

# Z7A

## Load cells

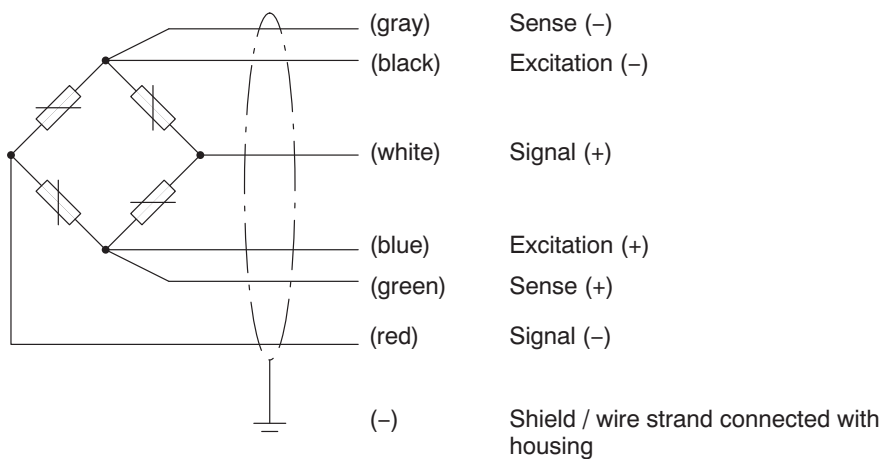
### Special features

- Complies with OIML R60 regulations up to 1000 d
- Max. capacities: 500 kg ... 10 t
- Fulfills EMC requirements in accordance to EN 45 501
- Low transducer height
- Robust design

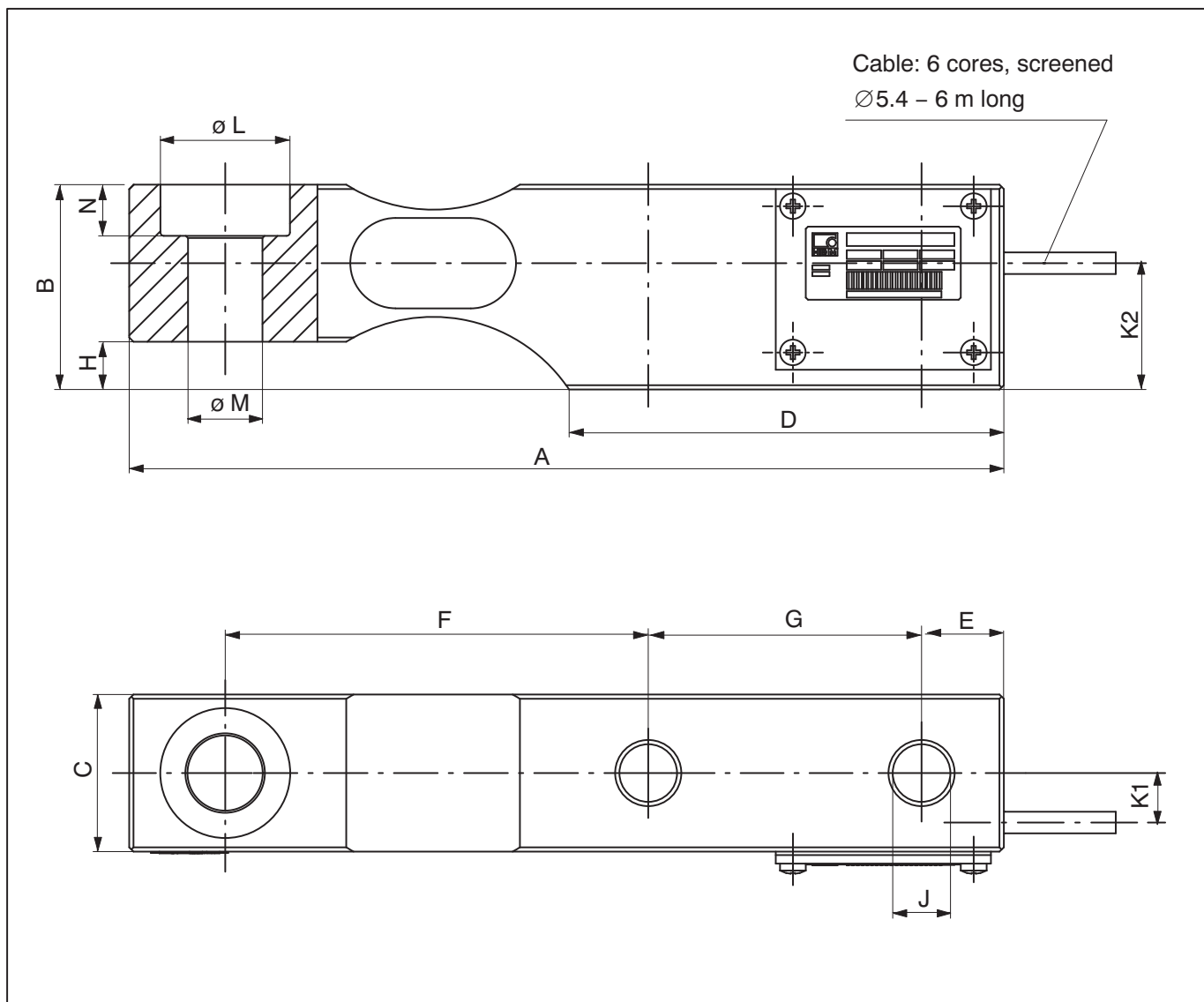


### Wiring code

6-wire circuit



**Dimensions Z7A** (in mm, 1mm = 0.03937inches)



Nominal load in t	L+0.2	M <sup>H11</sup>	J	B	H	N	A	D	F	G	E	C	K1	K2	M* in N·m
0.5 and 1	30.2	17.5	13.4	47.6	11.1	11.9	203.2	101	98.3	63.5	19.1	36.5	10.6	29	135
2	30.2	17.5	13.4	47.6	11.1	11.9	203.2	102	98.3	63.5	19.1	36.5	10.6	29	135
5	41.3	25.5	22.5	70	22.2	15.9	235	118	123.7	66.5	20.6	47.6	16	46	660
10	51	32	27	82.6	19.1	20.7	279.4	140	139.7	82.6	25.4	60.3	21	51	1150

\* Tightening torque with screws of property class 10.9 (with  $\mu=0.16$ ).

**Accessories**, to be ordered separately:

- rubber-metal bearing ZEL
- Pendulum bearing ZPL

## Specifications

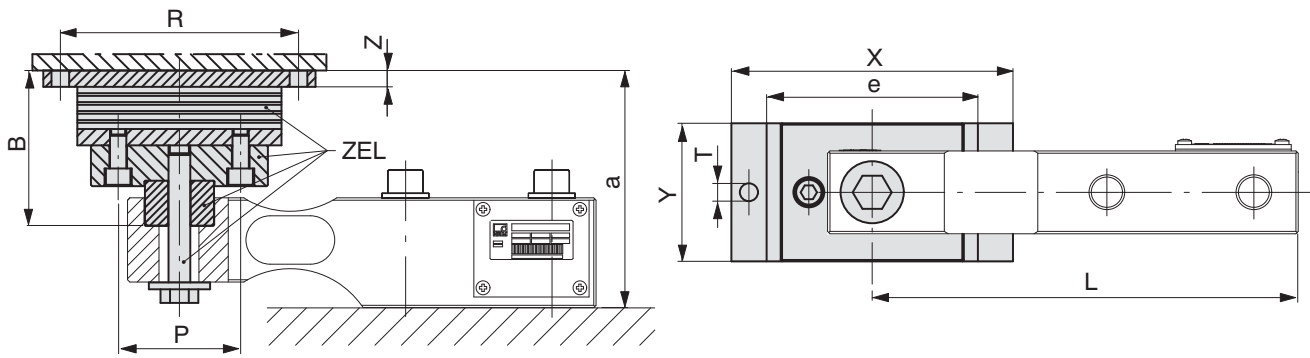
Type		Z7A				
Accuracy class according to OIML R 60		D1		C3		
Max. number of load cell verification intervals ( $n_{LC}$ )		1 000		3 000		
Max. capacity ( $E_{max}$ )	t	0.5; 1; 2; 5; 10		2; 5; 10		
Min. load cell verification interval ( $v_{min}$ )	% of $E_{max}$	0.0357		0.0100		
Sensitivity ( $C_n$ )	mV/V	2				
Sensitivity tolerance	%	< ±0.1000		< ±0.0500		
Temperature effect on sensitivity ( $TK_C$ ) <sup>1)</sup>	% of $C_n/10$ K	< ±0.0350		< ±0.0117		
Temperature effect on zero signal ( $TK_0$ )	% of $C_n/10$ K	< ±0.0500		< ±0.0140		
Hysteresis error ( $d_{hy}$ ) <sup>1)</sup>	% of $C_n$	< ±0.0500		< ±0.0170		
Non-linearity ( $d_{lin}$ ) <sup>1)</sup>	% of $C_n$	< ±0.1000		< ±0.0333		
Creep ( $d_{cr}$ ) in 30 min.	% of $C_n$	< ±0.0735		< ±0.0167		
Input resistance ( $R_{LC}$ ) at reference temperature	Ω	> 350				
Output resistance ( $R_O$ ) at reference temperature	Ω	356 ± 0.2		356 ± 0.12		
Nominal range of excitation voltage ( $U_{ref}$ )	V	0.5...12				
Maximum excitation voltage ( $B_U$ )	V	18				
Reference temperature	°C [°F]	+23 [+73.4]				
Nominal temperature range ( $B_T$ )	°C [°F]	-10...+40 [+14...+104]				
Operating temperature range ( $B_{tu}$ )	°C [°F]	-30...+70 [-22...+158]				
Storage temperature range ( $B_{tl}$ )	°C [°F]	-50...+85 [-58...+185]				
Save load limit ( $E_L$ )	% of $E_{max}$	150				
Breaking load ( $E_d$ )	% of $E_{max}$	300				
Max. capacity ( $E_{max}$ )	t	0.5	1	2	5	10
Relative static lateral force limit ( $E_{lq}$ ) <sup>2)</sup>	% of $E_{max}$	100	50	25 (100) <sup>2)</sup>	15 (100) <sup>2)</sup>	18 (100) <sup>2)</sup>
Permissible dynamic load ( $F_{srel}$ ) (vibration amplitude according to DIN 50100)	% of $E_{max}$	70				
Nominal displacement ( $s_{nom}$ ), approx.	mm	0.25	0.30	0.35	0.45	0.70
Weight (G), approx.	kg	2.3	2.3	2.3	5	8
Degree of protection according to EN60529 (IEC529)		IP 67				
Material		Steel, galvanized Stainless steel / Viton® PVC				

<sup>1)</sup> The values stated for the non-linearity, the hysteresis and the temperature coefficient of sensitivity are standard values. The sum of these values is within the accumulated error limit according to OIML R60.

<sup>2)</sup> The values given in parentheses refer to installation with stops preventing the transducer base from moving. In this case, major error effects have to be anticipated.

**Mounting aids (Dimensions in mm; 1mm = 0.03937 inches)**

**Rubber-metal bearing ZEL**

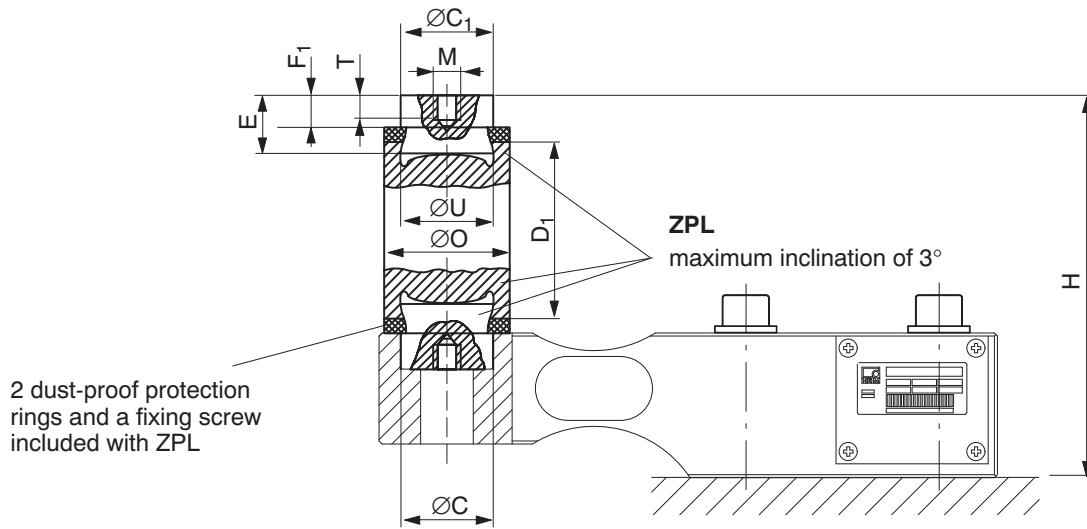


Max. capacity in t	Rubber-metal bearing ZEL	B	L	P	R	T	X	Y	Z	a	e	F <sub>R</sub> * (N)	s <sub>max</sub> ** (mm)
0.5...2	Z17/2t/ZEL	76.3	180.9	70	100	9	120	60	10	112 <sup>+1,5</sup> <sub>-1,7</sub>	80	400	4.5
5	Z17/5t/ZEL	93	210.8	70	125	11	150	100	10	147 <sup>+1,2</sup> <sub>-2,0</sub>	100	620	8
10	HLCB/10t/ZEL	114.1	247.7	90	175	13	200	100	12	176 <sup>+1,8</sup> <sub>-2,0</sub>	130	810	9.5

\* F<sub>R</sub> =restoring force for s=1mm.

\*\* s<sub>max</sub> =max. lateral displacement of load introduction with max. capacity.

**Pendulum bearing ZPL**



Max. capacity in t	Pendulum bearing ZPL	C <sup>+0.2</sup>	C <sub>1</sub> <sup>-0.1</sup>	D <sub>1</sub>	E	F <sub>1</sub>	H	M	O	T	U <sup>D10</sup> <sub>h9</sub>	F <sub>R</sub> * (% of load)	s <sub>max</sub> ** (mm)
0.5...2	Z17/2t/ZPL	30.2	30	60	22	14	130±0.5	M10	42	8	30	2	7.5
5	Z17/5t/ZPL	41.3	41.1	73	26	16	169±0.5	M10	48	8	30	1.5	6.9
10	Z17/10t/ZPL	51	50.8	82	32	21	196±0.5	M12	58	10	40	1.8	9.3

\* F<sub>R</sub> =restoring force for s=1mm.

\*\* s<sub>max</sub> =max. lateral displacement of load introduction with nominal load.

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