

# CALIBRATION

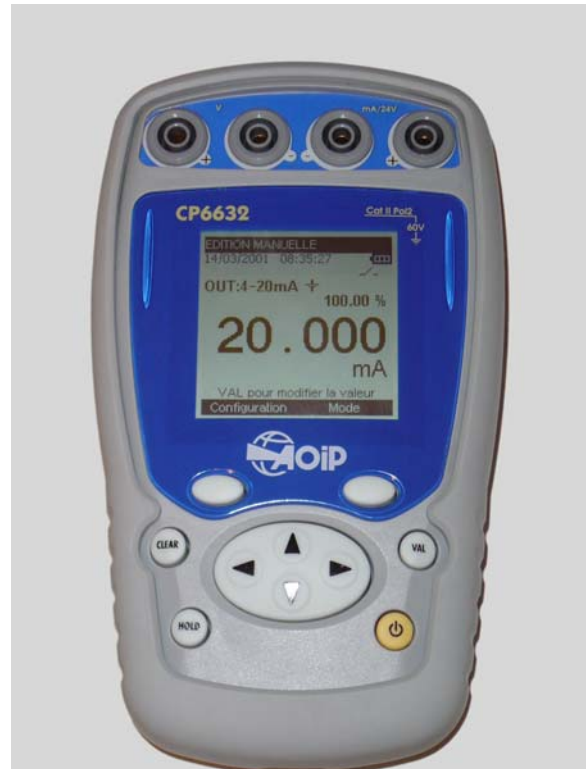
## CP6632

### Test Tool for Process Signals

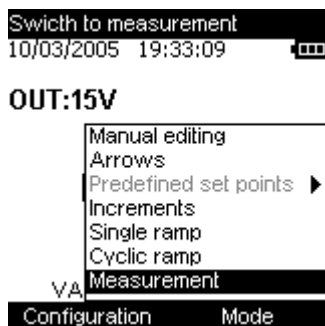
#### Measurement and Generation Protected for on site use System for easy connection

Simple and robust, this instrument has been designed to simplify maintenance operations and commissioning of sensors and transmitters using process signals such as 4-20 mA or 0-10V.

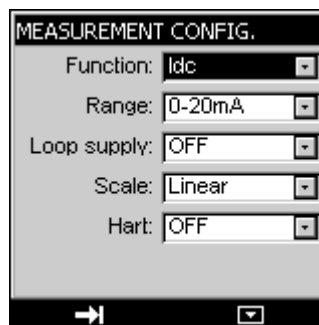
- Adapted to the different working modes of the process world thanks to scaling and different specific ranges
- High precision: 150 ppm of reading
- Temperature Coefficients very low: 15 ppm rdg/°C for voltage and 20 ppm rdg/°C for current: Accuracy is preserved even in difficult operating conditions
- Measurement up to 50V
- Simulation up to 15V
- Measurement and emission up to 25mA



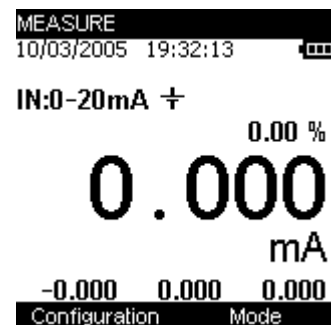
#### CP6632 gets graphic interface making easier programming and reading



Operating mode screen



Function screen



Reading screen

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## CP6632: Specifications (@ 23°C±5°C and between 45% and 75% Relative Humidity)

Transmitters and other process sensors are more and more accurate and reliable, so performance levels of CP6632 have also considerably followed this trend. 0,015% reading or simulation for current, so 150 ppm reading, allows CP6632 to be a standard for on site operations.

Display resolution, digit number after the dot, reach to 1µA and 1mV, but this resolution is adjustable to simplify operations.

## MEASUREMENT

### DC Voltage

Range	Resolution	Accuracy / 1year	Measurement Range
0/10V	1 mV	0,015%R + 2 mV	-2V / +12V
25V	1 mV	0,015%R + 2 mV	-2 / +25V
50V	1 mV	0,015%R + 4 mV	-5V / +50V

Temperature coefficient < 15 ppm R / °C from 0°C to 18°C and from 28°C to 50 °C.  
Serial rejection mode: ≥60 dB at 50 and 60 Hz.  
Common rejection mode: ≥120 dB at 50 and 60 Hz.

### DC Current

Range	Resolution	Accuracy / 1year (CI : 95%)	Measurement Range
0/20mA	1 µA	0,015% R + 2 µA	-6 mA/24 mA
4/20mA	1 µA	0,015% R + 2 µA	3.2 mA/24 mA
25mA	1 µA	0,015% R + 2 µA	-6 mA/25 mA

Temperature coefficient:<20ppm R/°C from 0 to 18°C and from 28 to 50°C  
Possibility of loop supply: 24V ±10%  
Rin<30Ω  
HART compatibility: R=250 ±5%  
Common rejection mode: ≥120dB at 50 and 60Hz

## EMISSION

### DC Voltage

Range	Resolution	Accuracy / 1year	Meas. range	Remarks
0/10V	1mV	0,015%R + 2mV	0V/+12V	lout max=5mA (for 10V)
15V	1mV	0,015%R + 2mV	0V/+15V	lout max=5mA (for 10V) lout max=8mA (for 15V)

Temperature coefficient:  
<15ppm/°C from 0 to 18°C and from 28 to 50°C  
Rising time <1ms (0V to 15V on 1MΩ load)  
R internal <1Ω  
Noise VLF<1mV (at F<100Hz)

### DC Current

Range	Resolution	Accuracy / 1year	Measurement range
0/20mA	1µA	0,015%R + 2 µA	500µA/24mA
4/20mA	1µA	0,015%R + 2µA	3.2mA/24mA
25mA	1µA	0,015%R + 2µA	500µA/25mA

Temperature coefficient: <20 ppm/°C from 0 to 18°C and from 28 to 50°C  
Rising time <500µs (0V to 20mA – on 20Ω load)  
Noise VLF<1µA (at F<100Hz)

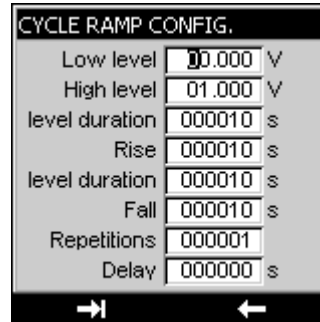
**CONTINUITY TEST:** Allows the measurement loop closing to be checked

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## Emission functions:

### Simple or cyclic ramps emission

CP6632 can generate simple or cyclic ramps with the adjustment of the high and low levels, the rising and decreasing times and the stabilisation time. A starting delay can also be adjusted (from 1 to 3600 sec.) so that a single user is able to reach the control room in time



Cyclic ramp setting screen

### Pre-set step emission

Steps or increments can be configured to allow emissions of successive fixed values with adjustable frequency.

Special emissions:

Linearity test with 4-20mA; 0-20mA on linear or quadratic signals

Selecting this test type, CP6632 allows to generate the following values. Emitted value validation is done by the user.

	0%	25%	50%	75%	100%
4-20mA linear	4	8	12	16	20
0-20mA quad	0	5	10	15	20
4-20mA linear	4	5	8	13	20
0-20mA quad	0	1,25	5	11,25	20

### Valve test:

	0%	50%	100%
4-20mA valves	3,8-4 -4,2	12	19,20,21

### Scaling: 2 scaling modes are available:

With CP6632: Selecting an emission mode, 0-20mA or 4-20mA or 0-10V, a 0-100% scaling is proposed to the user.

User can also program a scaling in function of his sensor or transmitter with units changing:

A 0-100 bar transmitter with an output signal in 4-20mA will be simulated by CP6632 with a bar display and emission values situated between 0 and 100 bars.

## Measurement functions:

**HART compatibility:** Thanks to a non disturbing numerical transmission resistance, it is possible to measure current output of transmitter using HART protocol

### Scaling: 2 scaling modes are available



0-100%FS scaling

With CP6632: Selecting a emission mode, 0-20mA or 4-20mA or 0-10V, a 0-100%FS display is proposed



Fully configurable scaling with units: User can also program a scaling in accordance with his sensor or transmitter with unit changing: 4-20mA output signal from a 0-100 bar transmitter will be measured by CP6632 with bar display and reading between 0 and 100 bar.

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## Other functions:

**Language Setting:** CP6632 get 5 HMI languages, modifiable by user: French, English, German, Italian and Spanish

**Display contrast setting / Backlight:**

Depending on lighting conditions in working zone, user can modify display contrast and turn on/off the backlight. Backlighting time is also adjustable.

**Display resolution setting:** According to the instrument to verify or the operating mode, user can modify the digit number after the dot selecting high, medium or low display resolution.

**Date and time displaying:** CP6632 continuously displays this info.

**Square root:** In current measurement and simulation, this function allows a quadratic signal from a transmitter  $\Delta P$  type to be taken in account.

## Power supply

CP6632 delivered in standard with 4 AA batteries. Battery-charger option use a battery pack directly rechargeable on sector line.

## Statistical calculation of measurements:

Maximum, minimum and average of the measured signal are always displayed, as number of measurements.

Reset button allows calculations reset.

**Hold:** This function allows to "freeze" the measurement displaying

**Filter:** Filter can be applied to avoid too important last number fluctuation.

**Software updating:** According to the calibrator improvements, AOIP offers you possibility to upgrade the embedded software using USB connection.

**Delay function:** A starting delay is programmable when ramps, steps or values are emitted to allow user to reach the control post in time.

## Autonomy:

Mode	Measurement U and I	Simulation (20mA/24V)
Autonomy	40 hours	10 hours

## Mechanical characteristics and applied standards

Dimensions (without protection sheath): 157x85x45 mm

Weight: 306 g

Tightness: IP 54 according to EN 60529

Ambiant conditions of use:

Reference conditions: 23°C  $\pm$  5°C, relative humidity: 45 % to 75 %.

Nominal using conditions: -10°C up to + 50°C, relative humidity: 20 % up to 80 % without condensation.

Limit using conditions: - 10°C up to + 55°C, relative humidity: 10 % up to 80 % (70 % at 55°C).

Limit stocking and transporting conditions: - 30°C up to + 60°C (without battery).

Electrical security according to EN 61010

Electromagnetic compatibility of electrical equipment according to EN61326

## Supply in standard with CP6632:

Protection sheath, 4 AA batteries, instruction manual, transporting and hanging handle and 2 measurement leads.

## Instructions to order:

Test Tools of Process signals  
Option charger/line

CP6632  
AN 6011



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