

Load Cells

SIWAREX WL 50T

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 WL 50T	
Possible applications	Vehicle scales, overhead rail scales, container weighers
Model	Compression load cell
Rated load/maximum load E_{max}	10, 20, 30, 50 t
Accuracy class according to OIML R60	C3
Max. load cell verification interval n_{LC}	3 000
Min. load cell verification interval V_{min}	
• $E_{max} = 10, 20, 50 t$	$E_{max}/10\ 000$
Minimum application range $R_{min(LC)}$	30 %
Combined error F_{comb}	$\pm 0.02 \% C_n$
Repeatability F_v	Not applicable
Creep error F_{cr}	
• 30 min	$\pm 0.023 \% C_n$
Temperature effect	
• Zero signal T_{K0}	$0.023 \% C_n/5 K$
• Characteristic value T_{K0}	$0.017 \% C_n/5 K$
Min. dead load E_{min}	0 kg
Safe load limit L_u	$150 \% E_{max}$
Ultimate load L_D	$300 \% E_{max}$
Safe side load L_{sq}	$75 \% E_{max}$
Rated measuring path h_n at E_{max}	0.5 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_i	$700 \Omega \pm 7 \Omega$
Output resistance R_o	$700 \Omega \pm 7 \Omega$
Insulation resistance R_{is}	5 000 M Ω at 50 V DC
Rated temperature range B_{rn}	-10 ... +40 °C
Operating temperature range B_{tu}	-35 ... +65 °C
Storage temperature range B_{ts}	-35 ... +65 °C
Sensor material	Stainless steel
Degree of protection according to EN 60529, IEC 60529	IP68
Cable connection	
Function	Color
• EXC + (supply +)	• Red
• EXC - (supply -)	• Black
• SIG + (measured signal +)	• Green
• SIG - (measured signal -)	• White
• Shield	• Transparent