

# ProcessCalibrator Model CPH6000

WIKA Data Sheet CT 15.01

## Applications

- Calibration and service companies
- Maintenance facilities
- Control and instrumentation workshops
- Quality assurance

## Special Features

- DigitalConsole incorporating easily interchangeable pressure transmitter (Sensors can optionally be remotely mounted)
- Measuring range: 0 ... 250 mbar to 0 ... 1,000 bar
- Certified accuracy: 0.025 % (Calibration Certificate incl.)
- CALIBRATION and PRESSURE-SWITCH TEST functions
- PC software and complete service sets (incl. pressure generators) available

## Description

### Applications

In order to provide an optimal solution for each application, a wide variety of pressure sensors are available. With an accuracy of 0.025% and pressure ranges up to 1,000 bar, all are quickly and easily interchangeable without the need for additional tools. In addition to being mounted on the instrument, the pressure sensor can also be mounted remotely using an extension cable (approximately 1 m long). If the pressure sensor is changed, the instrument automatically recognises the new measuring range and thus the operator does not need to reconfigure it manually.

### Functionality

In the set-up menu there are three operating modes to choose from: MEASURING / CALIBRATION and PRESSURE-SWITCH TEST. In the CALIBRATION and PRESSURE-SWITCH TEST modes respectively, calibration data for several calibrations can be stored or the switching hysteresis can be automatically determined, with the help of a menu assistant. The electrical and signal connections for the test devices are protected against rough conditions in the field by captive rubber covers.



ProcessCalibrator CPH6000

### Software

For evaluating and documenting the calibration data stored in the CPH6000, two PC programs are available. By using PrintCal software (based on EXCEL), the data can be transferred automatically into a printable calibration certificate. While EasyCal software, in addition to offering PC-driven calibration, also allows the administration of calibration and instrument data within an ACCESS database. For data transfer from the instrument, both an RS-232 and a USB interface are available.

### Complete service and test sets

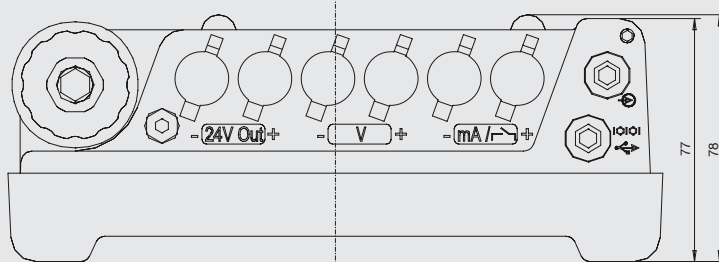
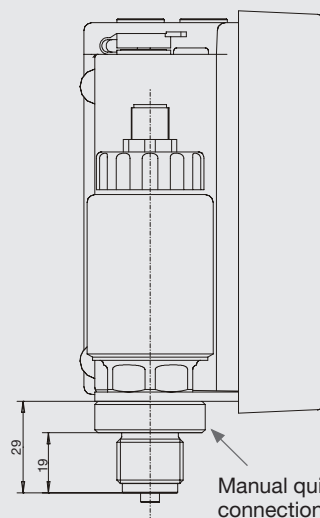
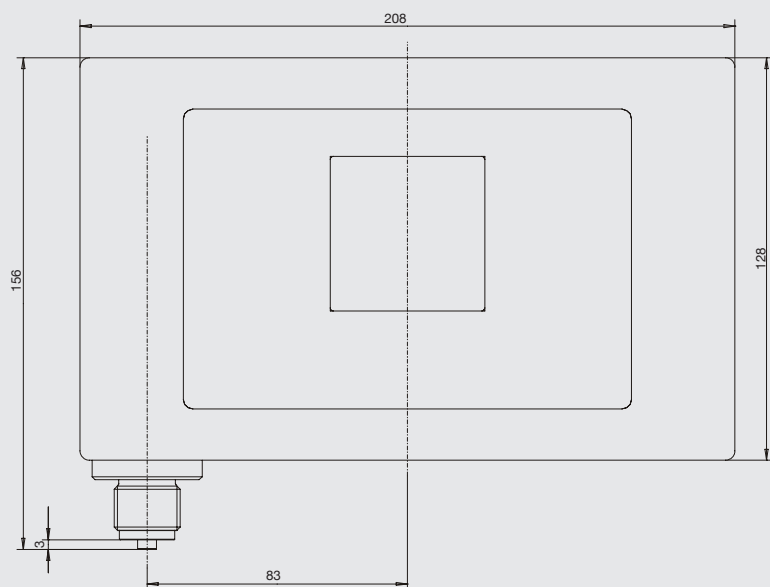
Various configurations of fully equipped service cases are available for maintenance and service applications. Service cases are available with pressure generating equipment, battery charging unit, measuring cable set, pressure-connector adapters, etc..

### Certified accuracy

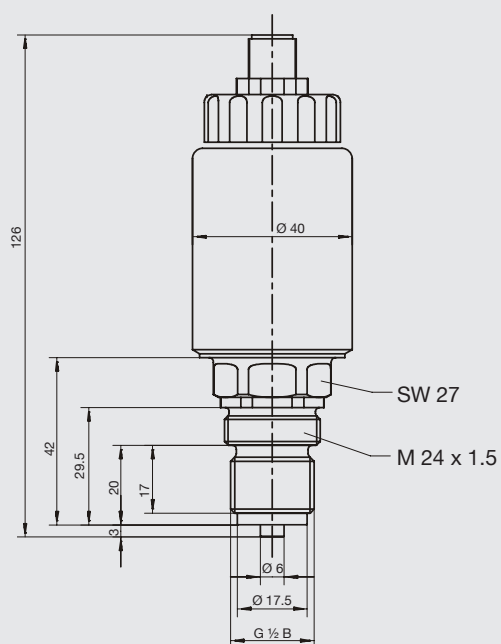
For each pressure transmitter the accuracy is certified and a factory calibration certificate accompanies the equipment. If required, we will also happily provide a DKD calibration certificate for the equipment, issued from our in-house DKD laboratory.

## Dimensions in mm

### DigitalConsole CPH6000



### Pressure transmitter CPT6000



## Specifications

## ProcessCalibrator CPH6000

Sensors		1 integral pressure transmitter (interchangeable without tools) <sup>1)</sup> ; optional: external operation via 1.2 m cable																		
Pressure range	bar	0.25	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40	60	100	160	250	400	600	1000
Over pressure safety	bar	1.6	2	4	5	10	10	17	35	35	80	80	80	120	200	320	500	800	1200	1500
Burst pressure	bar	2.4	2.4	4.8	6	12	12	20.5	40	42	96	96	96	550	800	1000	1200	1700	2400	3000
Type of pressure		{In addition to the above-specified gauge pressures; Vacuum, compound range and absolute pressures are available}; {Compound ranges: minimum span 500 mbar, e.g. -250 mbar ... +250 mbar}																		
Units		15 standard units & one freely-programmable unit; see page 4 Menu configuration																		
Accuracy (measurement chain)		0.025 % FS *																		
Active temperature compensation	°C	0 ... 50																		
Permissible ambient temperature	°C	0 ... 50																		
Calibration		Factory calibration certificate (optional: DKD calibration certificate)																		

### CPH6000 Digital Instrument specific details:

Calibration mode		MEASURING / CALIBRATION / SWITCH TEST																
Display		Large graphic display for reference & test item signals and additional information																
Display definition		Up to 6 digits; selectable																
Measuring rate (pressure):	Values	2/sec																
Functions		CALIBRATION-Func., SWITCH TEST-Func. Min-, Max-memory, Tare, Min-, Max-alarm (visual), filter (rolling average). Offset-correction, PowerSave-Function																
CALIBRATION function:																		
- Available memory		At least 16 test items (dependent on number of test points)																
- Test points / test item		Up to 32 calibration points																
SWITCH TEST function:		Determination of switch points and automatic calculation of hysteresis																
Input: voltage**																		
- Measuring range	V	0 ... 1; 0 ... 2; 0 ... 5; 0 ... 10																
- Resolution	mV	0.1																
- Accuracy	mV	0.5																
Input: current**																		
- Measuring range	mA	0 ... 20; 4 ... 20																
- Resolution	µA	1																
- Accuracy	µA	1.6																
Power supply output:		24 V [load: max. 50 mA; min 20 mA] (activated via Menu)																
Interface		RS-232 & USB																
Power supply		Internal lithium-Ion rechargeable battery (charging time: < 6 h; alternative: mains supply via charger)																
Battery operation	h	Approx. 8																
Permissible air humidity	% r.h.	0 ... 85 (relative humidity without moisture condensation; at 50 °C)																
Permissible storage temperature	°C	-20 ... +70																
Housing		Impact-resistant ABS, membrane keyboard, transparent panels																
Ingress protection		IP54 (with protective caps fitted)																
Mass	g	approx. 850																
CE-conformity		Interference emission and immunity to EN 61 326, declaration of conformity on request																

### CPT6000 Pressure Transmitter specific details:

Pressure connection		G½ B; {various connection adapters on request}																
Material wetted parts		Stainless steel																
Internal transmission fluid		Synthetic oil (only for pressure ranges up to 25 bar) {Halocarbon oil for oxygen applications} <sup>2)</sup>																
Permissible temperature ranges																		
- Medium	°C	-20 ... +80																
- Storage	°C	-40 ... +85																
Housing		Stainless steel																
Ingress protection		IP65 (with cable connected)																
Mass	g	approx. 230																
CE-conformity		89/336/EWG Interference emission and immunity to EN 61 326; 97/23/EC Pressure equipment directive (Module H)																

1) Up to 5 transmitter calibration sets can be stored in each CPH6000.

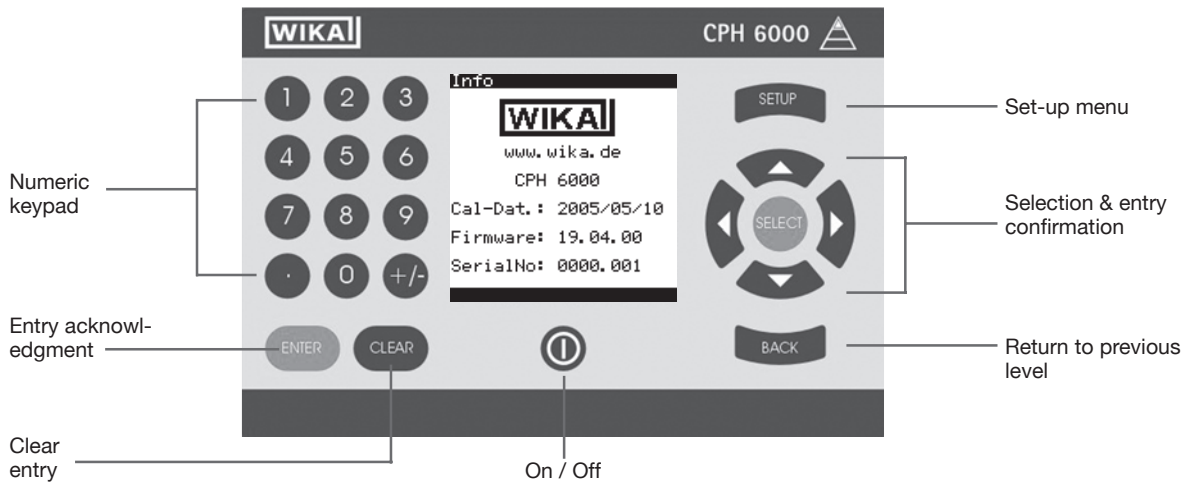
2) The oxygen version must not be operated with medium temperatures higher than 60 °C.

\*) Calibrated at 23 °C and in vertical mounting position with pressure connection facing downwards.

\*\*\*) Factory calibration certificate (optional DKD calibration certificate)

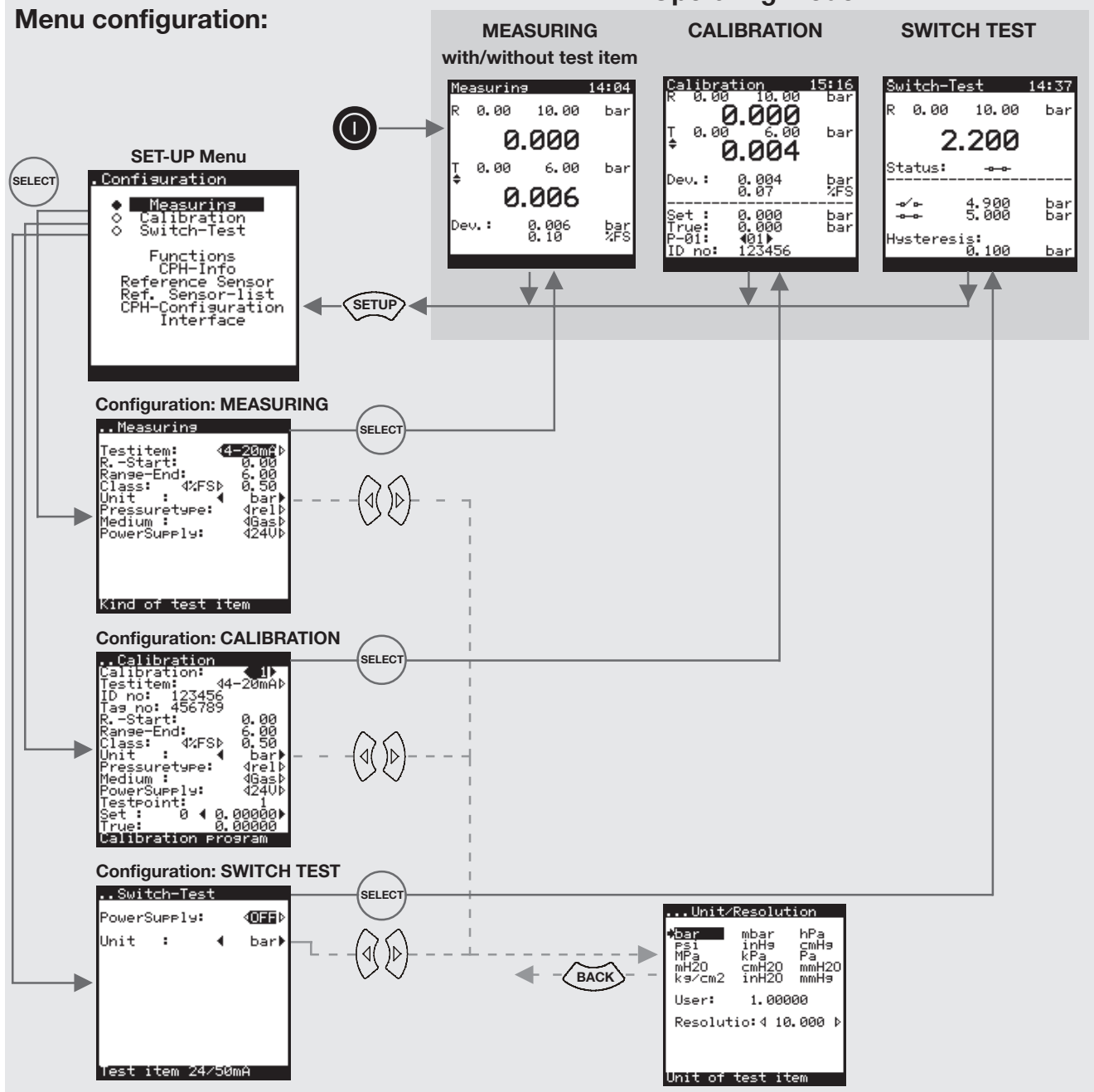
{ } Items in curved brackets are optional extras for an additional price.

# User interface:



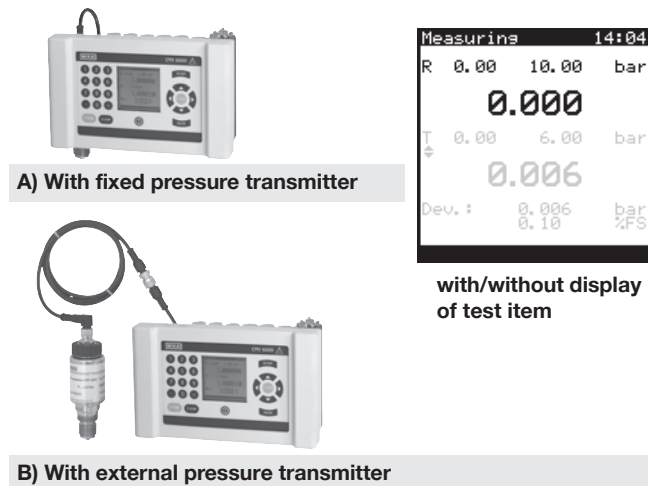
## Menu configuration:

## Operating mode



# Operating mode: MEASURING / CALIBRATION / PRESSURE-SWITCH TEST

## Operating mode: MEASURING



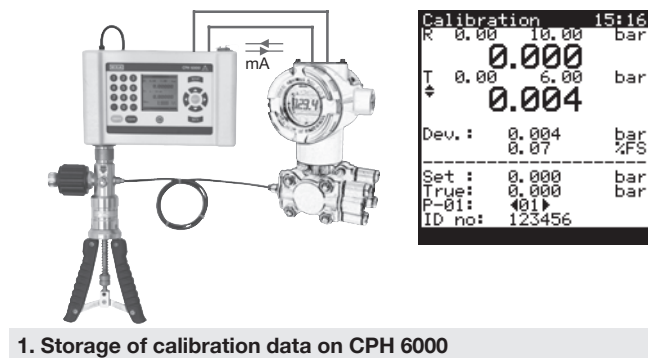
### Characteristics

- Up to 6 display digits
- 15 pressure units + 1 programmable unit
- Programmable functions: Min/Max/Tare/Filter/Alarm/Altitude correction
- Test item measurement can also be displayed as original electrical signal (mA/V)

### Application

- Measurement of operating pressure / process pressure
- Comparison measurements with test items (power supply & display of test items via CPH6000)
- Maximum and Minimum memory (e.g. for leak testing)
- Alarm function for safety tests

## Operating mode: CALIBRATION

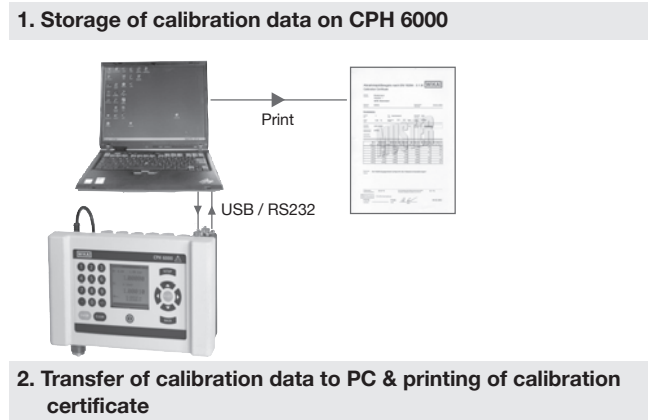


### Characteristics

- Calibration assistant
- Altitude correction possible
- Calibration temperature can be stored

### Application

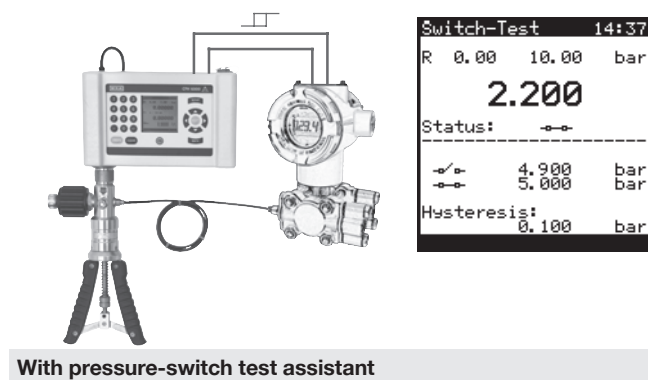
- On-site calibration of pressure transmitters and pressure indicators (without PC)
- Calibration assistant to guide operator through calibration. In addition to the values, date and time are also stored during calibration. The calibration steps can be programmed on the CPH6000 directly or downloaded from EasyCal before the calibration.



### PC Software available

- PrintCal (simple certificate-printing tool using EXCEL)
- EasyCal (Calibration software with Access database)

## Operating mode: PRESSURE SWITCH TEST



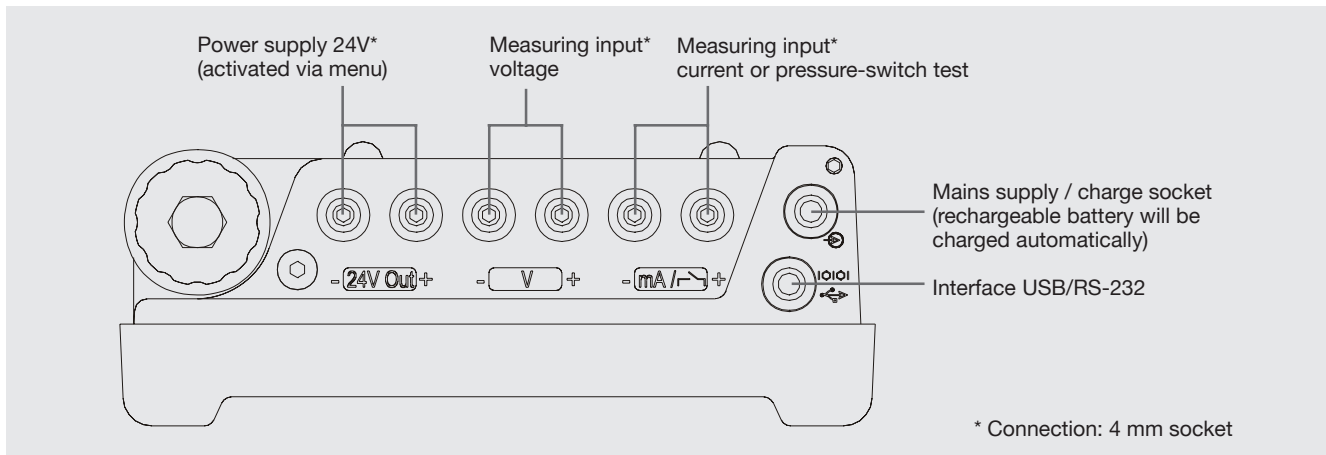
### Characteristics

- Switch-test assistant
- Automatic hysteresis calculation

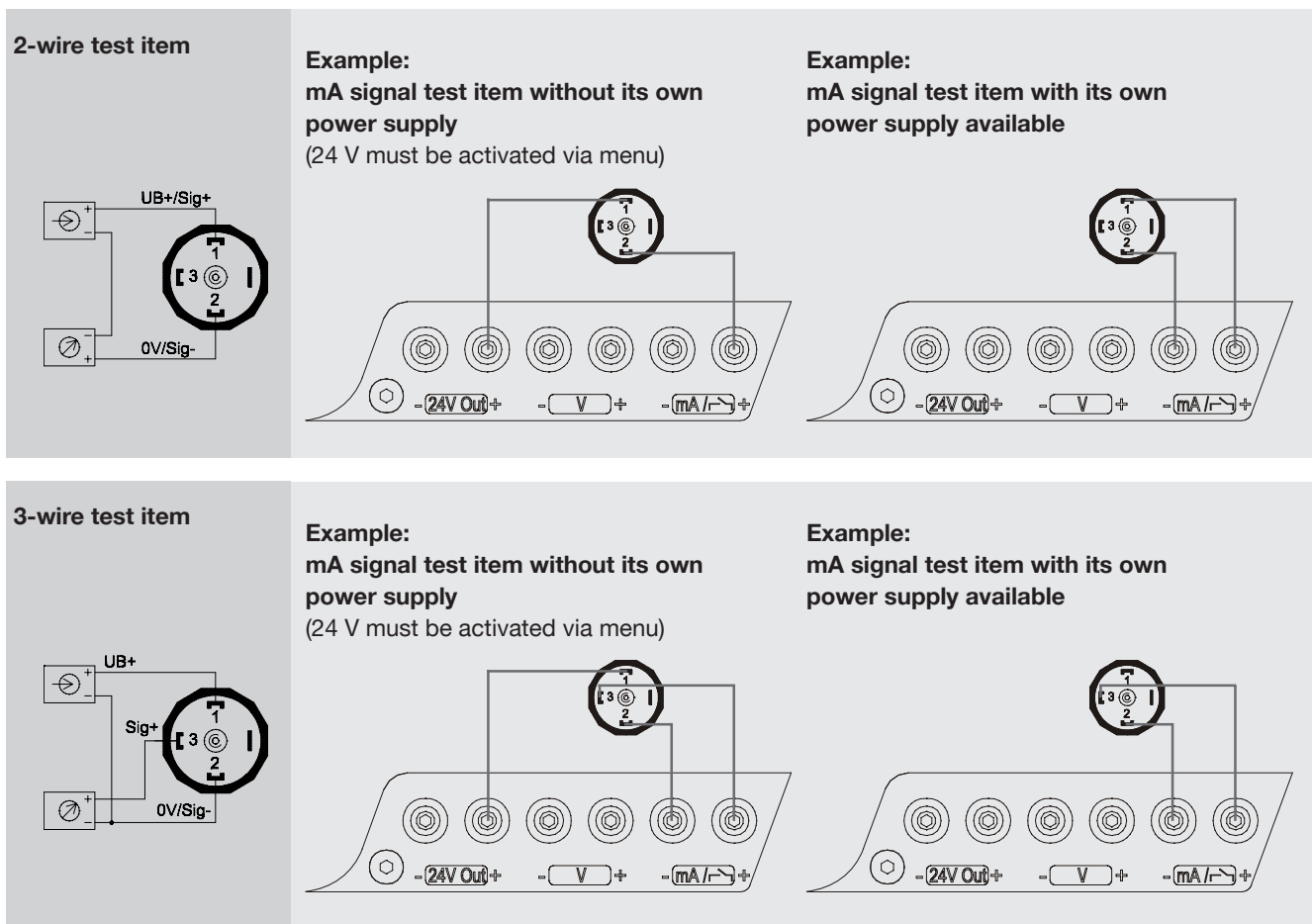
### Application

- Convenient testing of pressure switches
- Pressure-switch assistant automatically calculates the switching hysteresis.

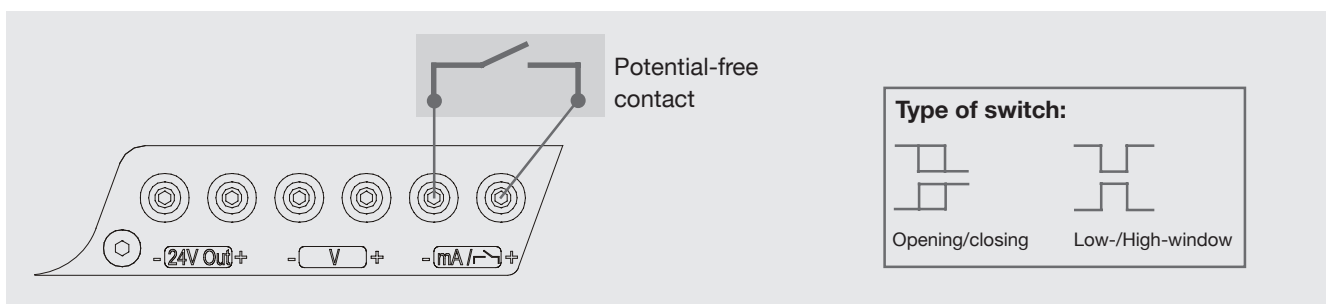
## Electrical connections on the DigitalConsole



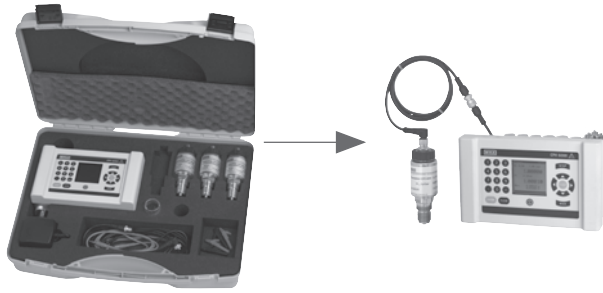
## Electrical connections for: CALIBRATION



## Electrical connections for: PRESSURE-SWITCH TEST



## Complete measuring & test and service sets



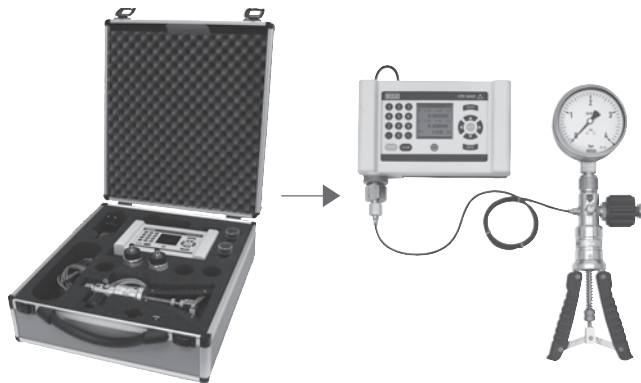
**CPH6000 service case I**

### Measuring set

for pressure consisting of:

- Plastic service case with ProcessCalibrator CPH6000
- Sensor cable for external operation of sensor
- Measuring cable set with connectors
- Charger
- Interface cable
- Various seals
- Space for different CPT6000 reference pressure sensor

Available pressure ranges:  
see specification on page 3.



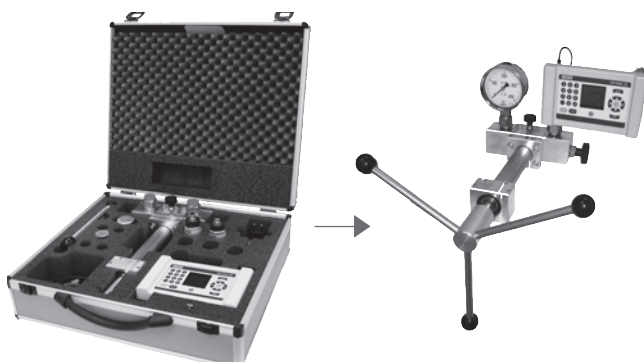
**Service case incl. pneumatic pressure generation**

### Test and calibration service set

for pressures up to 35 bar consisting of:

- Transport case with ProcessCalibrator CPH6000
- Sensor cable for external sensor application
- Measuring cable set with connectors
- Charger
- Interface cable
- Pneumatic test pump -0.95 ... 35 bar
- Various seals
- Space for different CPT6000 reference pressure sensor

Available pressure ranges:  
see specification on page 3.



**Service case incl. hydraulic pressure generation**

### Test and calibration service set

for pressures up to 1000 bar consisting of:

- Transport case with ProcessCalibrator CPH6000
- Sensor cable for external sensor application
- Measuring cable set with connectors
- Charger
- Interface cable
- Hydraulic spindle pump up to 1000 bar
- Various seals
- Space for different CPT6000 reference pressure sensor

Available pressure ranges:  
see specification on page 3.



## Scope of Supply

- CPH6000
- Battery charger
- Measuring cable set with various connectors
- Calibration certificate 3.1 according to DIN EN 10 204
- Choice of sensors

## Options

- DKD certified accuracy of 0.025 %
- Transmitters for oxygen applications

## Accessories

### Pressure adapters

- Various pressure adapters
- "Minimess" Quick-Connect process connection system

### Power supply

- Battery charger

### Connection cable

- Test cable set with various connectors
- Interface cable USB or RS-232

### Pressure generation

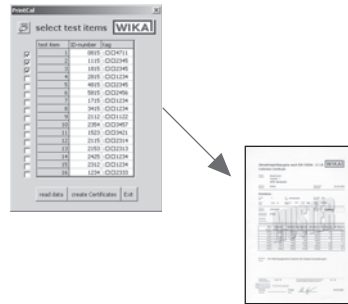
- Pneumatic test pumps
- Hydraulic test pumps
- Integral reservoir and pressure hoses

### Service case

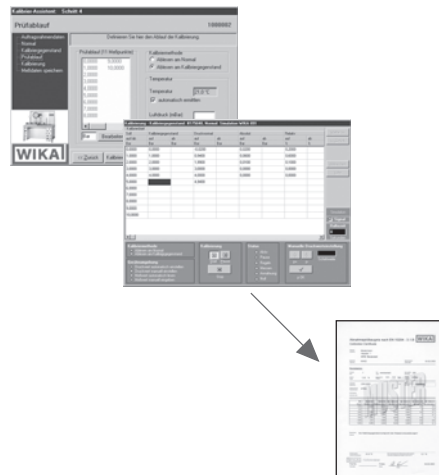
- Test and measuring cases
- Various test and calibration cases incl. test pump

### Software

- Calibration certificate Print-Tool PrintCal
- Calibration software EasyCal standard



Software: PrintCal



Software: EasyCal

## Products and Services within our Testing and Calibration Technology Program

- DKD calibration services for pressure
- Repair of all makes of calibration units
- Portable pressure measuring devices for testing and calibration tasks
- Precision pressure measuring units and pressure controllers
- Primary standards for pressure
- Testing technology system solutions
- DKD calibration services for temperature
- Temperature dry well calibrators
- Calibration baths and furnaces
- Temperature measuring instruments for testing and calibration tasks
- Precision thermometers
- Primary standards for temperature
- Consulting and training

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.



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