

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.

Benefits

- Legal for trade according to accuracy class C3 according to OIML R60
- Quick and easy installation with SIWAREX mounting units
- Options for use in hazardous area are in preparation

Application

SIWAREX WL250 ST-S SA is made of stainless steel and hermetically sealed. It contains threaded holes so it can be easily joined to the environment. The SIWAREX WL250 ST-S SA is available with rated loads ranging from 50 kg to 10 t (110.23 to 22 046.20 lb) and offers the accuracy class C3 according to OIML R60.

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

Load cell

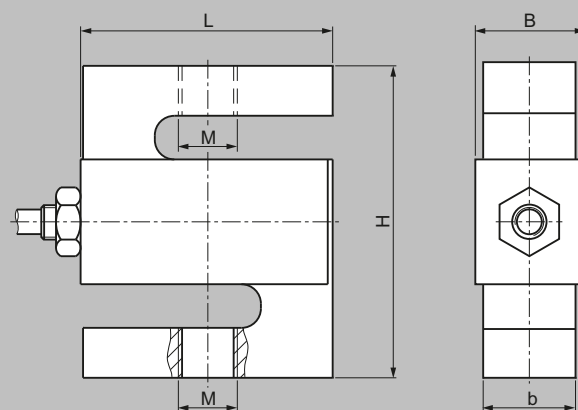
Technical specifications

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_{K0}	$0.017\% C_n/5\ K$
• 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	$3.0 \pm 0.008\ mV/V$
Tolerance D_0 of zero signal	$\pm 1.0\% C_n$
Input resistance R_e	$430\ \Omega \pm 60\ \Omega$
Output resistance R_a	$350\ \Omega \pm 3.5\ \Omega$
Insulation resistance R_{is}	$5\ 000\ M\Omega$ at 50 V DC
Rated temperature range B_{tn}	$-10 \dots +40\ ^\circ\text{C}$ ($+14 \dots +104\ ^\circ\text{F}$)
Operating temperature range B_{tu}	$-35 \dots +65\ ^\circ\text{C}$ ($-31 \dots +149\ ^\circ\text{F}$)
Storage temperature range B_{ts}	$-35 \dots +65\ ^\circ\text{C}$ ($-31 \dots +149\ ^\circ\text{F}$)
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

Technical specifications (continued)

SIWAREX WL 250 ST-S SA	
• $E_{\max} = 10$ t	1 450 Nm
Degree of protection to EN 60529; IEC 60529	IP67
Cable connection	
Function	Color
• EXC + (supply +)	Red
• 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

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)