


S-WAEGEZ S-Type tension compression load cell

Tension Load Cell

S-WAEGEZ

● Characteristics

0300 - LOAD MEASURING - FORCE -

	- Measurement ranges:	0...20 kg up to 0...30000 kg
	- Input resistance:	350...410 \pm 5 Ω
	- Output:	2 mV/V or 3 mV/V
	- Output resistance:	350 \pm 10 Ω
	- Isolation resistance:	> 5000 M Ω (at 50 VDC)
	- Accuracy:	\pm 0,03% of terminal value
	- Operating temperature:	-20...+60 $^{\circ}$ C
	- Protection class:	IP65 / IP66 / higher on request
	- Material:	alloyed steel, nickel-plated
		stainless steel (option)
	Aluminum alloy (option)	

● Technical Data

Input

Measurement ranges: 0...20 up to 0...30000 kg (other measurement ranges see tables on pages 4, 5 and 7)
 Input resistance: 350...410 \pm 5 Ω

Output

Output signal: 2 mV/V \pm 0,2 or 3 mV/V \pm 0,2
 Output resistance: 350 \pm 10 Ω

Accuracy

Gross error: \pm 0,03 % of terminal value
 Repeatability: \pm 0,02 % of terminal value
 Creepage: \pm 0,03 % of terminal value / 30 min.
 Temperature coefficient:
 on span: \pm 0,03 % of measurement range / 10 $^{\circ}$ C
 on zero: \pm 0,03 % of measurement range / 10 $^{\circ}$ C

Supply

Excitation current: output signal is: 2 mV/V \pm 0,2 % or 3 mV/V \pm 0,25 %
 Isolation resistance: > 5000 M Ω at 50 VDC

Environmental Conditions

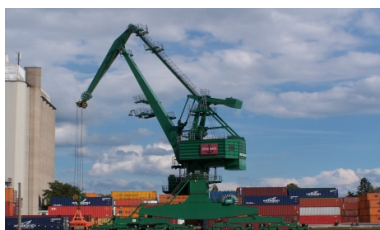
Temperature: compensated range: -10...+40 $^{\circ}$ C
 Operating range: -20...+60 $^{\circ}$ C

Mechanics

Dimensions: see pages 3-7
 Material: alloyed steel, nickel-plated
 Options: Stainless steel, aluminum alloy
 Permitted overload: 150 % of nominal load
 Breaking load: 200 % of nominal load
 Protection class: IP65 / IP66 (Standard)
 IP67 (Option, only from 0...50 kg range) / IP68 (Option, only from 0...500 kg range)

● Applications

The tension load cell S-WAEGEZ is intended for use in tension and compressive force measurements in both directions. Thanks to its flexible and robust design, the load cell is suitable for a broad range of force measurement applications.



S-WAEGEZ S-Type tension compression load cell

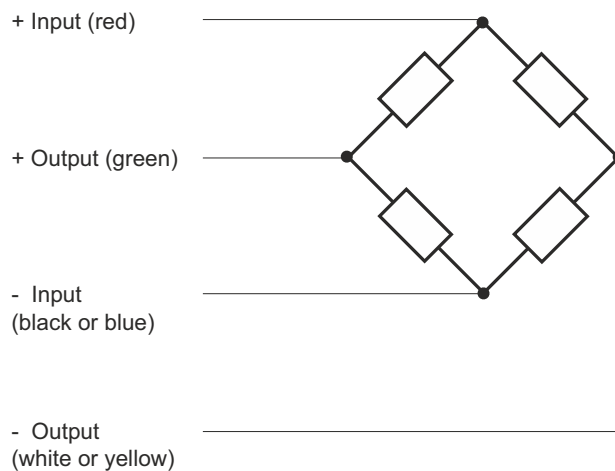
● Technical Data (Continued)

Mechanics (Continued)

Weight:	Measurement ranges 0...50 to 0...500 kg:	approx. 0,7 kg
	Measurement ranges 0...750 to 0...1500 kg:	approx. 0,9 kg
	Measurement ranges 0...2000 to 0...5000 kg:	approx. 1,8 kg
Connection:	3,5 / 6 m connection line, geschirmt (polyurethane)	
	+Input (red) / -Input (black or blue) /	
	+Output (green) / -Output (white or yellow)	

● Electrical Connection

Connections



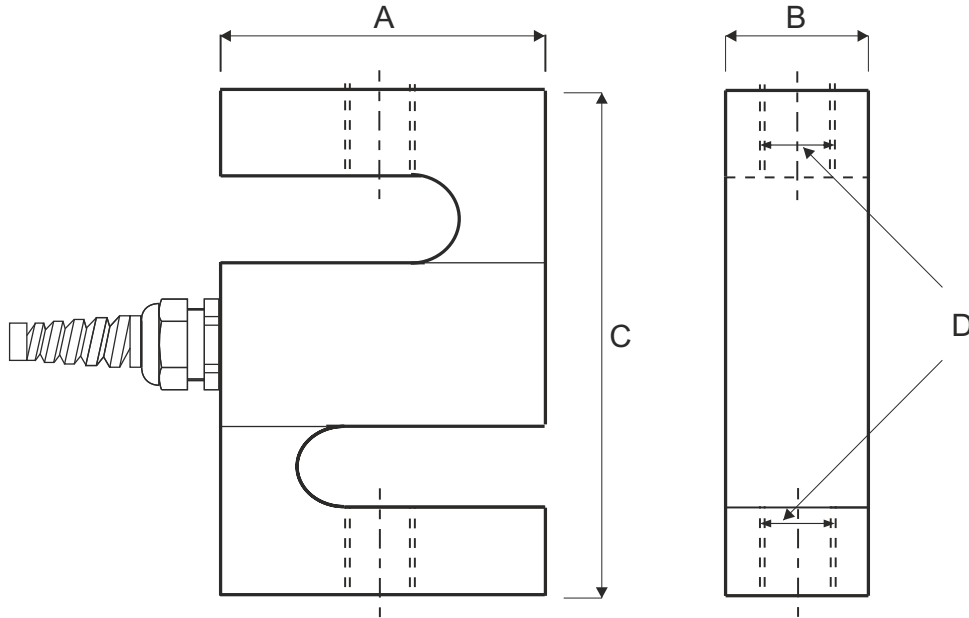
Cable

Shielded 4-wire, with braided copper wire shielding and polyurethane mantle. Ends stripped and tin-coated. Standard length of cable is 3,5 m (0...20 to 0...500kg) and 6 m (0...0,75 t to 0...30 t).

S-WAEGEZ S-Type tension compression load cell

● *Dimensions (in mm)*

Dimensions Tension Load Cell Standard



S-WAEGEZ S-Type tension compression load cell

● Dimensions (Continued)

Dimensions Tension Load Cell Standard - Table

Dimensions (in mm)					
Capacity (kg)	D	A	B	C	Weight/kg
20, 30, 50, 100	M6 ¹	50	12,5	62	0,7
20, 30, 50	M8 ²	50,8	12,7	64	0,7
20, 30, 50 ³	M8 ²	50,8	12,7	65,3	0,7
100 ³	M12 ²	50,8	19,1	76,2	0,7
250, 300, 500 ³	M12 ²	64	23	82	0,7
250, 300, 500, 750, 1000	M12x1,25 ¹	50	25	62	0,7 - 0,9
100, 250, 300, 500	M12x1,75 ²	50,8	19	76	0,9
750, 1000, 1500	M12x1,75 ²	50,8	25,4	76	0,9
1000 - 3000	M16 ²	60	30	80	0,9 - 1,8
2000, 2500, 3000, 5000	M18x1,5 ²	76,2	25,4	108	1,8
1500, 2000, 2500, 3000	M20x1,5 ¹	75	27	100	1,8
5000	M24x2 ¹	90	40	140	1,8

Notes

- 1) S-WAEGEZ Standard with M6, M12x1,25, M20x1,5 and M24x2 only available with 3 mV/V.
- 2) S-WAEGEZ Standard with M8, M12, M12x1,75, M16 and M18x1,5 only available with 2 mV/V.
- 3) Only for S-WAEGEZ Standard with aluminum alloy

The specified weights are only approximations, and certain special load cells with higher measurement ranges have in addition to this a deviating design. For further dimensions, see p. 5 for load cells with options and pages 6-7 for heavy load cells with exceptionally high measurement ranges.

S-WAEGEZ S-Type tension compression load cell

● **Dimensions (Continued)**

Dimensions Tension Load Cell Option - Tables

Dimensions (in mm)					
Capacity (kg)	D	A	B	C	Weight/kg
20 ²	M6	50,8	16,6	63,5	0,7
500 ¹	M12x1,75	50,8	19,1	76,2	0,7
1000 ¹	M12x1,75	50,8	25,4	76,2	0,9
1500 ¹	M16x1,5	50,8	25,4	76,2	0,9
2000, 3000 ¹	M20x1,5	76,2	31,8	108	1,8
5000 ¹	M24x2	76,2	37	108	1,8
10000 ¹	M30x2	125,5	50,8	177,8	>1,8

Dimensions (in mm)					
Capacity (kg)	D	A	B	C	Weight/kg
50 ³	M6	50,8	12,7	63,5	0,7
100 ³	M10x1,5	50,8	19,1	76,2	0,7
250 ³	M12x1,75	50,8	19,1	76,2	0,7
1000, 1500 ³	M12x1,75	50,8	25,4	76,2	0,7 - 0,9
2000, 2500, 3000, 5000 ³	M20x1,5	76,2	31,8	100,4	1,8

Notes

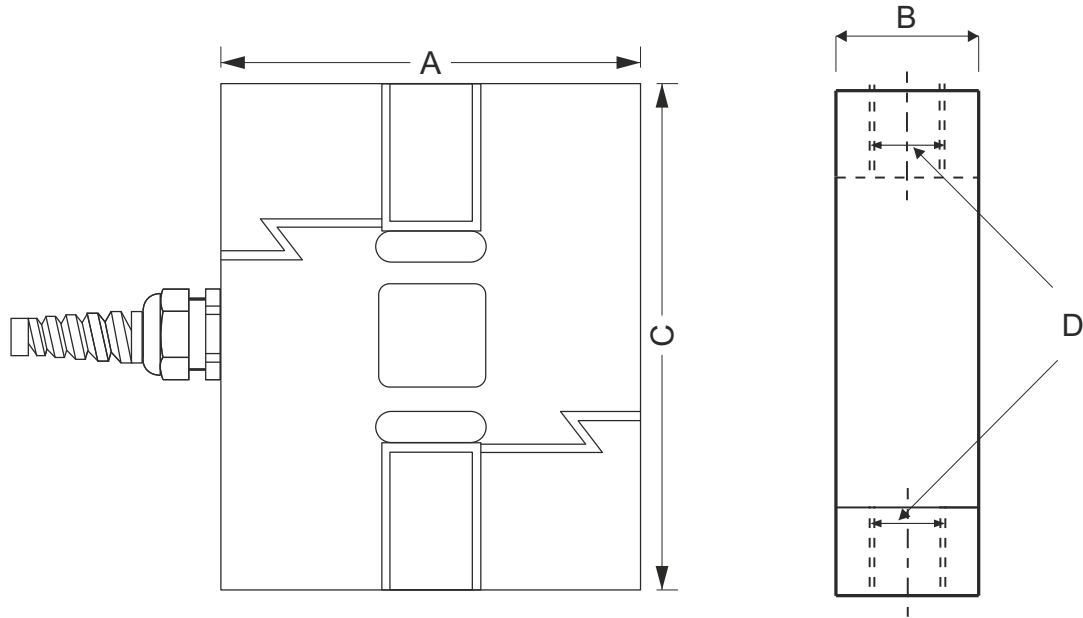
- 1) Custom design for options: No aluminum alloy
- 2) Custom design for options: Only aluminum up to IP67 maximum, only 2 mV/V
- 3) Custom design for options: Steel, stainless steel, up to IP67 maximum, only 3 mV/V, no aluminum alloy

Specified weights are only approximations.

S-WAEGEZ S-Type tension compression load cell

● Dimensions (Continued)

Dimensions Tension Load Cell Standard Heavy



S-WAEGEZ S-Type tension compression load cell

● Dimensions (Continued)

Dimensions Tension Load Cell Standard Heavy - Table

Dimensions (in mm)					
Capacity (kg)	D	A	B	C	Weight/kg
500, 750	M12	70	19	80	0,7 - 0,9
1000, 1500	M12	70	25	80	0,9 - 1,8
2000, 2500, 3000, 5000	M18x1,5	95	25	108	1,8
7500, 10000	M30x2	125	50	175	>1,8
20000	M39x2	150	60	188	>1,8

Notes

- Tension load cell S-WAEGEZ standard heavy is only available with 3 mV/V.
- Tension load cell S-WAEGEZ standard heavy is only available as nickel-plated alloy steel variant

Specified weights are only approximations.

S-WAEGEZ S-Type tension compression load cell

● **Order Code**

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Material:	High-alloy tool steel	0									
	Stainless steel	1									
	Aluminum	2									
Output:	3 mV/V ±10%	0									
	3 mV/V normalized (on request)	1									
	2 mV/V	2									
Measurement range¹:	0...20 kg									A	
	0...30 kg									B	
	0...50 kg									C	
	0...100 kg									D	
	0...250 kg									E	
	0...300 kg									F	
	0...500 kg									G	
	0...750 kg									H	
	0...1000 kg									I	
	0...1500 kg									J	
Measurement range¹:	0...2000 kg									A	
	0...2500 kg									B	
	0...3000 kg									C	
	0...5000 kg									D	
	0...7500 kg									E	
	0...10000 kg									F	
	0...20000 kg									G	
	0...30000 kg (only on request)									H	
Special model:	No										0
	Yes (please specify)										1

1) Please select only one measurement range.

Notes:

Design and measurements may vary and depend on your selected order options. Please use the tables on pages 4, 5 and 7 if you want to check what kind of load cell design and measurements may result from your chosen options.

If the available designs or measurements are not compatible with your application, you can order a special model with customized measurements.

Load cells with 0...30000 kg or higher measurement ranges are **only** available on request.