

signal

**JOFRA**<sup>®</sup>  
calibration **KK**

» **Current loop calibrator**

With its robust custom housing the CSC101 is ideal for both field and workshop use. It is an excellent calibrator and a convenient tool for a process engineer

» **Highest accuracy**

The CSC101 is designed to meet the highest accuracy demands from modern sensors and transmitters: resolution 1  $\mu$ A

» **Intuitive one knob operation**

The CSC101 is an advanced, but easy-to-use loop calibrator, due to its one knob operation

» **Advanced step and ramp functions**

User defined time and step time settings up to 300 seconds and an intuitive "fast" key step system

» **Small and handy**

The size and shape of the CSC101 is designed to fit into a technician's hand

» **40 hour battery life**

The CSC101 is powered by 6 AAA batteries, typically giving the unit over 40 hours of battery life

» **High resolution display**

Clear and bright display gives you optimal readout in sunlight or low light conditions

## Compact Signal Calibrator **CSC101**



The JOFRA CSC101 is a compact mA loop signal calibrator. You can use it to calibrate or measure mA as well as loop voltage. The unit is easy-to-use, with an intuitive user interface and comprehensive ramp and step functions. All functions are displayed on a high resolution display. The high accuracy of the CSC101 has not been achieved on account of fragile measurement or source circuitry, the unit has fuseless protection – which might save you a calibrator or lower your cost of ownership.

ISO 9001 Manufacturer

Specification Sheet  
SS-CSC101

**AMETEK**<sup>®</sup>  
TEST & CALIBRATION INSTRUMENTS

## SPECIFICATIONS

### Ambient specifications

Operating temperature..... -10 to 55°C / 14 to 131°F  
 Storage temperature ..... -20 to 60°C / -4 to 140°F  
 Humidity range, non condensing..... 10 to 95%RH  
 All specifications specified  
 at ambient temperature..... 23°C ±5°C / 73°F ±9°F  
 Outside ambient 23°C ±5°C ..... ±20 ppm FS/°C  
 Outside ambient 73°F ±9°F..... ±12 ppm FS/°F

### Display

Resolution ..... 128 x 64 pixels  
 Digit size (primary measure/source)..... 8.6 mm / 0.34"  
 Back light .....LED

### Current measure, source and sink

Range ..... 0 to 24 mA  
 Span ..... 0 to 24 or 4 to 20 mA  
 Accuracy ..... ±0.01% RDG + 2 µA  
 mA resolution ..... 1 µA  
 Over current protection..... 28 mA  
 Hart resistor, software on/off ..... 250 Ω  
 Loop Drive Capacity, no HART resistor..... 1200 Ω  
 Loop Drive Capacity, with HART resistor ..... 950 Ω  
 Loop Supply ..... 24 VDC ±5%

### Voltage measure

Range ..... 0 to 30 VDC  
 Accuracy ..... ±0.01% RDG + 2 mV  
 Voltage resolution..... 1 mV  
 Over voltage protection..... 240 VAC

### Auto ramp & step

Auto ramp time..... 5 to 300 sec.  
 Auto step time..... 5 to 300 sec.  
 Step size..... 25% / 5 steps  
 Low battery warning..... Yes

### Valve test

Auto step time..... 5 to 300 sec.  
 Number of steps ..... 9 steps  
 Range ..... -1.25 to 101.25%

### Power specifications

Batteries ..... 6 x AAA batteries  
 Battery type..... Alkaline, Lithium or NiMH  
 Battery life ..... Approx. 40 hours  
 Auto power off..... 1 to 30 min., or permanently on  
 Low battery warning..... Yes

### Physical specifications (LxHxW)

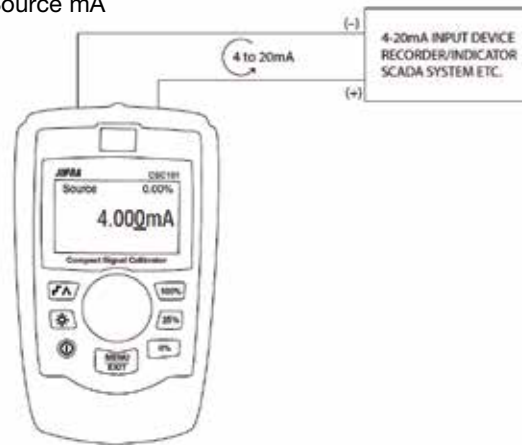
Instrument ..... 150 x 90 x 30 mm / 6 x 3.6 x 1.3 in  
 Weight ..... 0.3 kg / 9.5 oz  
 Shipping size..... 285 x 110 x 160 mm / 11.2 x 4.3 x 6.3 in  
 Shipping weight..... 1.23 kg / 43.4 oz

### Miscellaneous

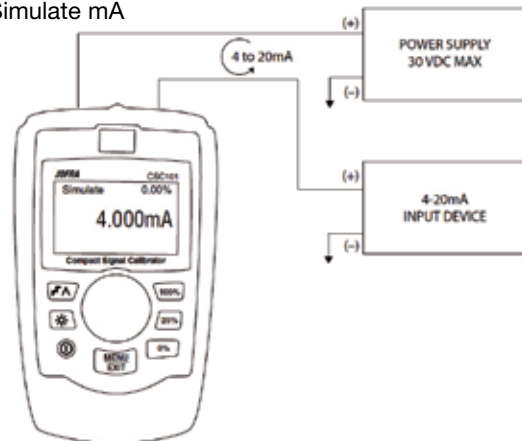
CE - EMC ..... EN 61326, ANNEX A (Portable Instruments)

*Accuracy includes hysteresis, nonlinearity, repeatability, reference standard uncertainty and 1 year typical long-term stability; operated inside the rated temperature span and range.*

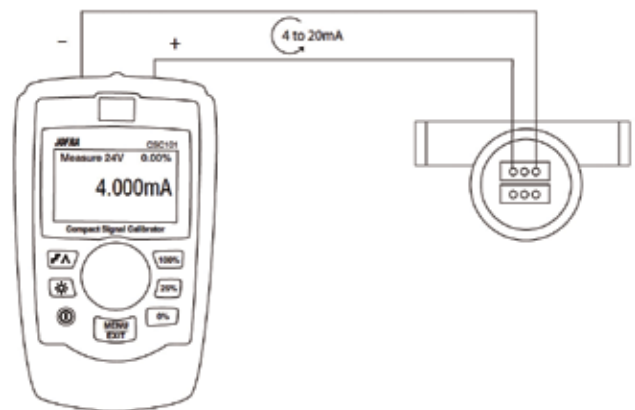
Source mA



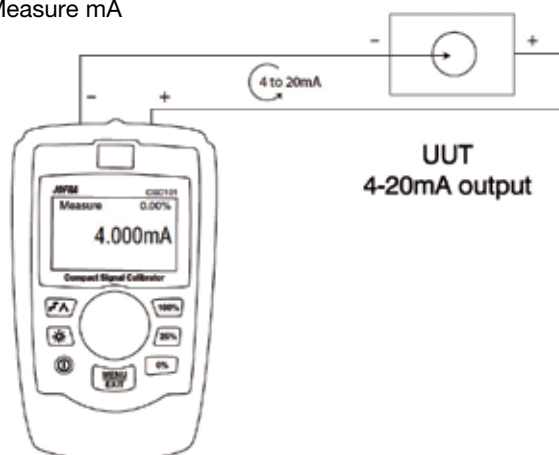
Simulate mA



Measure mA, CSC 101 supplying 24 VDC



Measure mA



Two 4 mm safety connectors are located at the top of the CSC101. This keeps measurement wires away from the knob and display.

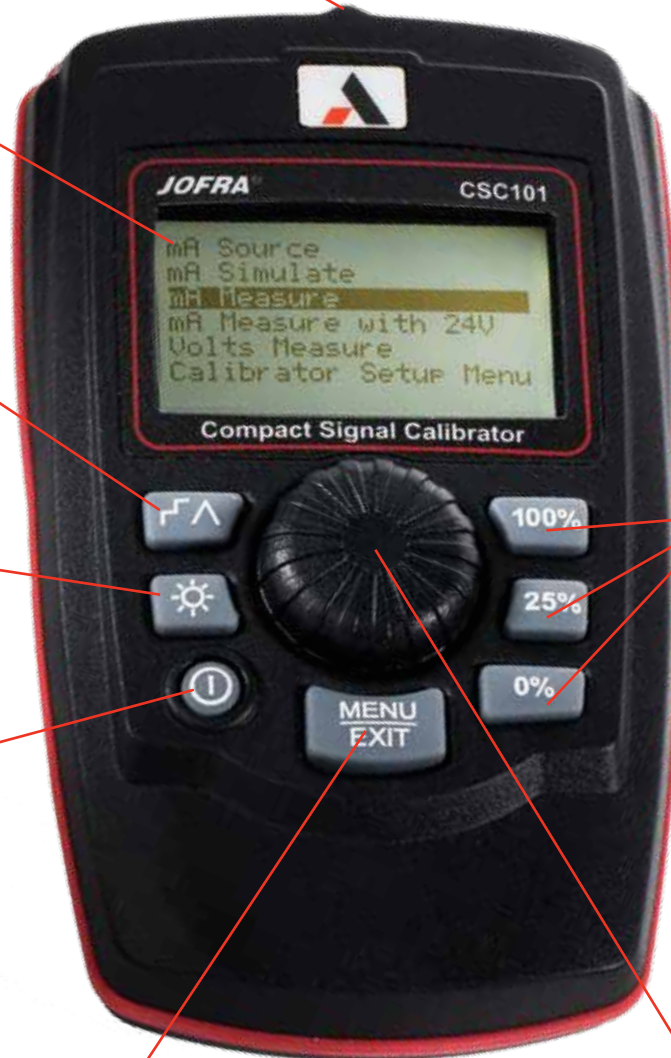
Large high-resolution, high-contrast graphic display for easy reading.

Auto step and ramp, user defined sweep/step time. Up to 300 seconds.

High density back light.

Power ON / OFF, auto power off from 1 to 30 minutes or permanently on setting.

MENU / EXIT, easy intuitive entry, exit for the menu system.



Easy step keys from 0%, 25% and 100% with a touch of a finger.

Rotary knob with built-in ENTER push function – all entries for system set-up and output values are done with this intuitive tool. This makes it possible to hold and operate the CSC101 with only one hand.

mA Source
mA Simulate
mA Measure
mA Measure with 24V
Volts Measure
Calibrator Setup Menu

## ORDERING INFORMATION

Order no.	Description
CSC101	<b>Base model</b> Handheld loop signal calibrator
	<b>Certification</b>
G	NIST traceable temperature certificate (standard)
H	Accredited calibration certificate
	<b>Accessories</b>
B	Rechargeable battery pack

**CSC101 G B Sample order number**  
CSC101 calibrator with standard NIST traceable temperature certificate and rechargeable battery pack.

## STANDARD DELIVERY

- JOFRA CSC101 Compact Signal Calibrator
- Traceable calibration certificate
- Reference manual
- Test leads



The CSC101 is a member of the comprehensive range of JOFRA handheld process calibrators.



**AMETEK Test & Calibration Instruments**  
A business unit of AMETEK Measurement & Calibration Technologies Division offering the following industry leading brands for test and calibration instrumentation.

**JOFRA Calibration Instruments**  
*Temperature Calibrators*  
Portable dry-block calibrators, precision thermometers and liquid baths. Temperature ranges from -90°C(-130°F) to 1205°C(2200°F). Temperature sensors for industrial and marine use.  
*Pressure Calibrators*  
Convenient electronic systems ranging from -25 mbar to 1000 bar - fully temperature-compensated for problem-free and accurate field use.  
*Signal Instruments*  
Process signal measurement and simulation for easy control loop calibration and measurement tasks.

**M&G Pressure Testers & Pumps**  
Pneumatic floating-ball or hydraulic piston dead weight testers with accuracies to 0.015% of reading. Pressure generators delivering up to 1,000 bar.

**Lloyd Instruments**  
Materials testing machines and software from Lloyd Instruments guarantees expert materials testing solutions. The comprehensive program also covers Texture Analysers to perform rapid, general food testing and detailed texture analysis on a diverse range of foods and cosmetics.

**Davenport Polymer Test Equipment**  
Allows measurement and characterization of moisture-sensitive PET polymers and polymer density.

**Chatillon Force Measurement**  
The hand held force gauges and motorized testers have earned their reputation for quality, reliability and accuracy and they represent the de facto standard for force measurement.

**Newage Testing Instruments**  
Hardness testers, durometers, optical systems and software for data acquisition and analysis.



**UK**  
AMETEK Calibration Instruments  
Tel +44 (0)1243 833 302  
jofra@ametek.co.uk

**France**  
AMETEK S.A.S.  
Tel +33 (0)1 30 68 89 40  
general.lloyd-instruments@ametek.fr

**Germany**  
AMETEK GmbH  
Tel +49 (0)2159 9136 510  
info.mct-de@ametek.de

**Denmark**  
AMETEK Denmark  
Tel +45 4816 8000  
jofra@ametek.com

**USA**  
AMETEK Mansfield & Green  
Tel +1 (800) 527 9999  
cal.info@ametek.com

**India**  
AMETEK Instruments India Pvt Ltd.  
Tel +91 22 2836 4750  
jofra@ametek.com

**Singapore**  
AMETEK Singapore Pte Ltd  
Tel +65 6484 2388  
jofra@ametek.com

**China**  
AMETEK Inc. - Shanghai  
Tel +86 21 5868 5111  
AMETEK Inc. - Beijing  
Tel +86 10 8526 2111

AMETEK Inc. - Guangzhou  
Tel +86 20 8363 4768  
jofra.sales@ametek.com.cn