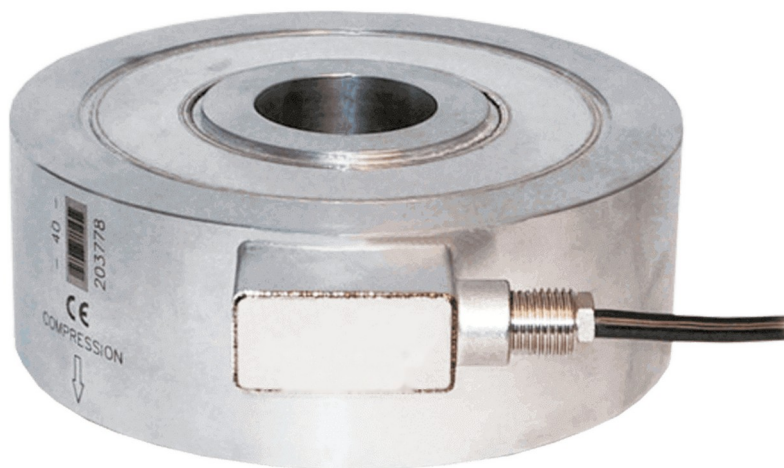
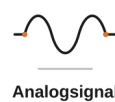
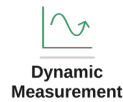


AMPLIFIED RING FORCE TRANSDUCER

▼▲ COMPRESSION



- CAPACITY 10 ... 1000 KN
- 4 ... 20 mA · ± 5 V · ± 10 V
- STAINLESS STEEL · IP67
- RESPONSE FREQ. 2 KHZ



VERSIONS (OUTPUT)

Output	Signal	Power supply	Load resistance
4 ... 20 mA, 3-wire	20 mA at nominal compression	18 ... 28 V DC	0 ... 470 Ω
± 5 V	+5 V at nominal compression	12 ... 28 V DC	min. 3 kΩ
± 10 V	+10 V at nominal compression	18 ... 28 V DC	min. 3 kΩ

Capacities 10, 25, 50, 100 kN (Ø 140), 250, 500 kN (Ø 165) and 750, 1000 kN (Ø 200). Higher response frequency and calibration in kg on request.



OVERVIEW

Ring force transducer with built-in amplifier: standard signal 4 ... 20 mA, $\pm 5\text{ V}$ or $\pm 10\text{ V}$, from 10 kN to 1000 kN.

The flat stainless steel ring is completely laser welded and protected to IP67. The amplifier delivers the standard signal directly at the transducer, with a response frequency of 2 kHz; power supply is 12 ... 28 V DC (4 ... 20 mA and $\pm 10\text{ V}$: 18 ... 28 V DC). It is connected via a 5 m shielded cable, or optionally via an M12 connector.

10 ... 1000 kN capacities	4 ... 20 mA or $\pm 5\text{ V}$, $\pm 10\text{ V}$	2 kHz response frequency	IP67 protection class
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MEASUREMENT	CONNECTION
■ capacity 10 ... 1000 kN	■ 4 ... 20 mA (3-wire), $\pm 5\text{ V}$ or $\pm 10\text{ V}$
■ linearity $\leq \pm 0.10\text{ \%}$ / $\leq \pm 0.20\text{ \% F.S.}$	■ power supply 12 ... 28 V DC
■ dynamic load up to 75 %	■ 5 m cable, M12 connector option
■ response frequency 2 kHz	■ stainless steel, IP67



TECHNICAL DATA

PRECISION

Linearity	$\leq \pm 0.10 \% \text{ F.S. (10 ... 100 kN)} \cdot \leq \pm 0.20 \% \text{ F.S. (250 ... 1000 kN)}$
Sensitivity tolerance	$< \pm 0.1 \%$
Temperature effect on zero (10 °C)	$\leq \pm 0.028 \% \text{ F.S.}$
Temperature effect on sensitivity (10 °C)	$\leq \pm 0.024 \% \text{ F.S.}$
Response frequency	2 kHz (higher on request)

MECHANICAL PROPERTIES

Material	stainless steel, completely laser welded
Sizes	$\varnothing 140 \text{ mm (10 ... 100 kN)} \cdot \varnothing 165 \text{ mm (250, 500 kN)} \cdot \varnothing 200 \text{ mm (750, 1000 kN)}$
Displacement at nominal load	$\approx 0.17 \cdot 0.20 \cdot 0.25 \text{ mm}$
Weight	$\approx 4.1 \cdot 5.5 \cdot 8.3 \text{ kg}$
Contact surfaces	hardness $\geq 40 \text{ HRC}$, roughness $R_a \leq 1.6$
Protection class (EN 60529)	IP67

ELECTRICAL PROPERTIES

Amplified output	4 ... 20 mA (3-wire) $\cdot \pm 5 \text{ V} \cdot \pm 10 \text{ V}$
Nominal power supply	12 ... 28 V DC ($\pm 5 \text{ V}$) $\cdot 18 \text{ ... } 28 \text{ V DC (4 ... 20 mA, } \pm 10 \text{ V)}$
Max. absorption	max. 30 mA
Load resistance, voltage	min. 3 k Ω
Load resistance, current	0 ... 470 Ω
Cable	PVC 105 °C, shielded, $\varnothing 5.3 \text{ mm}$, conductors 0.14 mm ² , 5 m

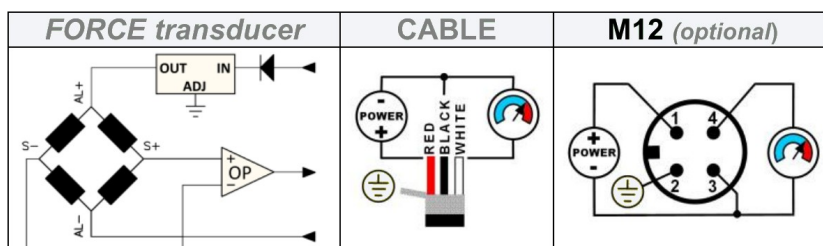
TEMPERATURE

Reference temperature	+23 °C
Nominal temperature range	-10 ... +40 °C
Service temperature	-10 ... +70 °C
Storage temperature	-20 ... +80 °C

MECHANICAL LIMITS (REFERRED TO NOMINAL LOAD)

Service load	120 %
Max. permissible load	150 %
Breaking load	> 300 %
Max. transverse load	100 %
Max. permissible dynamic load	75 %

ELECTRICAL CONNECTION



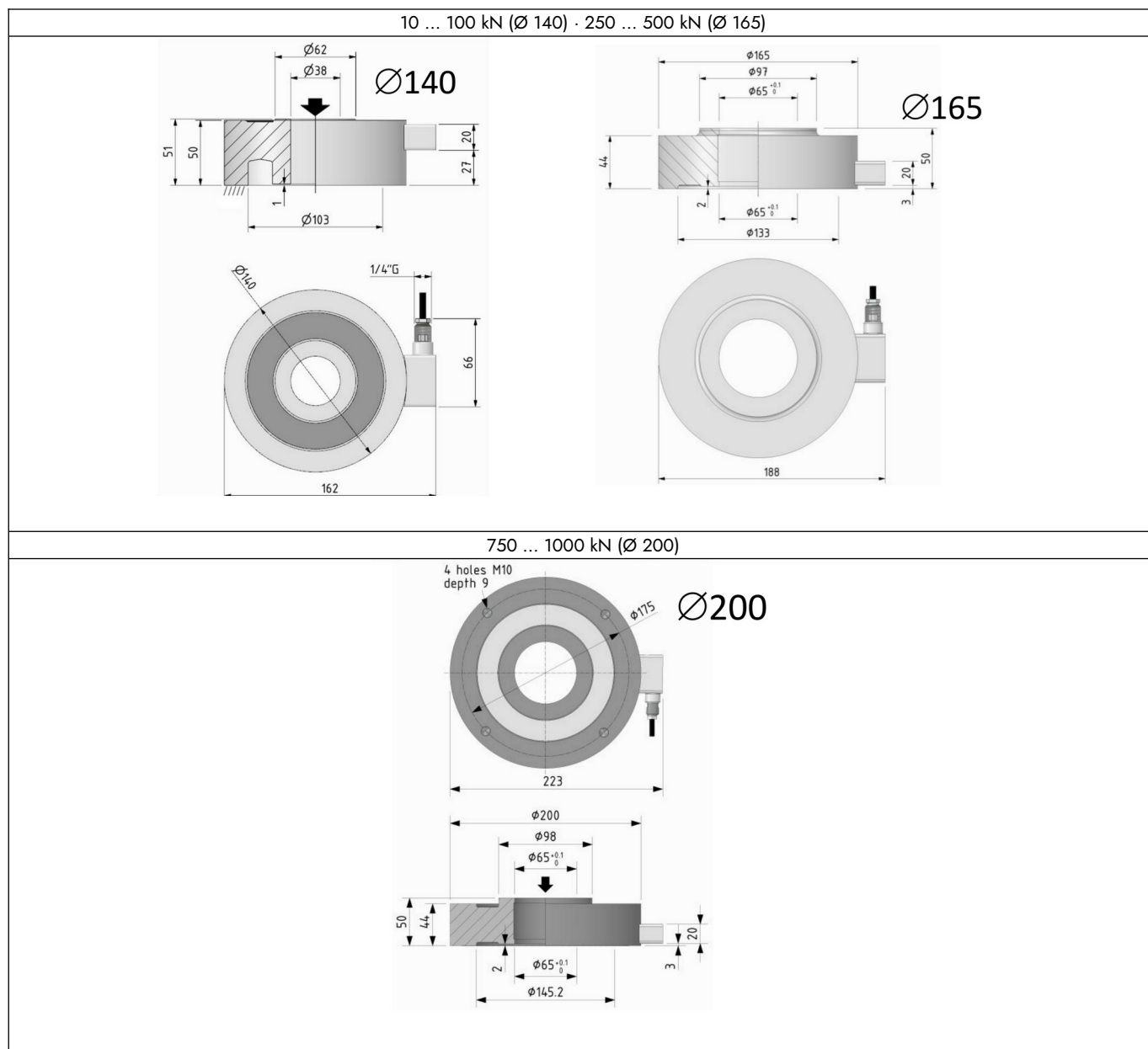
M12 connector (option): pin 1 power +, pin 3 0 V, pin 4 output +, pin 2 earth. Shield connected to the body of the transducer. Protect power + by an external 100 ... 200 mA fast-blow fuse.

ACCESSORIES AND OPTIONS

M12 connector	direct output instead of cable
Connection cable	female M12 $\times$ 1, 5-pole, straight, PVC, shielded, 3 m
Calibration	in kg on request



DIMENSIONS (mm)



Dimensions in mm. Ø 200: 4 holes M10, depth 9, on pitch circle Ø 175. The contact surfaces with the force transducer must have a hardness of at least 40 HRC and a roughness $R_a \leq 1.6$.

COMPLIANCE AND CERTIFICATION

Protection Rating	IP67
Compliance	CE, RoHS
Calibration	Calibration in kg on request

