

# Force sensor washer, type 0120

For measuring the force at connecting elements

BROSA force sensor washers offer decisive advantages thanks to their patented three-point design: The forces flow optimally through the measuring points and therefore allow high measuring accuracy. Customer requirements can be adapted flexibly, individually and easily. Compared to closed ring supports, the acceptance of the surrounding steel structure is many times better and production is more cost-effective. Thanks to their compact and robust design, they can be used under the most difficult environmental conditions. A calibration that corresponds to the respective installation situation ensures precise measurement and thus high measuring accuracy

## Applications

- Twistlock
- Rope endpoint
- Connecting elements
- Load sensing equipment
- Machine construction

## Features

- Customer-specific design
- Integrated amplifier
- High overload capacity
- Durable design (verification on request)
- Temperature compensated
- High EMC resistance



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## Technical data

Accuracy	≤ 0.5 % FS
Measuring range	30 kN to 3000 kN
Limit load	≥ 150 %, optional 300 %
Breaking load	≥ 300 %, optional 500 %
Linearity error	≤ 0.5 % FS
Hysteresis	≤ 0.5 % FS
Reproducibility	≤ 0,1 % FS
Temperature range	-40 to +80 °C
Temperature coefficient	≤ 0,0035 % / °K
Supply voltage	9 to 36 VDC
Output signal	4 to 20 mA, optional redundant CANopen, optional Safety PROFINET, optional PROFIsafe IO-Link, optional redundant PL c
Degree of protection	IP 67, optional IP 69, according to DIN EN 60529
Interference immunity	Up to 200 V/m HF, 100 mA BCI according to ISO 11452, DIN EN 61000-4, ISO 7637
Interference emission	DIN EN 55025
Climatic tests	DIN EN 60068-2
Vibration resistance	DIN EN 60068-2
Electrical connections	M12x1, 5-pins
Electrical protection	Reverse polarity protection, overvoltage protection and short-circuit protection
Material	Stainless steel

## Options

Safety classification according to DIN EN ISO 13849-1	PL c, PL d (PL e*)
Explosion protection	ATEX Ex i
Ex classification	II 2G Ex ib IIC T4 Gb / IECEx Ex ib IIC T4 Gb
Passive Design	Output ~ 1 mV / V

Other requirements can be implemented by agreement.

\* When used in higher-level systems according to DIN EN ISO 13849-1



ISO 9001  
ISO 14001



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