

Hand-Held Pressure Calibrator with integrated pump Model CPH6600

WIKA Datasheet CPH6600

Applications

- Calibration service companies/service industry
- Service and maintenance companies
- Instrument and control workshops
- Quality assurance

Special Features

- Integrated pneumatic pump generates pressure to 300 psi and vacuum to -11 psi
- Accuracy to 0.025 % (incl. calibration certificate)
- Source/measure 4 ... 20 mA and 24 V loop power to power device under test
- Pt100 RTD input for temperature measurement, accurate to 0.2 °F (measurement only)
- Small, rugged compact design

Description

WIKA introduces a revolution in pressure calibration technology for the process industries. With the release of its new CPH6600, technicians will have a small, lightweight hand-held calibrator that generates pressures up to 300 psi using a high-performance integral electric pump.

Additionally, the CPH 6600 can perform pressure switch tests and indicate test specimen deviation in percentage.



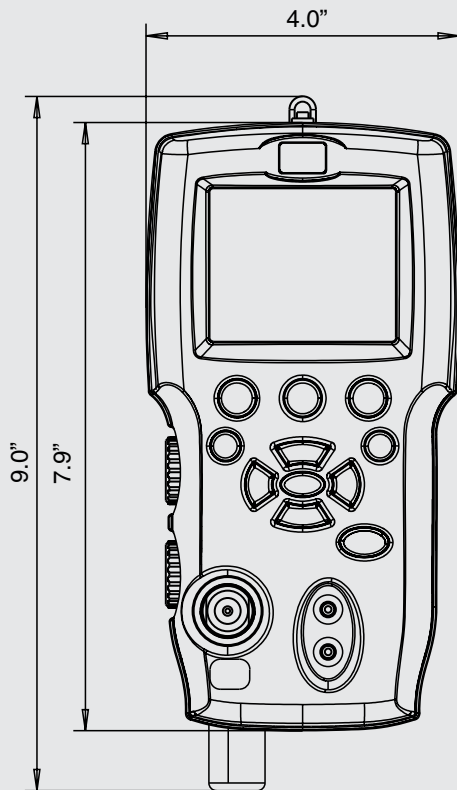
Hand-Held Pressure Calibrator with integrated pump
Model CPH6600

Performance doesn't stop with the pump. The CPH6600 provides ± 0.025 % FS accuracy on its internal, isolated pressure sensor. Temperature compensation on its internal sensor ensures accuracy in field applications.

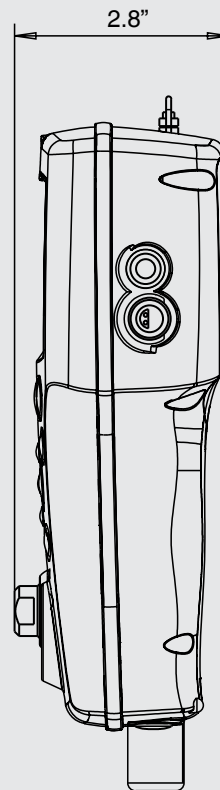
An external pressure module connection supports all WIKA pressure modules, allowing even greater ranges. In combination with an external temperature probe, the CPH6600 enables a simultaneous temperature measurement.

Dimensions in inches

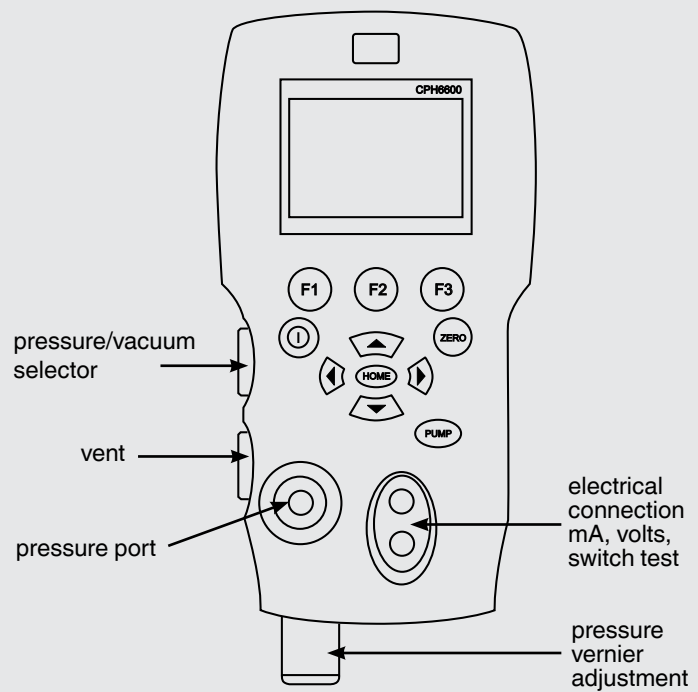
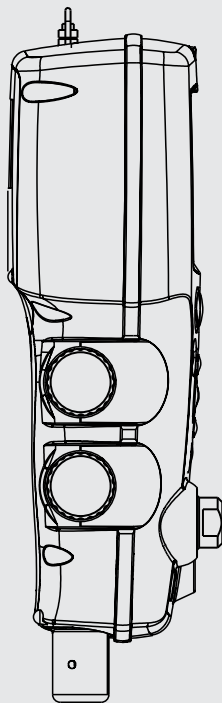
Front view



Right side view



Left side view



Specifications

Model CPH6600

Pressure ranges	bar	-23"Hg ... 30 psi	-23"Hg ... 150 psi	-23"Hg ... 300 psi	0 ... 300 psia
Overpressure safety	bar	60 psi	200 psi	600 psi	600 psi
Burst pressure	bar	6500 psi	1000 psi	2000 psi	2000 psi
Accuracy	% FS	0.025 (6 month) 0.035 (1 year)			
Pressure connection		1/8" NPT female			
Permissible media		clean, dry non-corrosive gases compatible with Silicon, Pyrex, RTV, Gold, Ceramic, Nickel and Aluminium			
Temperature compensation	°C	15 ... 35 Add 0.005 % FS/°C outside of 15 ... 35 °C			
Units		psi, bar, mbar, kPa, MPa, kgcm ² , mmH ₂ O @ 4 °C, mmH ₂ O @ 20 °C, cmH ₂ O @ 4 °C, cmH ₂ O @ 20 °C, inH ₂ O @ 4 °C, inH ₂ O @ 20 °C, inH ₂ O @ 60 °F, mmHg @ 0 °C, inHg @ 0 °C			
Current					
■ Measuring range	mA	0 ... 24 (max. load 1000 ohms)			
■ Resolution	µA	1			
■ Accuracy		0.015 % of reading ± 2 µA (simulation and measurement)			
Voltage					
■ Measuring range	DC	0 ... 30 V			
■ Resolution	mV	1			
■ Accuracy		0.015 % of reading ± 2 mV (measurement)			
Output loop power	DC	24 V			
Temperature					
■ Measuring range	°F	-50 ... +300			
■ Accuracy		0.015 % of reading ± 20 mΩ, or 0.1 °C @ 0 °C for Pt100 resistance thermometer (measurement only)			
Permissible					
■ Operating temperature	°F	15 ... 120			
■ Storage temperature	°F	0 ... 140			
Power supply					
■ Battery		DC 12 V, Eight (8) standard AA batteries			
■ Battery life		300 pump cycles to 150 psi (minimum) 1000 pump cycles to 30 psi 125 pump cycles to 300 psi			
Housing		PolyCarbonate/ABS blend			
Ingress protection		IP56			
Dimensions	inches	see technical drawing on Page 2			
Weight	LB	2.5			
CE Approved					
■ EMV Directive		2004/108/EC, EN 61 326 Emission (Group 1, Class B) and Immunity (portable measurement equipment)			
Calibration		Factory calibration certificate (N.I.S.T. traceable)			

Features

Temperature, Current and Voltage

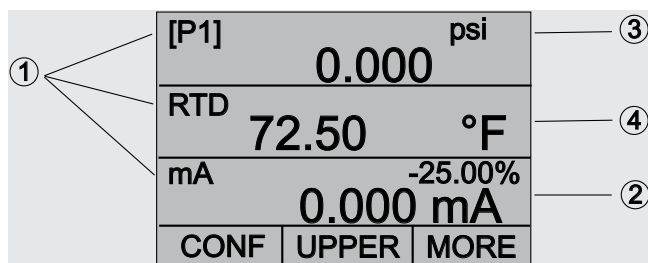
A Pt100 resistance thermometer (RTD) input is provided for temperature measurements, accurate to ± 0.2 °F. In addition, the CPH6600 measures and simulates 4 ... 20 mA loop current signals. It can measure up to 30 V DC. An internal 24 V DC instrument power supply supplies power to a transmitter under test.

Display

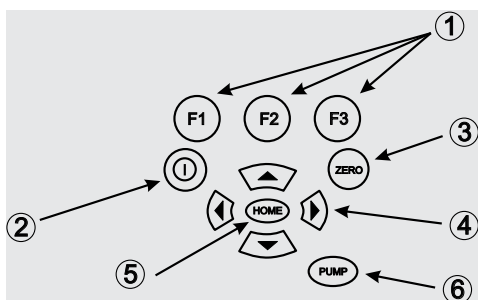
The CPH6600 displays up to 3 calibration values at one time, readings from internal pressure, sensor, external pressure sensor, mA of VDC readings from device under test or temperature readings from optional RTD probe.

Pressure ranges

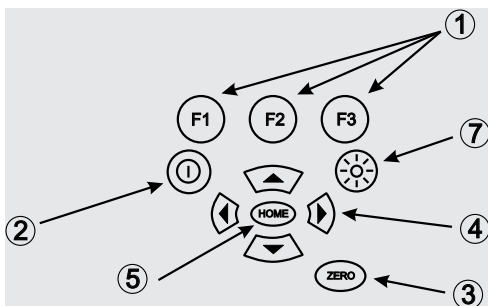
The CPH6600 can be delivered in 3 different ranges of 30 psi, 150 psi or 300 psi. Also an absolute range of 0 ... 300 psi abs is available.



Keypad (Electric pump versions)



Keypad (Manual pump version)



Functions

The new CPH6600 Pressure Calibrator provides a number of convenient functions. Switch tests can be performed on the internal or external pressure input. Percentage (%) Error and damping functions are provided. Up to five frequently-used setups can be stored and retrieved with one-button recall.

Compact and rugged

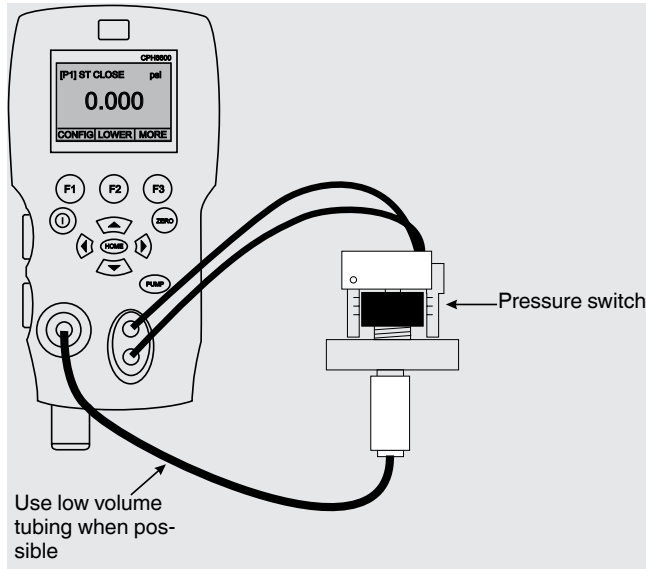
The compact, rugged design operates on eight (8) standard AA Alkaline batteries. CPH 6600 can perform approximately 300 calibration cycles to 150 psi on one set of batteries. 125 calibration cycles to 300 psi on one set of batteries. 1000 calibration cycles to 30 psi on one set of batteries.

- 1) Primary Parameters
Indicate what is being measured
- 2) Span Indicator
Indicates 0 ... 100 percentage of the 4 to 20 mA span (For mA and mA Loop functions only)
- 3) Pressure Units
Indicates one of 15 pressure units being viewed
- 4) Units
Indicates the unit of measure for the display

- 1) Function Keys
These are soft keys used to configure the calibrator
- 2) ON/OFF Key
- 3) ZERO Key
This key is used to zero pressure measurements
- 4) Arrow Keys
Used to control mA source/simulation and to set pump and % error limits
- 5) Home Key
Return to main menu screen
- 6) Pump Key
Push to run pump (electric pump version)
- 7) Backlight
Turn on backlight (manual pump version)

Special operating modes

Operating mode: Pressure switch test

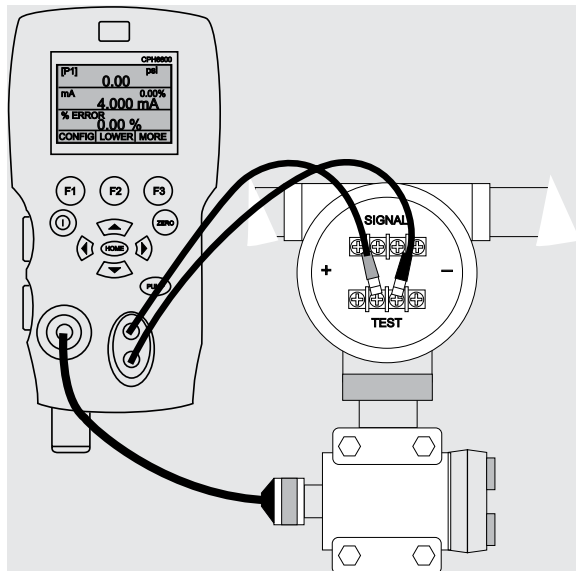


Pressure switch test:

The pressure switch function allows the CPH6600 to display the pressures when the switch closes and opens. Hysteresis can also be displayed.

It is also possible to measure the ambient or media temperature with an external Pt100 resistance thermometer

Operating mode: Calibrating Transmitters & Percentage error function



Calibrating Transmitters:

The mA input function allows the 4 ... 20 mA output from the device being calibrated to be read. This can be done in one of two ways.

- 1) **Passively** – Where the device under test generates 4 ... 20 mA directly and is displayed by the calibrator.
- 2) **Actively** – Where the calibrator supplies 24 V DC loop power to the device under test while reading the resulting 4 ... 20 mA signal.

The calibrator features a unique function which can calculate pressure versus milliamp error as a percentage of the 4 ... 20 mA loop span. The percent error mode uses all 3 screens and has a unique menu structure. It simultaneously displays pressure, mA and percentage error.

Example:

Suppose a pressure transmitter under test has a measuring range of 30 psi and outputs a corresponding 4 ... 20 mA signal. The user can program a 0 ... 30 psi pressure span into the calibrator and the calibrator will calculate and display the deviation or % Error from the expected 4 ... 20 mA output. This eliminates the need for manual calculations.

Scope of Supply

- CPH6600 Hand-Held Pressure Calibrator with integrated pump
- Operating instructions
- Test leads
- Calibration hose kit with fittings 1/8" NPT male
- Adapter set 1/8" NPT female on 1/4" NPT female, 1/8" NPT female on 1/4" BSP female
- 8 batteries Type AA
- 3.1 Calibration Certificate traceable to N.I.S.T.

Accessories

- Pt100 resistance thermometer
- External pressure modules



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