

CP 6632

Handheld process signal calibrator

CP 6632 is a handheld accurate process signal calibrator (150 ppm reading accuracy) that measures or generates process current and voltage. Robust and easy-to-use, this instrument has been designed to make maintenance operations easier on sensors and transmitters using process signals such as 4-20 mA or 0-10 V.

Description

CP 6632 is a handheld accurate calibrator for process signals (150 ppm reading accuracy) that measures or generates process current and voltage. Robust and easy-to-use, this instrument has been designed to make maintenance operations easier on sensors and transmitters using process signals such as 4-20 mA or 0-10 V.

The instrument is adapted to the various process installations due to scaling function and specific ranges. It can simulate ramps, steps and fixed values to control process transmitters, panel meters and recorders.

Temperature coefficients are low: 15 ppm /°C in voltage and 20 ppm/°C in current. The high accuracy of 150 ppm makes CP 6632 an ideal standard for onsite use even in demanding environmental conditions.

CP 6632 is delivered with 4 alkaline AA batteries in standard. The optional battery charger used a rechargeable battery.

Key features:

- High accuracy: 0.015% reading with an adjustable resolution of 1 mV and 1 µA
- Values displayed in A, mV and %
- Low temperature coefficient: 15 ppm /°C in voltage and 20 ppm/°C in current
- Active or passive loop power supply
- Measurements with HOLD function
- Simulation of ramps, preprogrammed steps and synthetizer values
- Display of minimum, maximum and average value
- Backlight

Specifications

Specifications and performances @23°C ±5°C

DC voltage: Measurement

Range	Measuring range	Resolution	Accuracy / 1yr
0 – 10 V	-2 / 12 V	1 mV	0.015% RDG + 2 mV
25 V	-2 / 25 V	1 mV	0.015% RDG + 2 mV
50 V	-5 / 50 V	1 mV	0.015% RDG + 4 mV

Temperature coefficient: < 15 ppm/°C beyond reference domain
Rin = 1 MΩ ± 1%
Common mode rejection: 120 dB at 50 and 60 Hz

DC voltage: Emission

Range	Emission range	Resolution	Accuracy / 1yr
0 – 10 V	0 / 12 V	1 mV	0.015% RDG + 2 mV
15 V	0 / 15 V	1 mV	0.015% L + 2 mV

Temperature coefficient: < 15 ppm/°C beyond reference domain
Rising time: < 1 ms (0 V to 15 V accross 1 MΩ load)
Internal resistance: ≤ 1 Ω
VLF Noise: < 1 mVcc (at F < 100 Hz)

DC current: Measurement

With or without loop supply

Range	Measuring range	Resolution	Accuracy / 1an
0-20 mA	-6 / 24 mA	1 µA	0.015% RDG + 2 µA
4-20 mA	3.2 / 24 mA	1 µA	0.015% RDG + 2 µA
25 mA	-6 / 25 mA	1 µA	0.015% RDG + 2 µA

Temperature coefficient: < 20 ppm/°C beyond reference domain
Loop power supply: 24 V ± 10%
HART® compatibility: R = 250 Ω ± 5%
Rin < 30 Ω
Common mode rejection: 120 dB at 50 and 60 Hz

DC current: Emission

With or without loop supply

Range	Emission range	Resolution	Accuracy / 1yr
0-20 mA	500 µA / 24 mA	1 µA	0.015% RDG + 2 µA

4-20 mA	3.2 / 24 mA	1 µA	0.015% RDG + 2 µA
25 mA	500 µA / 25 mA	1 µA	0.015% RDG + 2 µA

Temperature coefficient: < 20 ppm/°C beyond reference domain
Rising time: < 500 µs (0 to 20 mA accross 20 Ω load)
VLF Noise: < 1 µA (at F < 100 Hz)

Continuity test

Preset step emission and valve test
Configuration of steps or increments with adjustable frequency
Linearity tests over linear or quadratic signals

	0%	25%	50%	75%	100%
4-20 mA linear		4	8	12	16	20
0-20 mA linear		0	5	10	15	20
4-20 mA quad		4	5	8	13	20
0-20 mA quad		0	1.25	5	11.25	20
4-20 mA valves		3.8-4-4.2		12		19, 20, 21

Further features

Scaling in measurement and simulation modes	This function allows sensors to be corrected after a calibration. Scaling is performed using up to 10 segments, in order to fit with the real calibrated value.
HART compatibility	Equipped with a non-disturbing digital transmission resistance, it is possible to measure the current output of any transmitter using HART protocol.
Statistical functions	Continuous display of average, minimum and maximum value of the signal under monitoring, as well as number of measurements.
Simple and cyclical ramp generation	Ramps can be generated by setting low and high dwell, rising and falling times, stabilization and delay times (1 to 3,600 s). Delay time enables a single user to launch the ramp and go to the control panel.
Steps simulation	This mode allows predefined values to be sent with programmable amplitude and frequency.
Square root	In current measurement and simulation, this function allows taking into account a quadratic signal coming from transmitter of type ΔP.

General specifications

Size	157 x 85 x 45 mm
Weight	306 g
Display	160 x 160 pixel liquid crystal graphical display

	with backlite Display of result as table of values or trend curve
Power supply	4 AA batteries 1.5 V or rechargeable Ni-Mh batteries with internal charger in option Autonomie : > 53 h en mesure tension et courant et simulation tension > 12 h en simulation courant
Communication ports	USB

Environmental specifications

Reference range	23°C ± 5°C (RH: 45 to 75 % w/o condensing)
Operating reference range	-10 to 50°C (RH: 20 to 80 % w/o condensing)
Limit operating range	-15°C to +55°C (RH: 10 to 80 % w/o condensing) (70% at 55°C)
Storage temperature limits	-30°C to +60°C
Maximum height	0 to 2,200 m
IP protection	IP54 according to EN60529

Safety specifications

Protections	• Electronic protection up to 250 V for ‘voltage’ wires • Fuse protection for ‘current’ wires • Protection against ‘current’ circuit breaking during inductive resistance measurements
Class	In accordance with EN 61010-1 Category II, pollution 2
Rated voltage	60 V
Chocks and vibrations	EN 61010-1
EMC conformity	

Models and accessories

Instruments:

CP 6632 Handheld process calibrator for voltage and current

Delivered in standard with:

- User manual
- 4 AA batteries
- 2 cables and crocodile clips
- Protection sheath
- Carrying strap
- Factory test report

Accessories:

AC6908 Soft carrying case for hand-held instruments

AN6011 Charger + batteries for hand-held instruments

Certification:

QMA11EN COFRAC certificate of calibration

With all relevant data points where the device has been tested

Packing information:

Size 157 x 85 x 45 mm

Weight without packing 306 g