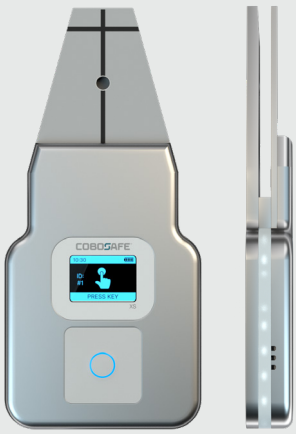
COBOSAFE®

Force Measurement Device for Grippers and Applications with Small Gap Widths

This device measures transient and quasi-static forces on collaborative robots and is also suitable for other measuring applications with confined gaps.

According to the standards ISO/TS 15066, EN ISO 10218-1, EN ISO 10218-2

CBSF-XS



- Smallest dimensions
- Integrated display
- Luminous border for status display
- Easy operation
- User-friendly menu navigation
- Prepared for pressure measurement with CBSF-scan
- K1 compression element available
- Can be evaluated with CoboSafe-Vision software

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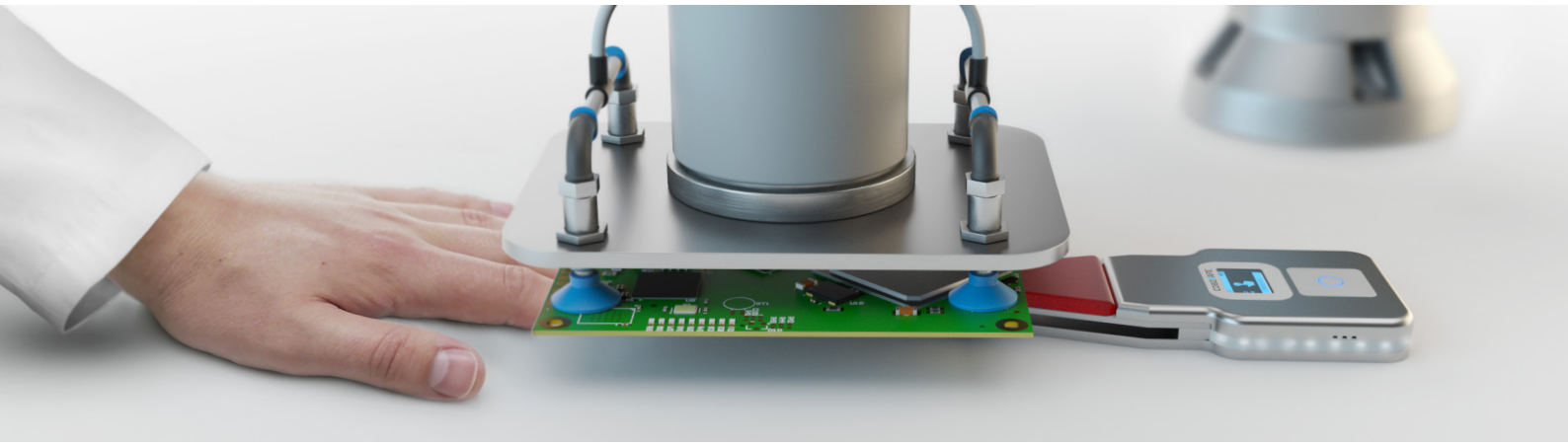


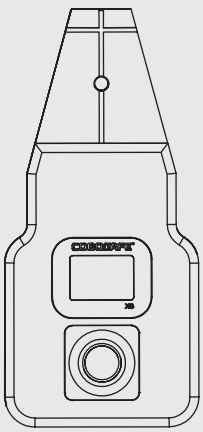
Force Gauge CBSF-XS

The CBSF-XS force gauge is designed as part of the CoboSafe family and covers in particular cases where only confined gaps are available for measurement. This applies, for example, to the determination of the forces of grippers, when used in human-robot collaboration (HRC) applications.

With the CBSF-XS, force measurements can be carried out even at small gap widths (> 10 mm) due to its low measuring tip height. Due to the overall extremely small dimensions, the measuring device can also be placed in tight spaces. Therefore, it can be used in a wide range of applications, not only in the HRC sector. The CBSF-XS is generally suitable when closing forces are to be measured in confined gaps, e.g. at clamping points in the hand area.

The optical signal transmitter in the form of a luminous border provides information about the operating status of the measuring device, so that the display no longer has to be observed. In addition, the measurement data can be transferred to the PC and can be checked, either wirelessly or via USB cable. This makes it possible to repeat measurements with new parameters without having to reposition the measuring device.

In combination with the compression element and the CoboSafe-Scan pressure measurement system, a biofidelic measurement can also be realized.



Technical Data:

Dimension	140 mm x 65 mm x 15 mm (L x W x H)
Measuring surface	350 mm²
Minimum height	10 mm (without K1 damping element)
Measuring range	20 N ... 280 N
Measuring inaccuracy	typ. ± 1 % of reading
Maximum measuring error	± 3 % of reading
Spring constant (mech. filter)	75 N/mm
Sampling rate	≥ 1 kHz

Supply voltage	DC 3,7 V (integr. LiPo battery)
Current consumption	500 mA
Interface	USB/wireless
Capacity of internal memory	> 100 (single measurements)
Temperature range	+10 °C ... +30 °C
Relative humidity (non-condensing)	20 % ... 90 % rel. h.
Protection class	IP20

Version: 05/2024 – 325-2811-006_EN-13 Technical changes reserved!