

General Specifications

Sensor simulator Test instrument for pH and Redox equipment Model QT20

This portable test instrument simulates the output of an electrode system for pH or ORP (Redox) measurement. It is an excellent tool for field servicing of pH and ORP equipment.

With this instrument the correct functioning of all parts of the complete measuring loop (sensors, cables, connections of electronics) can be checked easily.

A natural leather carrying case is available to protect the simulator during use in the field.

Two models are available:

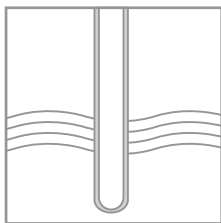
- *Model QT20G for general purpose (including selection for Pt 100 temperature sensor simulation);*
- *Model QT20S for use with CENELEC certified instruments.*

FEATURES

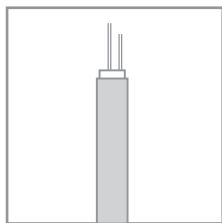
- Sensor simulator for quick and accurate checking of pH and ORP measuring equipment.
- Applicable in hazardous areas (Model QT20S)
- Selectable simulation for temperature sensor Pt 100/Pt 1000 (Model QT20G).
- O-connectors for direct connection to sensor cables.
- Charging device for battery included.
- Leather carrying case complete with accessories.



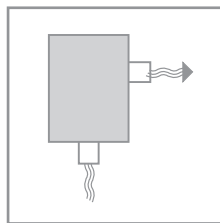
SYSTEM CONFIGURATION



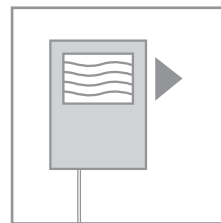
Sensors



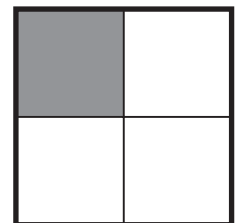
Cables



Fittings



Transmitters



Accessories

GENERAL SPECIFICATIONS

Intrinsic safety (Model QT20S)

: meets CENELEC EEX ib IIC T6
certificate no PTB Ex-82/2120
(in combination with Eltran
instruments)

Ambient temperature

: 0 °C to 50 °C
0 °C to 40 °C in hazardous areas

Battery

: Ni Cd 200 mAh
- Operating time : 20 hours continuous use
- Recharge time : 24 hours approximately
- Battery check : LED starts to dim at 50%
discharge

Case

- Material : cast aluminium alloy with
chemically resistant lacquer,
dust- and waterproof meeting IP54
- Dimensions : 175 x 80 x 80 mm (l x w x h)
- Weight : approx. 0,7 kg

Carrying case

- Material : natural leather
- Colour : dark brown
- Dimensions : 200 x 140 x 125 mm (l x w x h)

Connections

: 4 mm socket for liquid earth
2 mm sockets for electrode cable
connection

Accessory set

: - cables (length 1 meter) for
a. measuring electrode
b. reference electrode
c. temperature sensor
d. earth connection
- charging device 220 V AC
(recharging only allowed in safe
area)

Accessory set (optional)

: 3x adapter for connecting the
electrode cables of the D-series to
the simulator

FUNCTIONAL SPECIFICATIONS

I. Output signal

a. pH sensor simulation

Range : 0 - 14 pH with steps of 1 pH
(switchable)
(59.16 mV for one step representing
E.M.F. at 25 °C)

Accuracy : ± 0.05 pH

b. ORP/Redox sensor simulation

Range : 0 to 1500 mV or 0 to -1500 mV
with steps of 100 mV (switchable)

Accuracy : ± 5 mV

II. Series resistors

a. Simulation membrane resistance of glass electrode

Range : 10 kOhm, 100 MOhm, 1000 MOhm
(switchable)

Accuracy : ± 10%

b. Simulation junction resistance of reference electrode

Range : 1 kOhm, 10 kOhm, 100 kOhm
(switchable)

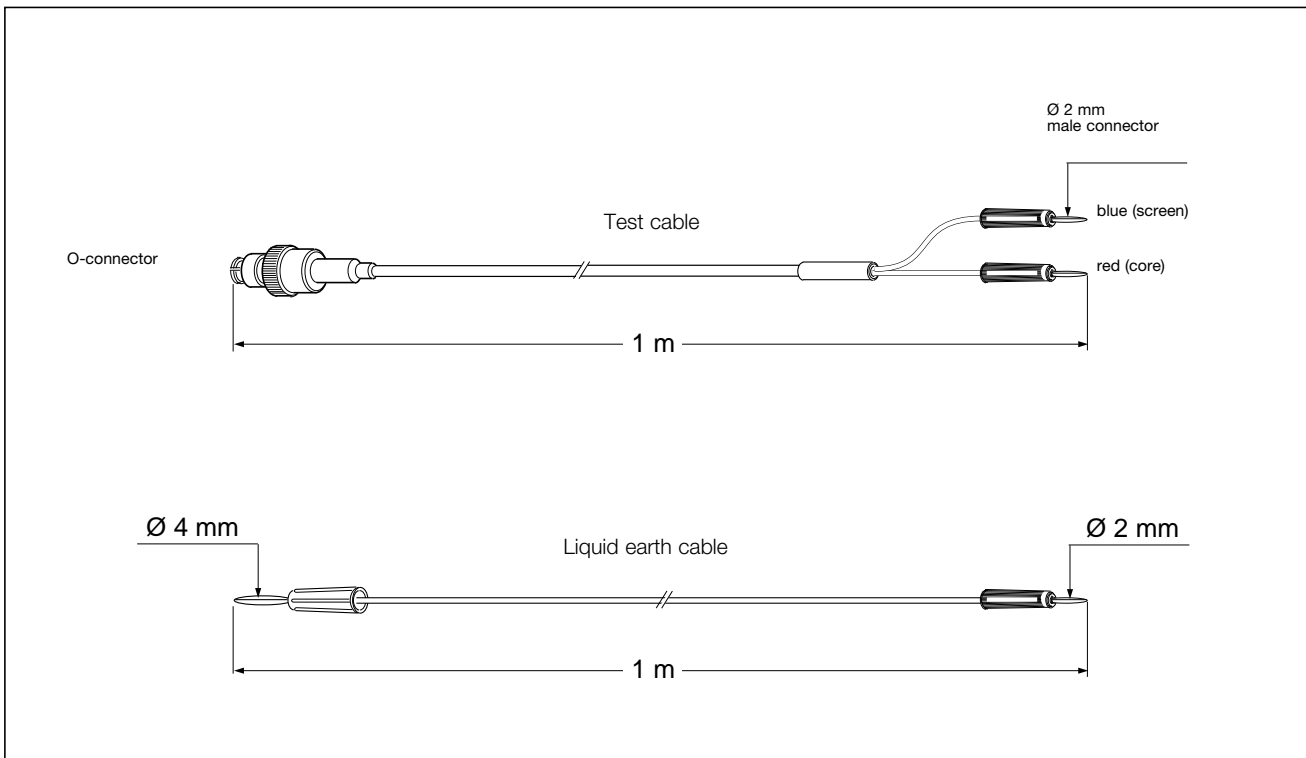
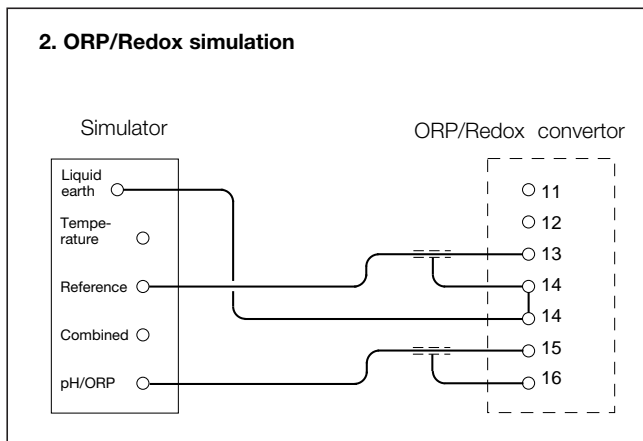
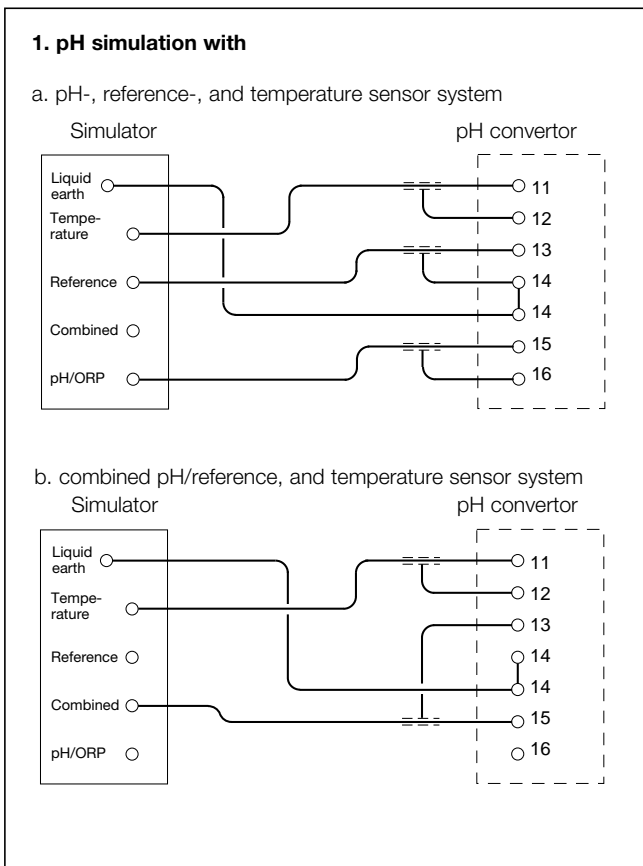
Accuracy : ± 10%

c. Simulation temperature sensor

Simulated element : Pt100 at 25 °C (= 109.7 Ohm)
± 1% (switchable Pt1000 Model
QT20G)

Accuracy : ± 5 °C

WIRING DIAGRAMS






Cables delivered with simulator

SPARE PARTS

Test cable : Part nr. 82895066
 Liquid earth cable : Part nr. 82895002
 Charging device : Part nr. 82895065
 Adapter for electrode cable D-series : Part nr. K1500EJ

ORDERING INSTRUCTIONS

1. Specify type number (QT20G or QT20S)
2. Spare parts if necessary

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