CAP 100

Capacitive Conditionning Unit • Industrial Casing

1 / 2 / 4 channels

The forefront of industrial innovation

The CAP100 is an **industrial enclosure capacitive conditioner** and a **non-contact measurement system** offering nanometric precision.

Compatible with all CAPAAB capacitive sensors, this conditioner combines **advanced measurement capabilities** with a **rugged enclosure** designed to withstand **demanding operating conditions**.

High-precision non-contact distance measurement

One of the key features of the CAP100 is its **ability to perform non-contact measurements**. This capability **eliminates any risk of damaging delicate surfaces** while ensuring reliable **measurements in particularly challenging environments**.

Whether the target surfaces are pressure-sensitive or located in hard-to-reach areas, this non-contact technology provides **a significant advantage for industrial users seeking to preserve the integrity of their equipment and installations**.

The **high resolution of the CAP100 system** makes it a valuable tool for applications requiring **ultra-precise measurements**.

With a dynamic resolution of 0.3 µm at 1 Hz and 30 µm at 10 kHz, it delivers **highly accurate measurement data** across a wide measurement range, from 0 to 12 mm depending on the sensor used. It is **ideally suited to applications where precise dimensional control is required across a variety of industrial sectors**.

More than precision: outstanding versatility

Beyond its accuracy, the CAP100 also offers a high degree of versatility. Thanks to its **wide bandwidth**, it can perform vibration measurements up to 20 kHz. Whether **monitoring equipment performance**, verifying **structural stability**, or assessing the **quality of mechanical assemblies**, this capacitive conditioner is well suited to a broad range of measurement tasks.

The robust industrial enclosure of the CAP100 makes it particularly **suitable for harsh environments**. It is designed **to withstand the constraints commonly encountered in industrial facilities**, including **prolonged exposure to dust, humidity, and extreme temperatures**.

Its painted metal housing, rated IP65, provides **long-term durability and reliable operation**, making it a **sound investment for demanding industrial applications**.

The CAP100 is a **preferred solution for professionals looking to optimize their measurement processes**. For accurate measurements that are easy to implement and reliable in industrial environments, it offers an **effective and dependable solution**.

The CAP100 combines performance and durability to support operational objectives with **maximum efficiency**.

Applications

- Automotive
- Aerospace
- Electronics
- Pharmaceutical
- Metrology
- Research / R&D

Technical data

Measurement range	0 to 12 mm	according to the diameter of the sensor electrode used
Linearity	< +/- 0.5 %	of full scale (F.S.)
Temperature drift (/ °C)	< +/- 0.005 %	of full scale (F.S.)
Frequency range	0 to 20 kHz	typical (-3 dB)
Dynamic resolution at maximum probe distance	0.3 µm	with 1 Hz analysis bandwidth
	30 µm	with 10 kHz analysis bandwidth
Measurement output	0 / 10V	linear variation vs distance (CAP100 A or CAP100/2A) or capacitive (CAP100 B or CAP100/2B)
Dimensions	145 × 121 × 40 mm	1 channel
	240 × 140 × 170 mm	2 channels
Waterproofing	IP65	
Power	24 Vdc or 230 Vac	as needed
Compatibility	CAPAAB capacitive triaxial probes	temperature range from -55 °C to +125 °C as standard and 750 °C for special models

Options

- Built-in LCD display
- 4/20 mA output
- T.O.R. output

Capacitive standard probe size

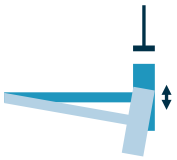
Reference	Measuring range (mm)	Outer diameter (mm)	Length (mm)
CC1 Capacitive Model	1	4	20
CC2 Capacitive Model	2	6	20
CC5 Capacitive Model	5	15	23
CC8 Capacitive Model	8	24	25
CC12 Capacitive Model	12	36	28

Max. temperature
125 °C

Probe cable
2 meters
(standard length)

Typical applications

Single-channel measurement

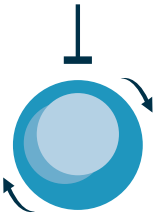


Vibration

Measurement of the oscillations or repetitive movements of an object around a point of rest.

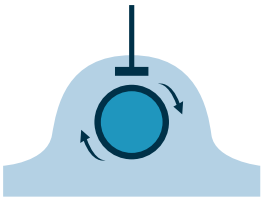
Displacement

Measuring the linear motion of an object.



Excentricity

Measurement of the distance between the geometric center of an object and its axis of rotation.



Oil film thickness

Measuring the oil film between two contacting surfaces.

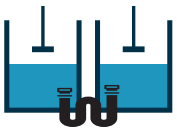
Multi-channel measurement

Concentricity

Checking whether two or more objects share the same center.

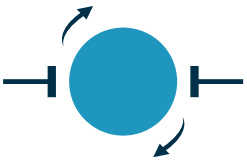
Positioning

Measuring the position of an object relative to a reference point.



Conductive liquid height (i.e. water)

Measuring the level of a conductive liquid in a tank.

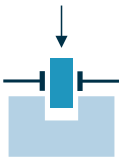


Diameter measurement

Measuring the diameter of a circular object.

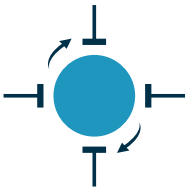
Thickness measurement

Measuring the thickness of an object or a layer.



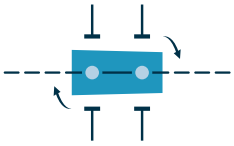
Alignment

Checking the alignment between two objects/ components.



Shaft orbital movement

Measurement of the rotational motion of a shaft.



Circularity / Cylindricity / Conicity

Measuring the roundness, cylindricity, and taper of an object to verify its shape and dimensions.