
ZC Series Load Cells

NOTE: Not available in U.S.

FEATURES

- 5 kg to 1000 kg (50 N to 10 kN)
- Single-point-load-cells
- High-accuracy (classification according to OIML-RI 60)
- Very easy assembly
- Made of high-strength aluminium alloy
- Enclosure protection IP 42



DESCRIPTION

The load cells of the ZC series have been designed for application in platform scales in the classes C1 to C3 according to OIML-RI 60 for platform sizes up to 600 mm × 600 mm. They are made entirely of high-strength low-hysteresis aluminium alloy with its outstanding measuring properties. The sensing element itself is a well-proven configuration of parallel benders. Metal-foil strain gauges transform the elastic deformation of the sensing element into a truly proportional electrical signal, which can be processed by an electronic weighing unit. The strain gauges are

under a heavy-duty cover plate to protect them against climatic influences. As a standard, the load cells are equipped with a 1.5 m connection cable (different lengths or 6-wire connection are optional). In addition to the nominal loads given in the specification, intermediate load values can be delivered. It is a matter of course that these load cells, after calibration in N, can also be supplied as high-precision force transducers up to the accuracy class 0.05%. Due to their single-point configuration, these cells are largely insensitive to the off-centre introduction of force. The load cells may also be supplied with an integrated amplifier (model ZC-E). Their electrical output can be chosen as either (0 to 10) V or (4 to 20) mA.

FORCE TRANSDUCERS / LOAD CELLS

Accuracy class		0.1	0.05	C1	C2	C3
Nominal force ($=F_N$)	kN	0.05/0.1/0.2/0.5 1/2/5/10				
Nominal load ($=F_N$)	kg			5/10/20/50	1000	100/200/500
Max. permissible force/load	% F_N			150		
Ultimate overload	% F_N			>300		
Max. transverse force/load	% F_N			100		
Minimum application range	% F_N				25	
Reference temperature	°C			+23		
Nominal temperature range	°C	-20 to +60			-10 to +40	
Operating temperature range	°C			-30 to +70		
Storage temperature range	°C			-40 to +70		
Enclosure protection (DIN 40050)				IP 42		
Nominal sensitivity ($=S$)	mV/V	2.000 ±0.002			2.0 ±0.2	
Zero tolerance band	%S			≤1		
Max. supply voltage	V			12		
Input resistance	Ω			410 ±30		
Output resistance	Ω			352 ±1.5		
Insulation resistance	Ω			>5 × 10 ⁹		
Combined error *	%S			≤0.030	≤0.023	≤0.021
Variability **	%S			≤0.030	≤0.010	≤0.010
Linearity error **	%S	≤0.1	≤0.05			
Width of backlash	%S	≤0.1	≤0.05			
TC of zero per 10 K	%S	≤0.05	≤0.025	≤0.025	≤0.012	≤0.008
TC of sensitivity per 10 K	%S	≤0.1	≤0.05	≤0.017	≤0.010	≤0.008
Zero recovery error (30 min)	%S	≤0.1	≤0.05	≤0.050	≤0.025	≤0.017
Creepage error (30 min)	%S	≤0.1	≤0.05	≤0.049	≤0.024	≤0.024
Off-centre load error according to OIML R76	%S			≤0.06	≤0.03	≤0.02
Platform size	mm			400×400		600×600
				Configuration 1	Configuration 2	

* According to VDE / VDI 2637

** According to VDE / VDI 2638

Option : The transducers can be delivered with an internal amplifier delivering an output signal of 0(4) - 20 mA or 0 - 10 V within precision classes 0.2 and 0.5.

PIN CONNECTIONS

Pin	To DIN	
Supply voltage (+)	brown	brown
Supply voltage (-)	yellow	green
Measuring voltage (+)	green	red
Measuring voltage (-)	white	white
Sensing line (+) ***		grey
Sensing line (-) ***		blue
Shield	black	black
Cable length	1.5 m	

*** In 6-wire configuration only

Note : In the ZC-E type cells, the pins for supply voltage (-) and measuring voltage (-) are interconnected internally.

MOUNTING INSTRUCTIONS

When being loaded, the load cells and force transducers of the ZC type series are slightly deflected in the measuring direction at the end where load or force is introduced. This is why these transducers must be so mounted that this deflection will not any case be limited or inhibited within their range of operation.

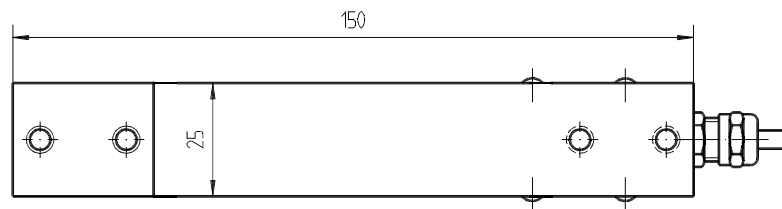
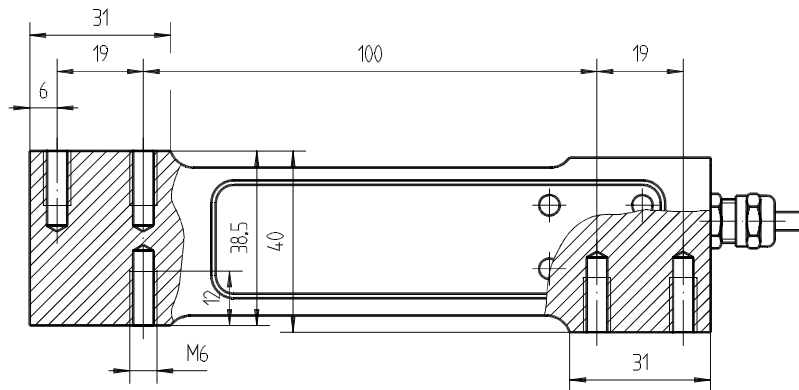
ZC 5 kg to 50 kg (50 N to 500 N)

MODELS

Nominal load / force

- 5 kg / 50 N
- 10 kg / 100 N
- 20 kg / 200 N
- 50 kg / 500 N

Weight: 0.4 kg



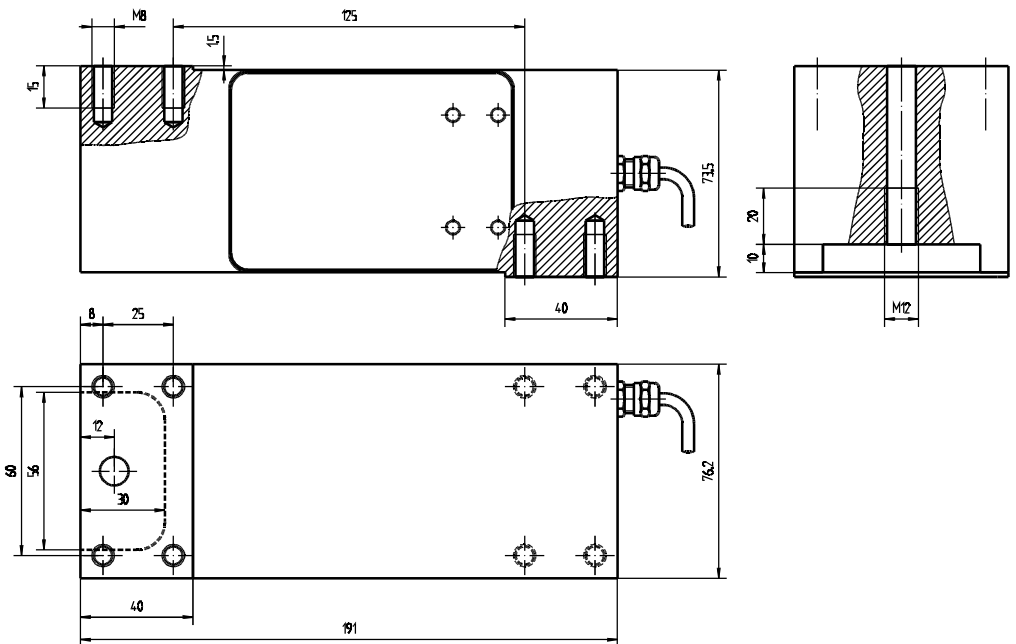
ZC 100 kg to 1000 kg (1 kN to 10 kN)

MODELS

Nominal load / force

- 100 kg / 1 kN
- 200 kg / 2 kN
- 500 kg / 5 kN
- 1 t / 10 kN

Weight: 2.5 kg

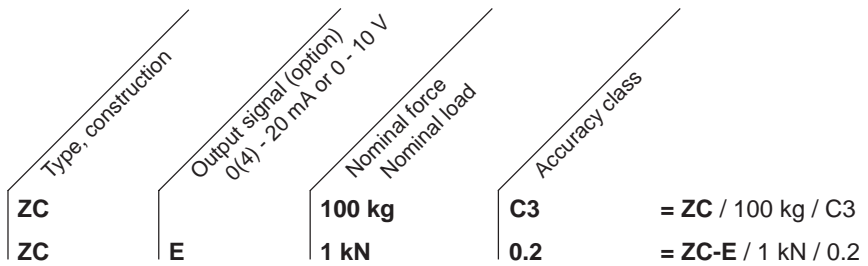


ORDERING INFORMATION

Explanation of Type Code (Ordering Example)

for Load Cells

for Force Transducers



SYSTEM OPTIONS

Model No.	Product Description	Ordering Number
LMU 112	Load monitoring unit containing 2 level detectors, 1 current and 1 voltage O/Ps	224-112-000-XXX
LMU 116	Load monitoring unit containing 4 level detectors, taring and 4 summer functions	224-116-000-XXX
LMU 117	Dual channel load monitoring unit (2 x LMU 112)	224-117-000-XXX
AN 2000 C	Digital process monitor for strain gauge transducers	AN 2000 C /X/X/XX/XX/X

Due to the continual development of our products, we reserve the right to modify specifications without forewarning.


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