

# Z7A

## Load cells

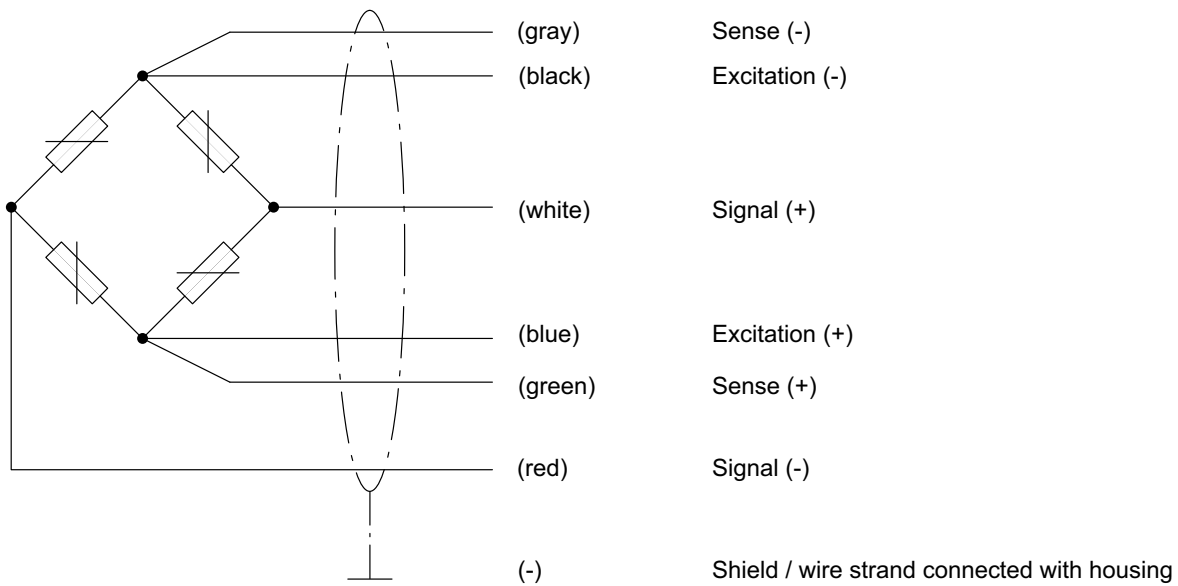
### Special features

- Complies with OIML R60 regulations up to 3000 d
- Max. capacities: 500 kg ... 10 t
- Fulfills EMC requirements in accordance to EN 45 501
- Low transducer height
- Robust design

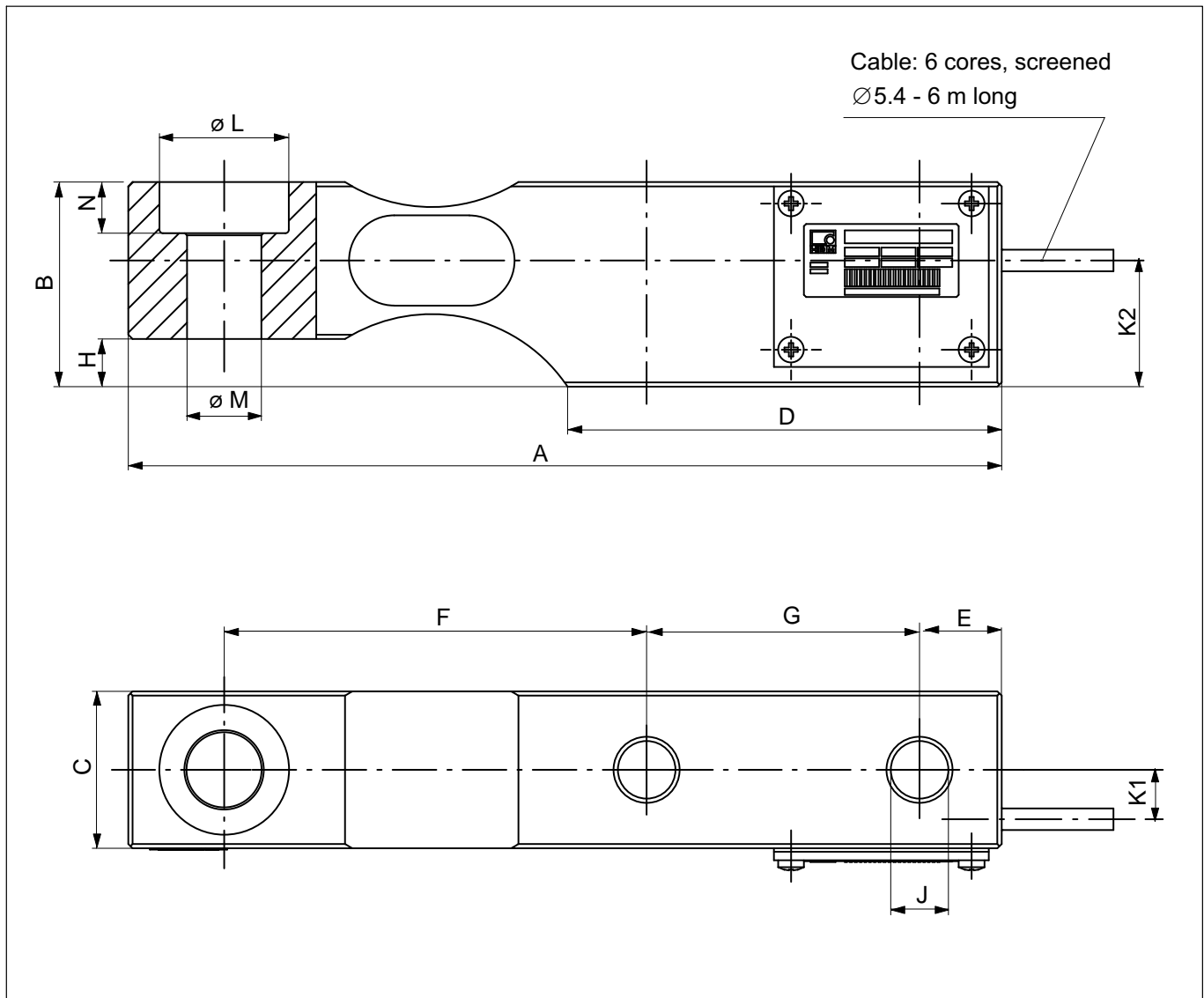


### Wiring code

#### 6-wire circuit



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



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

## Options

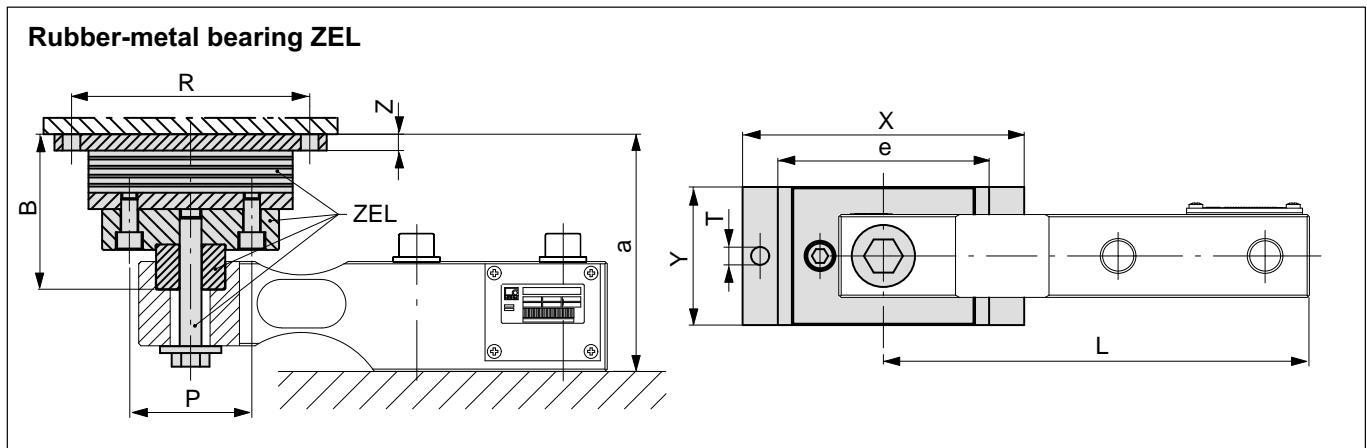
### Ex protection versions as per IECEx and ATEX

AI1/21 IECEx+ATEX zone 1/21 + FM intrinsically safe, II 2G Ex ia IIC T6/T4 Gb, II 2D Ex ia IIIC T125°C Db\*

AI2/22 IECEx+ATEX Zone 2/22 non-intrinsically safe, II 3G Ex nA IIC T6/T4 Gc, II 3D Ex tc IIIC T125°C Dc\*

\* with EU type examination certificate (BVS13ATEX E 108 X) and IECEx Certificate of Conformity (IECEx BVS 13.0109 X)

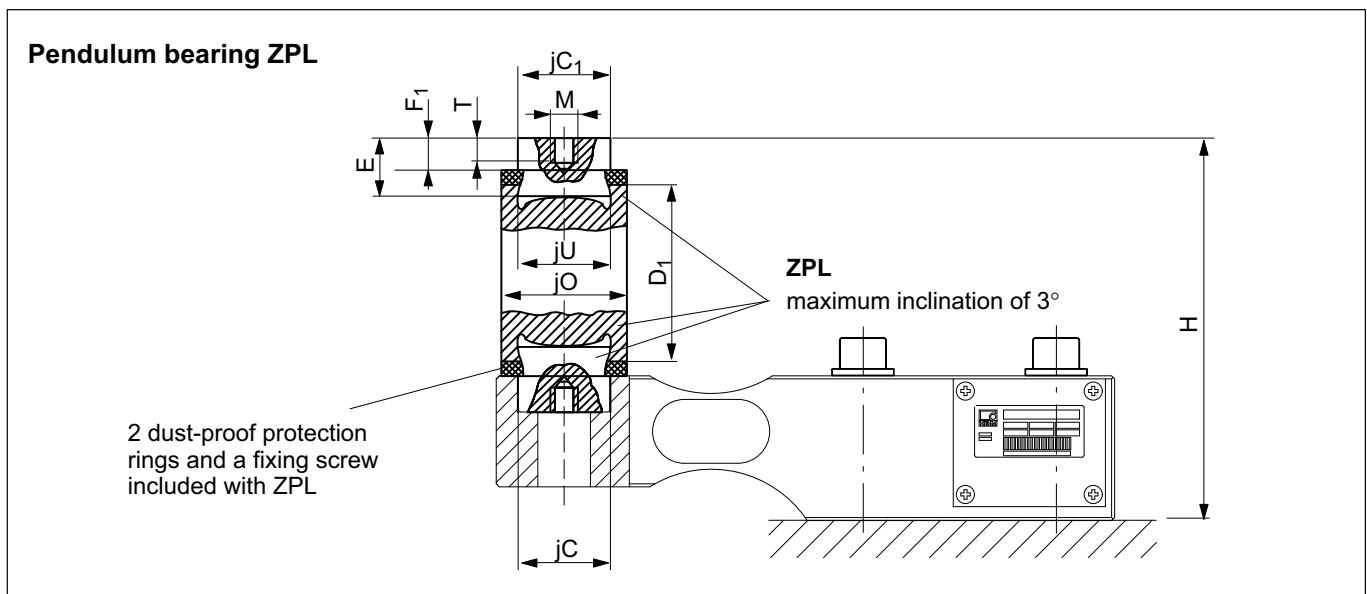
## Mounting aids (Dimensions in mm; 1mm = 0.03937 inches)



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.



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	46	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.



Subject to modifications.  
All product descriptions are for general information  
only. They are not to be understood as a guarantee  
of quality or durability.

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