

Strain Gage Load Cell

Type 4579A...

for Tensile and Compression Forces, 0 ... 20 kN up to 0 ... 500 kN

Load cells for tension and compression Type 4579A... can be used in the laboratory and in industrial environments.

- Measuring ranges from 0 ... 20 kN to 0 ... 500 kN
- Measuring accuracy better than 0,2 %FSO
- Protection class IP67
- Stainless steel construction
- Simple mounting

Description

Strain gages are applied to the flexural diaphragms in the load cell and deliver a bridge output voltage directly proportional to the measurand during concentric load application.

The force being measured must be applied to the thread along the central axis of the Type 4579A... . A force distributing cap or an adapter for the particular application must be used for this purpose, and introduction of shear or torsion avoided.

Lateral forces within $\pm 2,5^\circ$ of the perpendicular force may be neglected. Higher lateral forces must be kept away from the load cell through design measures as shown in the articulated mounting configurations.

The strain gage load cell is available for seven different measuring ranges from 0 ... 20 kN to 0 ... 500 kN.

Applications

The standardized rated sensitivity and ease of mounting allow simple retrofitting of existing structures with the load cell. Depending on the particular requirements, static, quasistatic and dynamic tensile and compression forces can be measured.



Technical Data

Direction of measurement		tensile/compression
Measuring ranges	kN	0 ... 20 to 0 ... 500
Maximum working load	%	150
Dynamic load	%	70 (recommended)
Operating temperature range	°C	-20 ... 50
Rated temperature range	°C	15 ... 50
Temperature influence		
on zero	%FSO/K	$\leq \pm 0,02$
on span	%FSO/K	$\leq \pm 0,02$
Weight (without cable)	kg	$\approx 3,7 \dots 14,4$
Material		stainless steel
Degree of protection (sensor body) (acc. to IEC/EN 60529)		IP67
Bridge resistance		strain gage, full bridge circuit
Input/Output	Ω	350 nominal ¹⁾
Accuracy (Combined value for non-linearity, hysteresis and repeatability with unchanged mounting position)	%FSO	$\leq \pm 0,2$ $\leq \pm 0,5^2)$
Reference supply voltage	VDC	≤ 20
Rated sensitivity	mV/V	$\approx 2,0 \pm 0,005$
Zero signal	%FSO	$\leq \pm 3$

¹⁾ Deviations may occur.

²⁾ >20 kN

Dimensions

(nom. load)	øA	B	øC	D	øE	øF	G	H	J	K	Weight
4579A20/50	150	M24x2	40	8 x 45 °	130	11	40	2	11	18	3,7 kg
4579A200/100	165	M36x3	50	8 x 45 °	145	13	42	2	13	20	4,9 kg
4579A300/500*	203	M45x3	94	16 x 22,5 °	165	13	64	6,5	-	-	11,4 kg

* without milled slot for screw heads

Dimensions

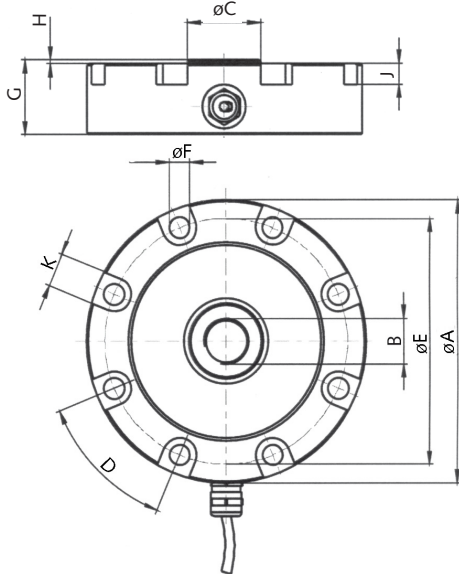
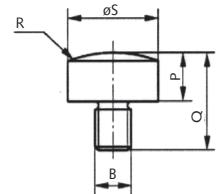


Fig. 1: Strain gage load cell Type 4579A..., 20 ... 200 kN Types 4579A300 / 4579A500 without milled slot

Mounting and Installation Aid

Fig. 2: Force distributing cap Type 4579AZ...

	øS	P	Q	R
4579AZ20/50	30	22	42	R50
4579AZ100/200	50	35	72	R120
4579AZ300/500	70	40	70	R120



Mounting Instructions

Avoid radial clamping forces and load as free from shear forces as possible.

Tightening Torque of Fixing Screws

Type 4579A20/50	8x M10x40 – 10.9 (DIN 912)	60 N·m
Type 4579A100/200	8x M12x40 – 10.9 (DIN 912)	85 N·m
Type 4579A300/500	8x M12x80 – 10.9 (DIN 912)	85 N·m

Optional Accessories

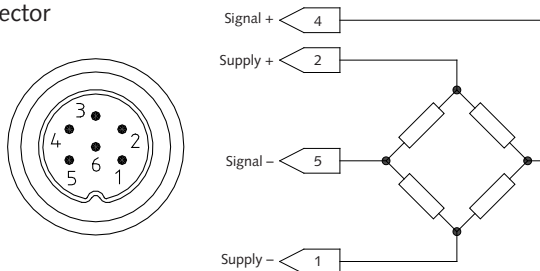
- Force distributing cap, measuring range 20, 50 kN
- Force distributing cap, measuring range 100, 200 kN
- Force distributing cap, measuring range 300, 500 kN

Type

- 4579AZ20/50
- 4579AZ100/200
- 4579AZ300/500

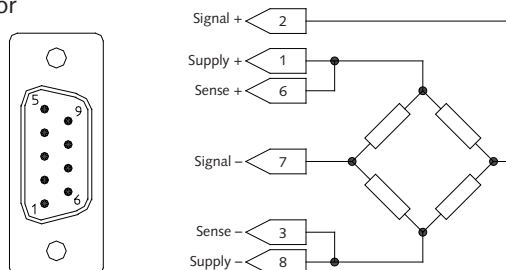
Electrical Connection C1

approx. 3 m shielded, highly flexible cable, 6 pin M16 circular connector



Electrical Connection C3

approx. 3 m shielded, highly flexible cable, 9 pin D-Sub connector



Ordering Key

Measuring Range [kN]

20	20
50	50
100	100
200	200
300	300
500	500

Connector Plug

6 pin M16 circular connector ¹⁾	C1
9 pin D-Sub connector ²⁾	C3

Type 4579A

Advice for connector plug C1 and C3

- ¹⁾ C1 connector is applicable for DMF-P family
- ²⁾ C3 connector is applicable for maXYmos family

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