

Overview



The SIWAREX WL290 DB-S CA double shear beam load cell is made of nickel-plated specialty steel.

WL290 DB-S CA load cells are especially suited for large platform and hopper scales. A special mounting unit makes them particularly suitable for assembling scales in vehicles. The double shear beam load cell is installed without oscillation or elastomer force-transmitting mechanisms since transverse forces do not result in the otherwise usual oscillating or deflection effects in the load cell.

The load cells are legal-for-trade according to OIML R-60. They are available in accuracy class C3.

Design

The measuring element is a spring body made of special steel. Due to the galvanic coating of nickel and the IP67 degree of protection it is suitable for use in harsh environments.

Technical specifications

SIWAREX WL290 DB-S CA	
Possible applications	<ul style="list-style-type: none"> • Platform scales • Hopper scales • Vehicle scales
Type of construction	Double cutter
Loads	
Rated load/maximum load E_{max}	<ul style="list-style-type: none"> • 2.3 t (2.26 tn. l.) • 4.5 t (4.43 tn. l.) • 9.1 t (8.96 tn. l.) • 13.6 t (13.39 tn. l.) • 18 t (17.81 tn. l.) • 23 t (22.24 tn. l.) • 27 t (26.77 tn. l.) • 34 t (33.46 tn. l.) • 45 t (44.29 tn. l.) • 68 t (66.93 tn. l.) • 91 t (89.56 tn. l.) • 113 t (111.22 tn. l.)
Min. dead load E_{min}	0 kg
Max. working load L_u	150% E_{max}
Breaking load L_d	300% E_{max}
Measurement characteristic values	
Deflection h_n at E_{max}	
• $E_{max} = 2.3$ t (2.26 tn. l.)	0.5 mm
• $E_{max} = 4.5$ t (4.43 tn. l.)	0.6 mm
• $E_{max} = 9.1$ t (8.96 tn. l.)	1.1 mm
• $E_{max} = 13.6 \dots 23$ t (13.39 ... 22.24 tn. l.)	0.5 mm
• $E_{max} = 27$ t (26.77 tn. l.)	0.6 mm
• $E_{max} = 34 \dots 68$ t (33.46 ... 66.93 tn. l.)	0.5 mm
• $E_{max} = 91, 113$ t (89.56, 111.22 tn. l.)	0.9 mm
Rated characteristic value C_n	3.0 ± 0.008 mV/V
Tolerance D_0 of zero signal	$\leq \pm 1.0\%$ C_n
Max. scale interval n_{LC}	3 000
Min. scale interval V_{min}	$E_{max}/10\,000$
Combined error F_{comb}	$\leq \pm 0.023\%$ C_n
Creep error 30 min F_{cr}	$\leq \pm 0.015\%$ C_n

SIWAREX WL290 DB-S CA	
Electrical characteristic values	
Recommended supply voltage	5 ... 12 V DC
Maximum supply voltage	18 V DC
Input resistance R_e	$700 \pm 7 \Omega$
Output resistance R_a	$700 \pm 7 \Omega$
Insulation resistance R_{is}	$\geq 5\,000$ M Ω at 50 V DC
Connection and environmental conditions	
Rated temperature range B_{rn}	-10 ... +40 °C (14 ... 104 °F)
Operating temperature range B_{ru}	-35 ... +60 °C (-31 ... 140 °F)
Storage temperature range B_{rs}	-40 ... +80 °C (-40 ... 176 °F)
Sensor material (DIN)	Steel, nickel-plated
Degree of protection according to EN 60529; IEC 60529	IP67
Cable connection	
Length of the connecting cable (four-core)	9 m
Diameter of the connecting cable	
• 2.3 ... 9.1 t (2.26 ... 8.96 tn. l.)	5 mm
• 13.6 ... 113 t (13.39 ... 111.22 tn. l.)	8 mm
Function	Color
• EXC +	Red
• EXC -	Black
• SIG +	Green
• SIG -	White
• Shield (not connected to the load cell body)	Transparent
ATEX	-
Certificates and approvals	
Accuracy class according to OIML R-60	C3

Load Cells

Double shear beam load cells
SIWAREX WL290 DB-S CA

Load cell

Selection and ordering data

SIWAREX WL290 DB-S CA load cell

Material: Steel, nickel-plated

Length of the connecting cable: 9 m

Accuracy class C3 according to OIML R-60

Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Article No.

7MH5122-

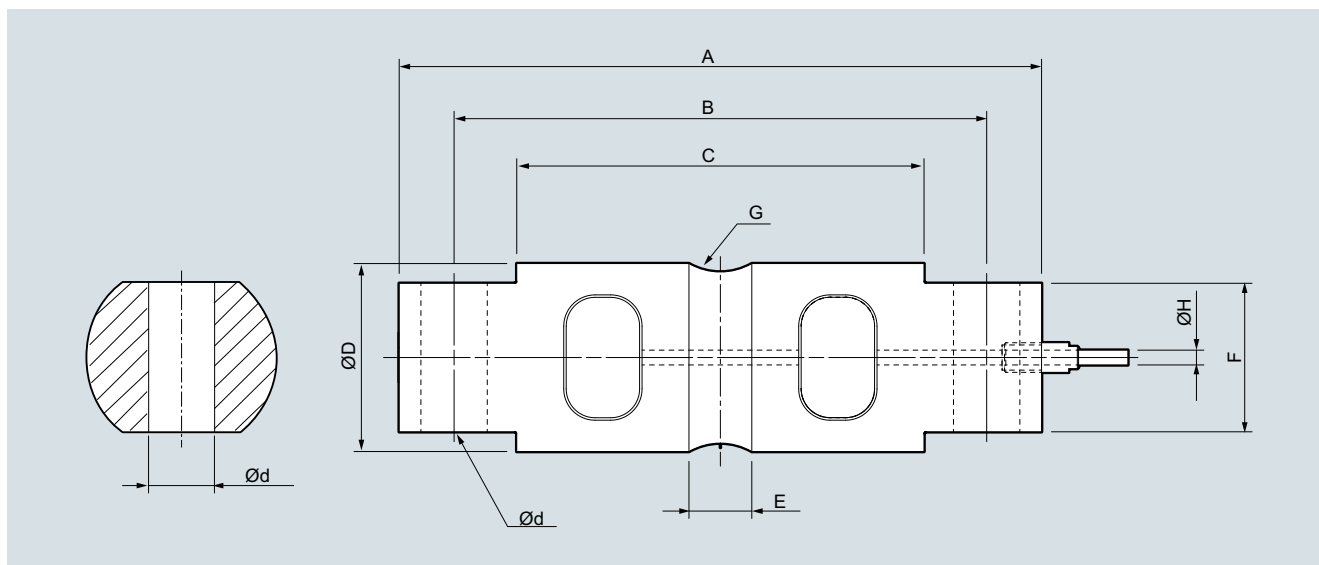
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Rated load

- 2.3 t (2.26 tn. l.)
- 4.5 t (4.43 tn. l.)
- 9.1 t (8.96 tn. l.)
- 13.6 t (13.39 tn. l.)
- 18 t (17.81 tn. l.)
- 23 t (22.24 tn. l.)
- 27 t (26.77 tn. l.)
- 34 t (33.46 tn. l.)
- 45 t (44.29 tn. l.)
- 68 t (66.93 tn. l.)
- 91 t (89.56 tn. l.)
- 113 t (111.22 tn. l.)

4 G
4 N
4 U
5 D
5 F
5 G
5 J
5 L
5 N
5 R
5 U
6 A

Dimensional drawings



SIWAREX WL290 DB-S CA load cell, dimensions in mm (inch)

Rated load t (tn. l.)	A	B	C	Ød	ØD	E	F	G	ØH
2.3 ... 4.5 (2.26 ... 4.43)	206.2 (8.12)	174.6 (6.87)	133.1 (5.24)	16.7 (0.66)	43.2 (1.70)	15.7 (0.62)	28.4 (1.12)	12.7 (0.50)	5 (0.20)
9.1 (8.96)	206.2 (8.12)	174.6 (6.87)	133.1 (5.24)	16.7 (0.66)	49.5 (1.95)	21.3 (0.84)	28.4 (1.12)	12.7 (0.50)	5 (0.20)
13.6 ... 34 (13.39 ... 33.46)	260.4 (10.25)	215.9 (8.50)	165.1 (6.50)	26.9 (1.06)	76.2 (3.00)	25.4 (1.00)	60.2 (2.37)	25.4 (1.00)	8 (0.31)
45 (44.29)	285.8 (11.25)	241.3 (9.50)	190.2 (7.49)	26.9 (1.06)	88.9 (3.50)	31.0 (1.22)	63.5 (2.50)	38.1 (1.50)	8 (0.31)
68 (66.93)	285.8 (11.25)	241.3 (9.50)	190.2 (7.49)	26.9 (1.06)	99.1 (3.90)	31.0 (1.22)	71.1 (2.80)	38.1 (1.50)	8 (0.31)
91 ... 113 (89.56 ... 111.22)	408.9 (16.10)	330.3 (13.00)	254 (10.00)	39.6 (1.56)	136.6 (5.38)	31.7 (1.25)	116.8 (4.60)	50.8 (2.00)	8 (0.31)