AMPLIFIED S-TYPE LOAD CELL

TENSION & COMPRESSION



- CAPACITY 10 KG ... 7.5 T
- 4 ... 20 MA · ± 5 V · ± 10 V
- ACCURACY 0.03 %
- STAINLESS STEEL · IP65

CE · RoHS COMPLIANT · IP65 · Stainless Steel · Fully Laser Welded · Dynamic Measurement · Analogsignal · M12

VERSIONS (OUTPUT)

Output	Signal	Power supply	Load resistance
4 ... 20 mA, 3-wire	20 mA at nominal tension	12 ... 24 V DC	0 ... 470 Ω
± 5 V	+5 V tension · –5 V compression	12 ... 24 V DC	min. 3 kΩ
± 10 V	+10 V tension · –10 V compression	18 ... 24 V DC	min. 3 kΩ

Capacities 10, 25, 50, 100, 200, 300, 500 kg and 1, 2, 2.5, 5 and 7.5 t. Positive output in tension. Acceleration of gravity g = 9.80434 m/s².

OVERVIEW

S-type load cell with built-in amplifier: standard signal 4 ... 20 mA, ± 5 V or ± 10 V straight from the transducer, from 10 kg to 7.5 t.

The amplifier sits inside the stainless steel body; the cell is supplied with 12 ... 24 V DC (± 10 V: 18 ... 24 V DC) and connected via an M12 connector. No additional amplifier is needed. The response frequency is 1 kHz, the accuracy 0.03 %. Suited to silos with three tension supporting points and platforms with four jointed feet.

10 kg ... 7.5 t	4 ... 20 mA	0.03 %	1 kHz
capacities	or ± 5 V, ± 10 V	accuracy	response frequency

MEASUREMENT
tension and compression, static and dynamic
accuracy 0.03 %
non-linearity ± 0.023 %
response frequency 1 kHz

CONNECTION
4 ... 20 mA (3-wire), ± 5 V or ± 10 V
power supply 12 ... 24 V DC
M12 connector, 4-pole
stainless steel, IP65

office@octogon.org | +43 676 3628453
octogon GmbH | Roseggerstrasse 16 8700 Leoben | Austria

V01 | 10/2026 | © octogon GmbH
www.octogon.org

TECHNICAL DATA

PRECISION

Accuracy	0.03 %
Non-linearity	± 0.023 %
Non-repeatability	± 0.015 %
Calibration tolerance	< ± 0.1 %
Zero balance	1 %
Temperature effect on zero (10 °C)	± 0.028 %
Temperature effect on sensitivity (10 °C)	± 0.012 %
Response frequency	1 kHz

MECHANICAL PROPERTIES

Material	stainless steel, completely laser welded
Displacement at nominal load	0.2 mm
Weight	0.6 · 1.2 · 2.6 kg depending on size
Protection class (EN 60529)	IP65

ELECTRICAL PROPERTIES

Output	4 … 20 mA (3-wire) · ± 5 V · ± 10 V
Nominal power supply	12 … 24 V DC (4 … 20 mA, ± 5 V) · 18 … 24 V DC (± 10 V)
Max. power supply	28 V DC
Max. absorption (without load)	max. 30 mA
Load resistance, voltage	min. 3 kΩ
Load resistance, current	0 … 470 Ω
Insulation resistance	> 2 GΩ
Connector output	M12 4-pole male connector with 3 m cable
Cable	PVC 105 °C, shielded, Ø 5.2 mm, 4 × 0.35 mm²

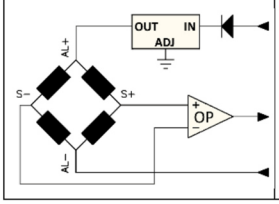
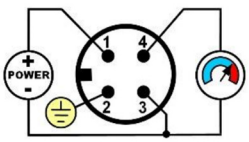
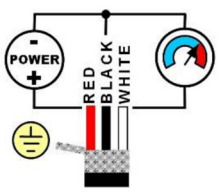
TEMPERATURE

Reference temperature	+23 °C
Nominal temperature range	–10 … +40 °C
Service temperature	–20 … +70 °C
Storage temperature	–20 … +80 °C

MECHANICAL LIMITS (REFERRED TO NOMINAL LOAD)

Minimum load	0 %FS	Lowest load from which measurement is possible.
Service load	120 %FS	Load without any permanent deformation or change in calibration.
Max. permissible load	150 %FS	The highest static load that may be applied once or briefly without mechanical damage.
Breaking load	> 300 %FS	Load at which permanent deformation or mechanical failure (fracture) occurs.
Max. transverse load	100 %FS	Maximum lateral or shear load that can be applied (e.g. due to misalignment or friction).
Max. permissible dynamic load	50 %FS	For cyclic or oscillating loads, the amplitude should not exceed this load to prevent fatigue failure.

ELECTRICAL CONNECTION

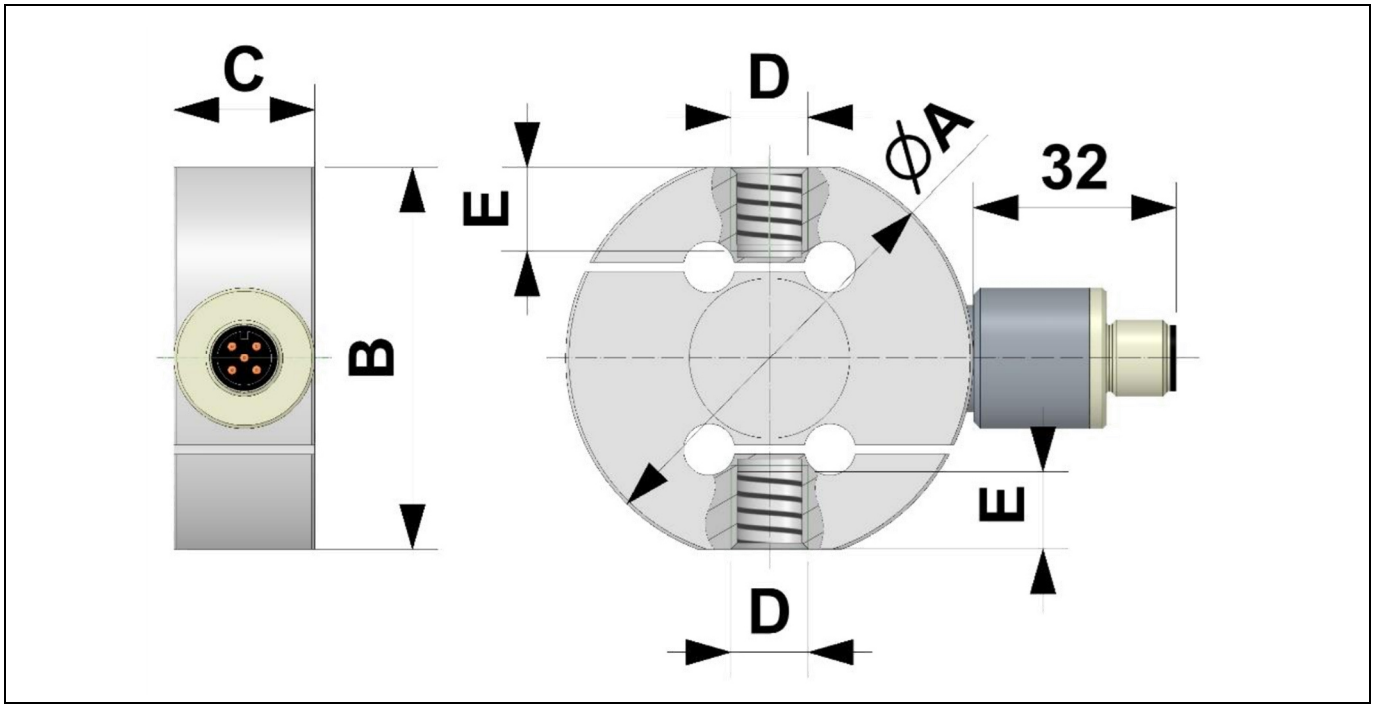
Load Cell	M12	*CABLE*	**MIL6M** *(optional)*
			A = POWER+ B = 0 V / Signal - C = Not connected D = OUTPUT+ E = Not connected F = EARTH

M12 connector: pin 1 power +, pin 3 0 V / signal –, pin 4 output +, pin 2 earth. MIL6M (option): A power +, B 0 V / signal –, D output +, F earth, C and E not connected. Shield connected to the body of the transducer. Protect power + by an external 100 … 200 mA fast-blow fuse.

ACCESSORIES AND OPTIONS

Connection cable	female M12 × 1, straight, PVC, shielded, custom length
MIL6M connector	direct output instead of M12
MIL6M connection cable	female MIL6M, 6-pole, straight, PVC, shielded, 5 m
Knuckle joints	to ISO 12240-4 series E, M12 … M24 × 2
Calibration report	compression or tension

DIMENSIONS (mm)



Dimensions in mm; the letters refer to the dimension table.

DIMENSION TABLE (mm)

Capacity	Ø A	B	C	D	E
10 ... 500 kg	63.5	59.5	22	M12 × 1.75	12
500 kg ... 2 t	82	78	30	M16 × 2	20
2.5 t	82	78	30	M20 × 1.5	20
5 t · 7.5 t	102	90	45	M24 × 2	21.5

500 kg is available in size Ø 63.5 and Ø 82 mm.

COMPLIANCE AND CERTIFICATION

Protection Rating	IP65
Compliance	CE, RoHS
Calibration	Calibration report on request (compression or tension)