

Load Cells

S-Type load cells

SIWAREX WL250 ST-S SA Load cell

Overview



The load cell is ideal for use in tank weighing, hybrid weighing machines or suspended container weighing. It is made of stainless steel and therefore also suitable for use in harsh environments. The SIWAREX WL250 ST-S SA is suitable for both s-type tension and compression loads. The preferred direction of measurement is tension, with factory calibration for the load cells. For compression applications, adherence to the characteristic values and error limits cannot be guaranteed.

Design

The measuring element is hermetically encapsulated and has a calibrated output current.

Selection and ordering data

Load cell, type WL250 ST-S SA Legal-for-trade according to OIML R60 up to 3 000d, connecting cable 6 m (19.69 ft)	Article No. 7MH5105- ● ● D 0 ●			
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.				
Rated load				
• 50 kg (110.23 lb)	2	P		
• 100 kg (220.46 lb)	3	A		
• 250 kg (551.16 lb)	3	H		
• 500 kg (1 102.31 lb)	3	P		
• 1 t (0.98 tn. l.)	4	A		
• 2.5 t (2.46 tn. l.)	4	H		
• 5 t (4.92 tn. l.)	4	P		
• 10 t (9.84 tn. l.)	5	A		
Explosion protection				
• Without				0
• Explosion protection				1

Technical specifications

SIWAREX WL 250 ST-S SA	
Possible applications	<ul style="list-style-type: none"> • Voltage and pressure applications • Suspended scales • Hopper scales • Hybrid weighing machines
Type of construction	S-type load cell
Rated load E_{max}	<ul style="list-style-type: none"> • 50 kg (110.23 lb) • 100 kg (220.46 lb) • 250 kg (551.16 lb) • 500 kg (1 102.31 lb) • 1 t (0.98 tn. l.) • 2.5 t (2.46 tn. l.) • 5 t (4.92 tn. l.) • 10 t (9.84 tn. l.)
Accuracy class according to OIML R60	C3
Max. scale interval n_{LC}	3 000
Min. scale interval V_{min}	
• $E_{max} = 50, 100$ kg (110.23 lb, 220.46 lb)	$E_{max}/7\ 000$
• $E_{max} = 0.25, 0.5, 1, 2.5$ t	$E_{max}/10\ 000$
• $E_{max} = 5, 10$ t	$E_{max}/12\ 000$
Combined error F_{comb}	$\pm 0.02\% C_n$
Repeatability F_v	$\pm 0.02\% C_n$
Creep error F_{cr}	
• 30 min	$\pm 0.02\% C_n$
Temperature coefficient	
• Zero signal t_{x0}	0.017% $C_n/5$ K
• Characteristic value t_{kc}	0.014% $C_n/5$ K
Min. dead load E_{min}	0 kg
Max. working load L_U	150% E_{max}
Breaking load L_d	300% E_{max}
Safe side load L_{Iq}	100% E_{max}
Rated displacement h_n	
• $E_{max} = 50, 100$ kg (110.23 lb, 220.46 lb)	0.18 mm
• $E_{max} = 250, 500$ kg (551.16 lb, 1 102.31 lb)	0.24 mm
• $E_{max} = 1$ t	0.37 mm
• $E_{max} = 2.5, 5$ t	0.8 mm
• $E_{max} = 10$ t	0.57 mm
Rated characteristic value C_n	3.0 ± 0.008 mV/V
Tolerance D_0 of zero signal	$\pm 1.0\% C_n$
Input resistance R_e	$430 \Omega \pm 4 \Omega$
Output resistance R_b	$350 \Omega \pm 3.5 \Omega$
Insulation resistance R_{is}	5 000 M Ω at 50 V DC
Rated temperature range B_{in}	-10 ... +40 °C (+14 ... +104 °F)
Operating temperature range B_{tu}	-35 ... +65 °C (-31 ... +149 °F)
Storage temperature range B_{ts}	-35 ... +65 °C (-31 ... +149 °F)
Sensor material (DIN)	Stainless steel EN 1.4542
Maximum tightening torque of the fixing screws	
• $E_{max} = 50, 100$ kg (110.23 lb, 220.46 lb)	25 Nm
• $E_{max} = 250, 500$ kg, 1 t (551.16 lb, 1 102.31 lb, 0.98 tn. l.)	75 Nm
• $E_{max} = 2.5, 5$ t	450 Nm
• $E_{max} = 10$ t	1 450 Nm
Degree of protection to EN 60529; IEC 60529	IP67
Cable connection	
Function	Color
• EXC + (supply +)	Red

Technical specifications (Continued)

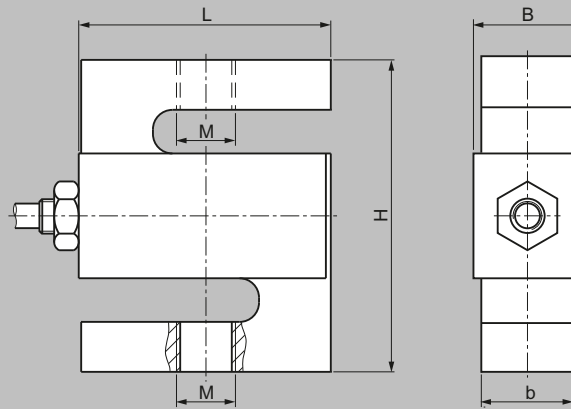
SIWAREX WL 250 ST-S SA	
• EXC – (supply -)	Black
• SIG + (measured signal +)	Green
• SIG – (measured signal -)	White
• Shield (not connected to the load cell body)	Transparent
Certificates and approvals	
Explosion protection	<ul style="list-style-type: none"> • EU/UK: <ul style="list-style-type: none"> - ATEX/UKEX II 1 G Ex ia IIC T4 - ATEX/UKEX II 1 D Ex ia IIIC T200 135°C - Da - ATEX/UKEX II 3 G Ex ic IIC T4 Gc - ATEX/UKEX II 3 D Ex tc IIIC T73°C Dc - ATEX/UKEX II 3 G Ex ec T4 IIC Gc • USA: <ul style="list-style-type: none"> - IS CL I, II, III, DIV 1, GP A, B, C, D, E, F, G; T4 - IS CL I, ZN 0, AEx ia IIC T4 Ga - Zone 20, AEx ia IIIC T135°C Da - CL I, II, III, DIV 2, GP A, B, C, D, E, F, G; T4 - CL 1, ZN 2, GP IIC T4 - IS CL I, ZN 2, AEx ic IIC T4 Gc • Canada: <ul style="list-style-type: none"> - IS CL I, II, III, DIV 1, GP A, B, C, D, E, F, G; T4 - IS CL I, ZN 0, Ex ia IIC T4 Ga - Ex ia IIIC T135°C Da - CL I, II, III, DIV 2, GP A, B, C, D, E, F, G; T4 - CL 1, ZN 2, GP IIC T4 - Ex ic IIC T4 Gc

Load Cells

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SIWAREX WL250 ST-S SA Load cell

Dimensional drawings

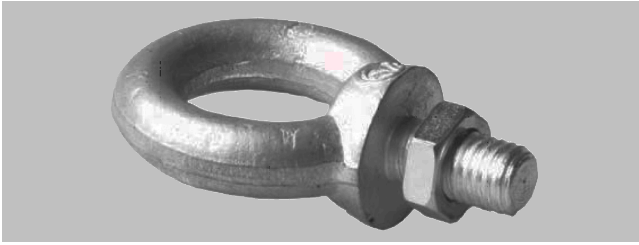


Rated load [kg]	L	H	b	B	M
50 ... 100	50.8 (2.00)	60.96 (2.40)	11.68 (0.46)	15.06 (0.59)	M8
250 ... 500	50.8 (2.00)	60.96 (2.40)	18.03 (0.71)	21.41 (0.84)	M12

Rated load [t]	L	H	b	B	M
1	50.8 (2.00)	60.96 (2.40)	24.38 (0.96)	27.76 (1.09)	M12
2.5	76.2 (3.00)	99.06 (3.90)	24.38 (0.96)	27.76 (1.09)	M20 x 1.5
5.0	74.68 (2.94)	99.06 (3.90)	30.74 (1.21)	34.12 (1.34)	M20 x 1.5
10	112.78 (4.44)	177.8 (7.00)	42.93 (1.69)	46.31 (1.82)	M30 x 2

SIWAREX WL 250 ST-S SA load cell, dimensions in mm (inch)

Overview



The lifting eye bolt for SIWAREX WL250 ST-S SA load cells makes it easier to install the cell.

The lifting eye bolt is suitable for rated load cell ranges from 50 kg up to 5 t (110.23 lb up to 4.92 tn. l.).

Design

The lifting eye bolt is screwed into the load cell.

Selection and ordering data

WL250 ST-S SA lifting eye bolts Material: Steel	Article No. 7MH5705-				
	●	●	J	1	0
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.					
Rated load					
• 50 kg (110.23 lb)	2	P			
• 100 kg (220.46 lb)	3	A			
• 250 kg (551.16 lb)	3	H			
• 500 kg (1 102.31 lb)	3	P			
• 1 t (0.98 tn. l.)	4	A			
• 2.5 t (2.46 tn. l.)	4	H			
• 5 t (4.92 tn. l.)	4	P			

Technical specifications

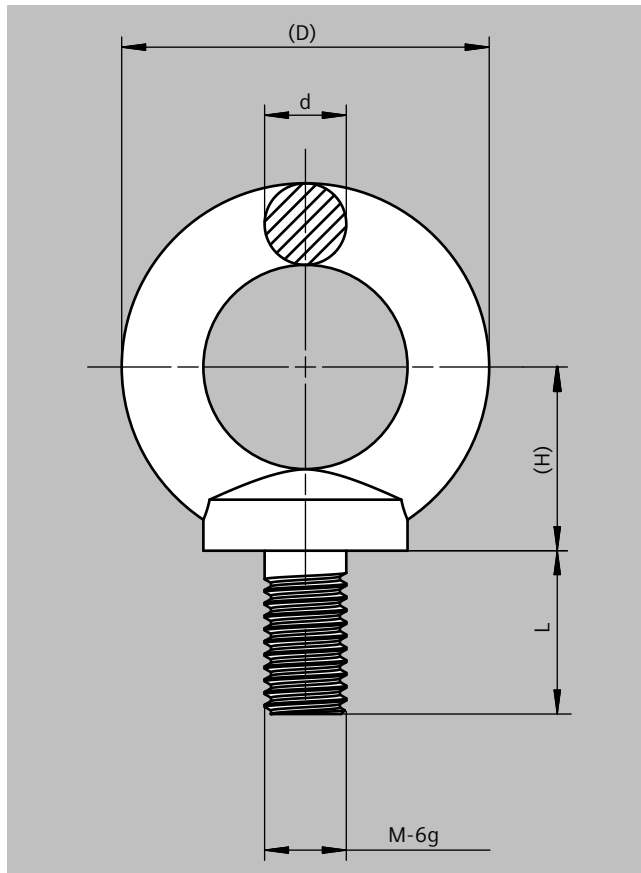
SIWAREX WL250 ST-S SA lifting eye bolt							
Material	Steel						
Rated load	50 kg (110.23 lb)	100 kg (220.46 lb)	250 kg (551.16 lb)	500 kg (1 102.31 lb)	1 t (0.98 tn. l.)	2.5t (2.46 tn. l.)	5 t (4.92 tn. l.)
Lifting capacity (static)	0.16 t (0.16 tn. l.)	0.25 t (0.24 tn. l.)	0.4 t (0.39 tn. l.)	1 t (0.98 tn. l.)	1.6 t (1.57 tn. l.)	4 t (3.94 tn. l.)	6.3 t (6.2 tn. l.)

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SIWAREX WL250 ST-S SA Lifting eye bolt

Dimensional drawings



Rated load	Dimensions in mm (in)		H	Ø	M × P × L
	D	d			
50 kg (110.23 lb)	36 (1.42)	9.1 (0.36)	18 (0.71)	17.8 (0.70)	M8 × 1.25 × 16
100 kg (220.46 lb)	44 (1.73)	11.1 (4.37)	22 (0.87)	21.8 (0.86)	M10 × 1.5 × 16
250 kg (551.16 lb)	52 (2.05)	13.1 (0.52)	26 (1.02)	25.8 (1.02)	M12 × 1.75 × 16
500 kg (1 102.31 lb)	62 (2.44)	15.2 (0.60)	31 (1.22)	31.6 (1.24)	M12 × 1.75 × 22
1 t (0.98 tn. l.)	72 (2.83)	17.4 (0.69)	36 (1.42)	37.2 (1.46)	M12 × 1.75 × 22
2.5 t (2.46 tn. l.)	104 (4.09)	25.7 (1.01)	53 (2.09)	52.6 (2.07)	M20 × 1.5 × 32
5 t (4.92 tn. l.)	123 (4.84)	30 (1.18)	63 (2.48)	63 (2.48)	M20 × 1.5 × 35