

# Measurement and simulation of all your process and temperature signals

## CALIBRATORS

**C.A 1621**  
Calibrator for  
J, K, T, E, R, S, B and  
N thermocouple probes



**C.A 1623**  
Calibrator for Pt 10, Pt 50,  
Pt 100, Pt 200, Pt 500,  
Pt 1000 and Pt 100(JIS)  
platinum probes

**C.A 1631**  
Current/voltage  
process-signal  
calibrator



# A calibrator or standard is a for calibrating measurement



The advantage of this sort of instrument is that it can be used to calibrate an instrument without removing it from the process. It is also preferable to calibrate an instrument in its actual operating environment.

Not all quantities can be handled in this way, however. For the moment, on-site calibrators are mainly used for electrical signals and temperature.

## The C.A 1621, C.A 1623 and C.A 1631 calibrators

are ideal for industrial companies involved in **developing and verifying measurement chains**: whether you are an installer or a maintenance technician, whether you belong to the maintenance department or technical and general services, and whether you work in metallurgy, the steel industry, agri-food, hospitals or civil engineering, these instruments will meet your needs!

## These calibrators offer two major functions: simulation and measurement.

### SIMULATION.

The first function involves simulating a signal or generating a quantity with precisely-defined values. These quantities are applied upstream of the measurement chain.

### MEASUREMENT

The second function, involving the measurement of the signal. If there is a panel meter at the end of the chain, you can compare its value with the one indicated by the calibrator. If there is no panel meter, the simulated input value is compared with the signal measured by the calibrator.

### The whole range of calibrators (C.A 1621, C.A 1623 and C.A 1631)

is designed to accurately measure, generate or simulate all the low-level signals encountered in industry.

Because they are simple to use, they are ideal for on-site work. Due to the wide variety of sensors recognized, these instruments are suitable for all your applications. Powered by batteries, these calibrators are stand-alone instruments offering a long battery life. When connected to the mains, they can be used continuously for as long as necessary!

# a portable instrument at instruments on site.

## C.A 1621 temperature calibrator for thermocouple probes

The C.A 1621 is capable of measuring and simulating up to 8 types of thermocouple as well as a voltage in mV.

Specifications for measurement (input) / simulation (output):

| Input/Output range |                     | Resolution | Accuracy                                      |                          |
|--------------------|---------------------|------------|-----------------------------------------------|--------------------------|
| - 10 mV to 100 mV  |                     | 0.01 mV    | $\pm 0.025\% + 2$ counts                      |                          |
| Function           | Range               | Resolution | Accuracy                                      | Reference junction error |
| Type J             | - 200 to + 1,200 °C | 0.1 °C     | $\pm (0.3\text{ °C} + 10\text{ }\mu\text{V})$ | $\pm 0.3\text{ °C}$      |
| Type K             | - 200 to + 1,370 °C | 0.1 °C     | $\pm (0.3\text{ °C} + 10\text{ }\mu\text{V})$ | $\pm 0.3\text{ °C}$      |
| Type T             | - 200 to + 400 °C   | 0.1 °C     | $\pm (0.3\text{ °C} + 10\text{ }\mu\text{V})$ | $\pm 0.3\text{ °C}$      |
| Type E             | - 200 to + 950 °C   | 0.1 °C     | $\pm (0.3\text{ °C} + 10\text{ }\mu\text{V})$ | $\pm 0.3\text{ °C}$      |
| Type R             | - 20 to + 1,750 °C  | 1 °C       | $\pm (1\text{ °C} + 10\text{ }\mu\text{V})$   | $\pm 0.3\text{ °C}$      |
| Type S             | - 20 to + 1,750 °C  | 1 °C       | $\pm (1\text{ °C} + 10\text{ }\mu\text{V})$   | $\pm 0.3\text{ °C}$      |
| Type B             | + 600 to + 1,800 °C | 1 °C       | $\pm (1\text{ °C} + 10\text{ }\mu\text{V})$   | $\pm 0.3\text{ °C}$      |
| Type N             | - 250 to + 1,300 °C | 0.1 °C     | $\pm (0.3\text{ °C} + 10\text{ }\mu\text{V})$ | $\pm 0.3\text{ °C}$      |



## C.A 1623 calibrator for resistance temperature-probes

The C.A 1623 is capable of measuring and simulating up to 7 different types of probes and a resistor

Specifications for measurement (input) / simulation (output):

| Range                                | 4-wire measurement accuracy $\pm \Omega$ |                | Simulation accuracy $\pm \Omega$ | Acceptable excitation in mA |                             |
|--------------------------------------|------------------------------------------|----------------|----------------------------------|-----------------------------|-----------------------------|
| 0.00 $\Omega$ to 400.00 $\Omega$     | 0.1                                      | 0.1            | 0.15                             | 0.1 to 0.5                  | 0.5 to 3.0                  |
| 400.0 $\Omega$ to 1,500.0 $\Omega$   | 0.5                                      |                | 0.5                              | 0.05 to 0.8                 |                             |
| 1,500.0 $\Omega$ to 3,200.0 $\Omega$ | 1                                        | 2              | 1                                | 0.05 to 0.4                 |                             |
| Mode                                 | Range                                    | Accuracy in °C |                                  |                             | Acceptable excitation in mA |
|                                      |                                          | 4-wire input   | 2-wire/3-wire input              | Output                      |                             |
| Pt10 385                             | - 200 to + 800 °C                        |                |                                  |                             | 0.1 to 3.0                  |
| Pt50 385                             | - 200 to + 800 °C                        | 0.7            | 1.0                              | 0.7                         | 0.1 to 3.0                  |
| Pt100 385                            | - 200 to + 800 °C                        | 0.33           | 0.5                              | 0.33                        | 0.1 to 3.0                  |
| Pt200 385                            | - 200 to + 250 °C                        | 0.2            | 0.3                              | 0.2                         | 0.1 to 3.0                  |
|                                      | + 250 to + 630 °C                        | 0.8            | 1.6                              | 0.8                         |                             |
| Pt500 385                            | - 200 to + 500 °C                        | 0.3            | 0.4                              | 0.6                         | 0.05 to 3.0                 |
|                                      | + 500 to + 630 °C                        | 0.9            | 0.3                              | 0.4                         |                             |
| Pt1000 385                           | - 200 to + 100 °C                        | 0.2            | 0.2                              | 0.4                         | 0.1 to 3.0                  |
|                                      | + 100 to + 630 °C                        | 0.5            | 0.2                              | 0.2                         |                             |
| Pt100 JIS                            | + 200 to + 630 °C                        | 0.2            | 0.5                              | 0.3                         | 0.1 to 3.0                  |



# C.A 1631 voltage/current process-signal calibrator

The C.A 1631 is a measuring instrument. It can be used for measurement or to deliver a DC current loop between 0 and 24 mA and a DC voltage between 0 and 20 V.

## DC voltage input and output specifications

| Calibre | Resolution | Accuracy<br>± (% of reading + counts) |
|---------|------------|---------------------------------------|
| 100 mV  | 0.01 mV    | 0.02 % + 3                            |
| 20 V    | 0.001 V    | 0.02 % + 3                            |

Input impedance: 2 MΩ (rated value), < 100 pF

Protection against overvoltage: 30 V

Current delivered by rated voltage: 1 mA

## DC current input and output specifications

| Calibre | Resolution | Accuracy<br>± (% of reading + counts) |
|---------|------------|---------------------------------------|
| 24 mA   | 0.001 mA   | 0.015 % + 3                           |

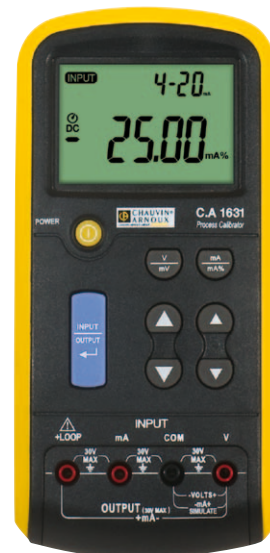
Protection against overloads: 125 mA/250 V quick-response fuse

Display as percentage: 0 % = 4 mA, 100 % = 20 mA

Source mode: 1,000 Ω load at 20 mA for battery voltage ≥ 6.8 V, (700 Ω at 20 mA for a battery voltage between 5.8 and 6.8 V)

Simulation: external loop voltage condition: 24 V (rated value), 30 V maximum, 12 V minimum.

**Loop voltage supply: 24 V ± 10 %**



## General specifications common to all three instruments

|                    |                                                                   |
|--------------------|-------------------------------------------------------------------|
| Unit               | C.A 1621 and C.A 1623: °C or °F                                   |
| Power supply       | 6 x 1.5 V                                                         |
| Dimension          | 205 x 97 x 45 mm                                                  |
| Weight             | 472 g (batteries included)                                        |
| Mains power supply | Input: 100 V - 240 VAC, 50-60 Hz 1.8 A<br>Output: 12 VDC, 2 A MAX |



## TO ORDER

### C.A 1621 CALIBRATOR TEMPERATURE TK

Delivered with 2 thermocouple adapters, 6 AAA 1.5 V batteries,

1 operating manual in 5 languages and 1 carrying bag ..... **P01654621**

### C.A 1623 CALIBRATOR TEMPERATURE PT

Delivered with 2 pairs of test wires and crocodile clip, 6 AAA 1.5 V batteries,

1 operating manual in 5 languages and 1 carrying bag ..... **P01654623**

### C.A 1631 CALIBRATOR PROCESS

Delivered with 2 pairs of test wires and crocodile clip, 6 AAA 1.5 V batteries,

1 operating manual in 5 languages and 1 carrying bag ..... **P01654402**

## ACCESSORIES AND REPLACEMENT PARTS

Mains power supply for C.A 1621, C.A 1623, C.A 1631 ..... **P01103057**

## Your Distributor

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