

Load Cells

Compression load cells
SIWAREX WL270 CP-S SB

Load cell

Overview



The compression load cell is particularly suitable for implementation in container, hopper and vehicle scales.

Design

The measuring element is a solid cylinder made of stainless steel to which 4 strain gauges are applied.

The load which acts centrally in the measuring direction causes the spring bodies and therefore the friction-locked strain gauges to be elastically deformed. This generates a measuring signal voltage that is proportional to the load.

Technical specifications

SIWAREX WL270 CP-S SB

Possible applications	Hopper scales
Type of construction	Can compression cell
Rated load/maximum load E_{max}	100 t
Accuracy class according to OIML R-60	C3
Max. scale interval n_{LC}	3 000
Min. scale interval V_{min}	$E_{max}/9\ 000$
• $E_{max} = 100\ t$	
Minimum application range $R_{min(LC)}$	33%
Combined error F_{comb}	$\pm 0.02\% C_N$
Repeatability F_V	$\pm 0.02\% C_N$
Creep error F_{cr}	
• 30 min	$\pm 0.023\% C_N$
Temperature coefficient	
• Zero signal T_{K0}	$0.023\% C_N/5\ K$
• Characteristic value T_{KC}	$0.017\% C_N/5\ K$
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}	$10\% E_{max}$
Deflection h_n at E_{max}	0.36 mm
Recommended supply voltage (range)	5 ... 12 V DC
Rated characteristic value C_N	$2.0 \pm 0.02\ mV/V$
Tolerance D_0 of zero signal	$\leq \pm 1.0\% C_N$
Input resistance R_e	$700\ \Omega \pm 7\ \Omega$
Output resistance R_a	$700\ \Omega \pm 7\ \Omega$
Insulation resistance R_{is}	5 000 M Ω at 50 V DC
Rated temperature range B_{tn}	-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	Stainless steel EN 1.4542
Degree of protection according to EN 60529; IEC 60529	IP68

Cable connection

Function	Color
• EXC + (supply +)	Green
• EXC - (supply -)	Black
• SIG + (measured signal +)	White
• SIG - (measured signal -)	Red
• Sense + (sensor cable +)	Yellow
• Sense - (sensor cable -)	Blue
• Shield (not connected to the load cell body)	Transparent

Selection and ordering data

Load cell, type WL270 CP-S SB

Legal-for-trade according to OIML R-60 up to 3 000d, 20 m connecting cable

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

Rated load

- 100 t (98.42 tn. I.)

Explosion protection

- Without
- Explosion protection for zones 0, 1, 2, 20, 21, 22

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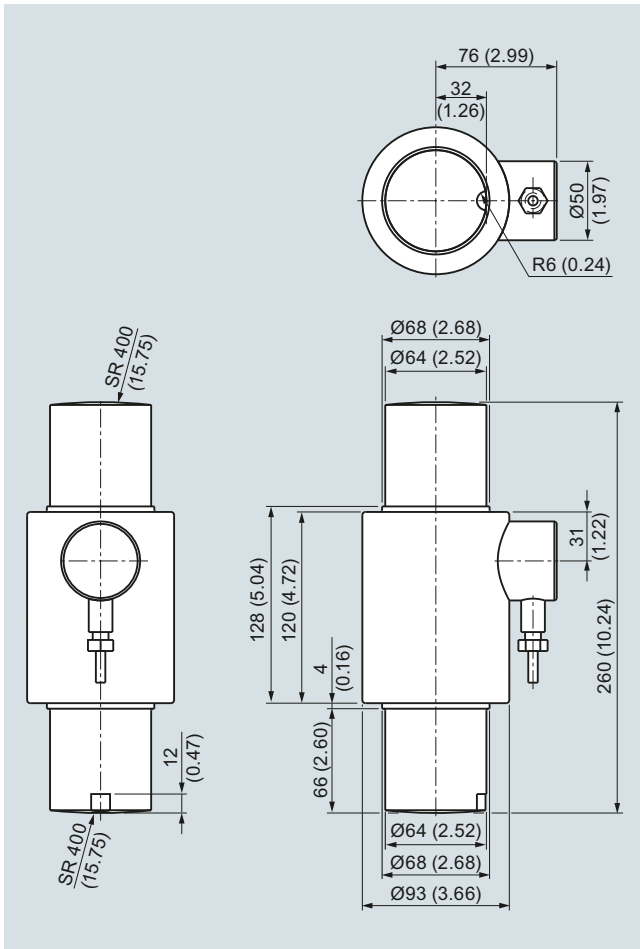
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Dimensional drawings



SIWAREX WL 270 CP-S SB load cell, dimensions in mm (inch)