any button.



For switching off: press  -button longer than 2 seconds.

-  = **Prev:** previous menu point
-  = **Next:** next menu point
-  = **OK:** enter
-  = **Back:** previous page
-  = **SET:** to page "Adjustments":
 - shut down
 - LCD settings
 - change language (German / English)

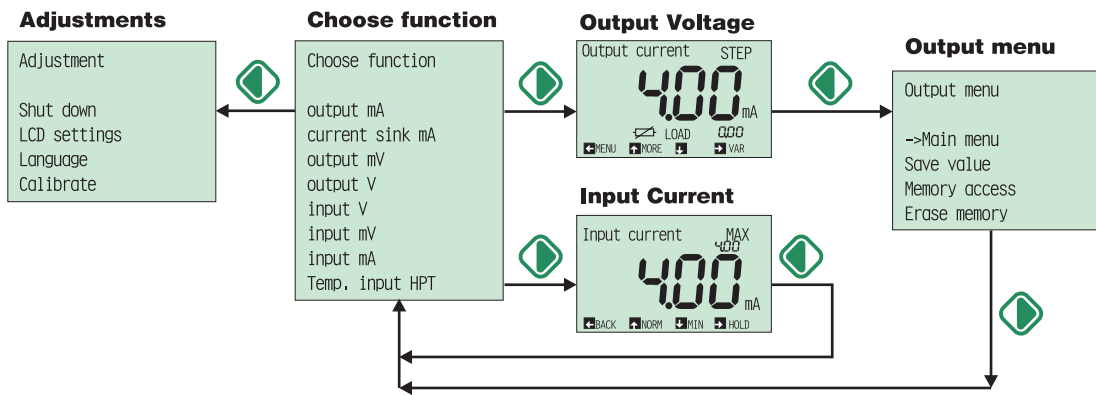
Temperature measurement with adapter HPT-2

-  = switch between relative and absolute measurement
-  = switch between maximum and minimal value display
-  = reset the minimal or maximal value
-  = store the latest value

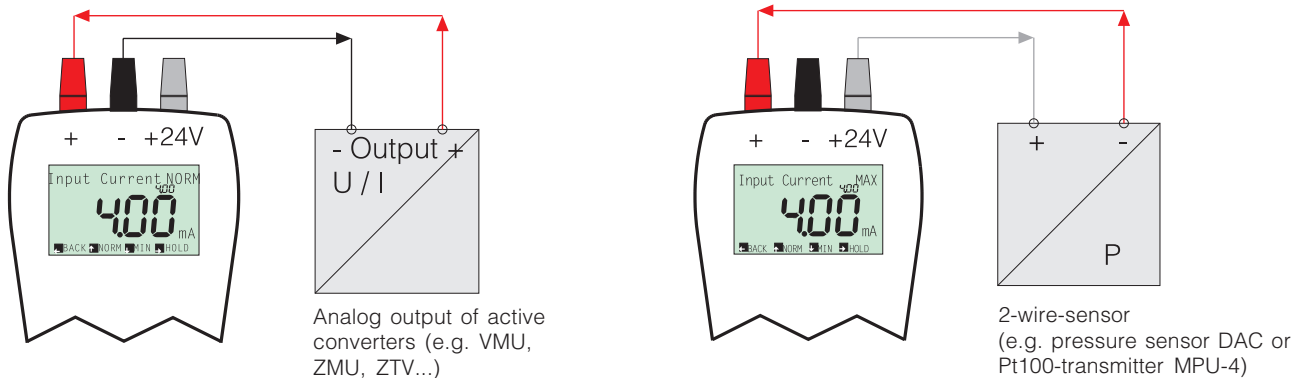
HSG-3 power supply

-  = battery mode / status
-  = power supply mode + charge mode

Menu Schema



Examples for connecting Measurement mode



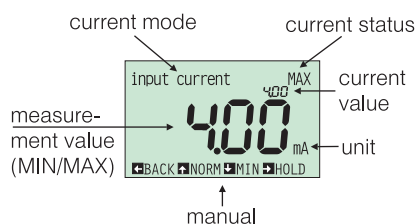
Instrument:

HSG-3 replace e.g. a digital indicator with norm input and display the actual current or voltage signal.





Instrument + supply for 2-/3-wire sensor:

HSG-3 replace e.g. a digital indicator with sensor supply (+24 V DC) and norm input (0/4...20 mA / 0...10 V) and display the actual current or voltage signal.

Display in mode "Measurement"



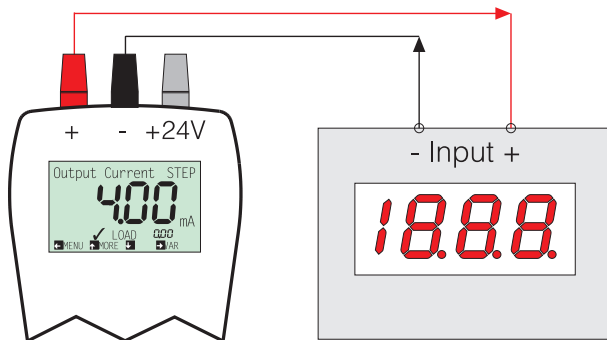
Mode "input" (V, mV, mA)

-  = relative measurement to actual input signal
-  = maximal- / minimal value display
-  = store the actual value
-  = back to menu

Examples for connecting

Mode Simulation

(output of V, mV, mA)



Digital indicator
(z.B. PEM-PS, DPM...)

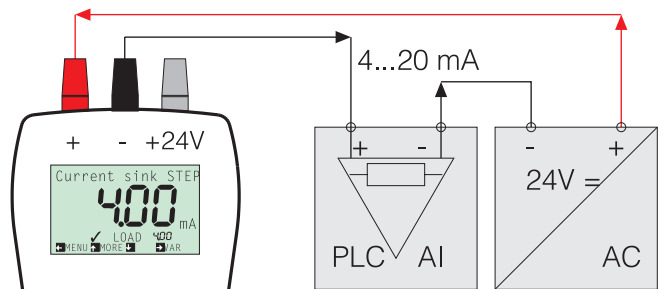
Simulator:

HSG-3 replace e.g. an input converter with norm output. The selected values are independent of the burden.

Example: Checking a digital indicator

Modus Simulation

(current sink)



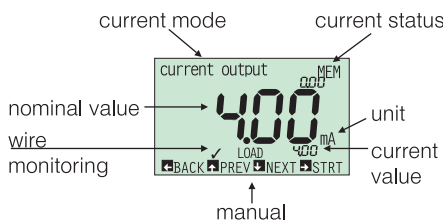
Analog input of a PLC
with 24 V supply

Simulate a 2-wire-transmitter (4...20 mA):

The device simulates a sensor with 2-wire transmitter (e.g. DAN-..., MPU-...) and applies the selected current value to the measurement circuit. In mode "current sink", the HSG-3 works as electronic load. The current load is controlled electronically by the HSG-3 and can be adjusted from 4...25 mA.

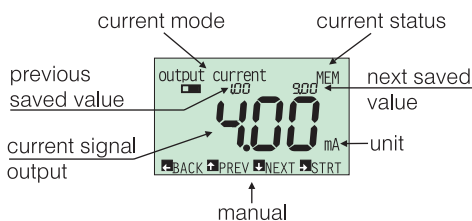
Example: Checking of complete measurement circuits.

Display in mode "output"



- LOAD = wire control in mode output
- ✓ = burden < 500Ohm (in mode current output)
 - ✓ = load OK (in mode voltage output)
 - ✗ = burden is too high or wire is broken (in mode current output)
 - ✗ = overload in mode voltage output

Display in mode "memory access" (V, mV, mA, current sink)



Mode "output" (V, mV, mA, current sink)

- ◀ = decrease the value of +1
- ▶ = increase the value of -1
- ◀▶ = switch: change continuously / step by step
mode: VAR / STEP
- ◀▶ = go to output menu:
 - save value: save the actual value
 - memory access: access and output the saved value (max. memory 10 values)
mode: MEM
 - erase memory: delete memory completely

Pt100 Adapter

Application

- Pt100 temperature measurement

Application Examples

- calibration of temperature sensors

Features

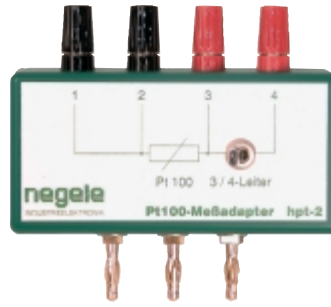
- 2-, 3-, 4-wire measurement
- large temperature range
- to put on simulator HSG-3

Specification

Values for accuracy and ranges:
see specification on page 1.

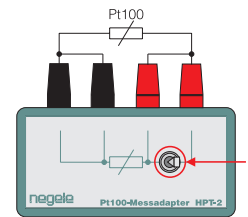
Input	Pt100*	2-, 3-, 4-wire-connection, selectable
Working temperature		+10...+20 °C
Style	housing made of ABS size (WxHxD)	to put on HSG 100 x 50 x 45 mm

* HPT-2 for Pt1000 on request.

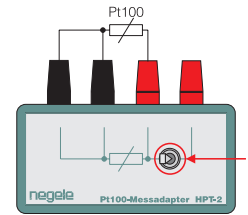


Pt100 measurement adapter
HPT-2 for HSG-3

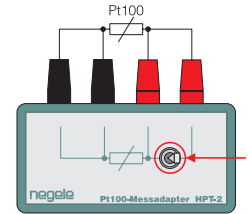
Connection Pt100



2-wire connection

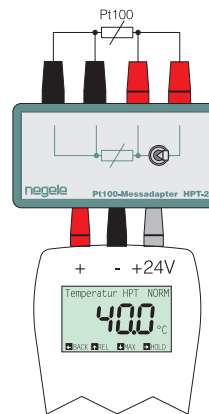


3-wire connection



4-wire connection

Example of connection Mode temperature measurement



Accessoirs



Carrier bag for HSG-3
HTT-SG-3
(without content)



Fast battery recharger
HSG-3-SL



Replace battery for HSG-3
HSG-3-AKKU



Adapter cable 4mm plug / M12-plug in
for HSG-3 for simulating, length 2 m
HSG-M12-SIMU



Adapter cable 4mm plug / M12-
connector for sensor test, length 2 m
HSG-M12-TEST



Cable loom with test pins
for HSG-3
HSG-KABEL