

# Z7A

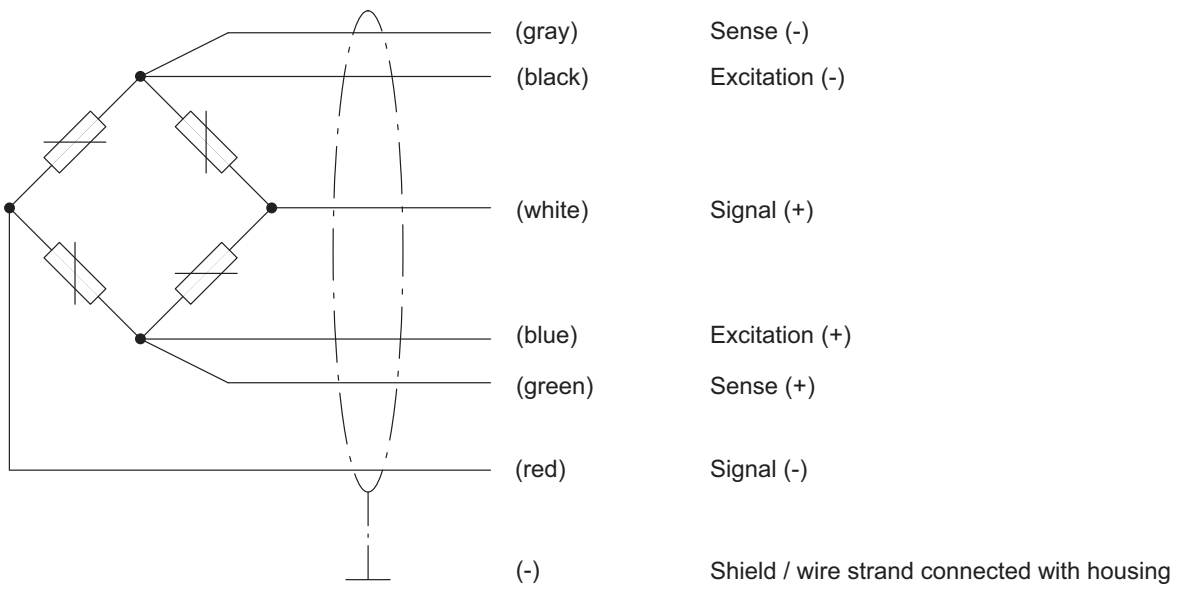
## Load cells

### SPECIAL FEATURES

- Complies with OIML R60 regulations up to 3000 d
- Max. capacities: 500 kg ... 10 t
- Low transducer height
- Robust design
- Explosion protection designs as per ATEX and IECEx



### CABLE ASSIGNMENT (6-WIRE CONFIGURATION)



## SPECIFICATIONS

Type			Z7A							
Accuracy class according to OIML R 60			D1				C3			
Max. number of load cell verification intervals	$n_{LC}$		1000					3000		
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		
Ratio of minimum verification interval	Y		2800					10000		
<b>General specifications</b>										
Sensitivity	$C_n$	mV/V	2							
Sensitivity tolerance		%	±0.1000				±0.0500			
Temperature effect on sensitivity <sup>1)</sup>	$TK_C$	% of $C_n$ / 10 K	±0.0350				±0.0117			
Temperature effect on zero signal	$TK_0$		±0.0500				±0.0140			
Hysteresis error <sup>1)</sup>	$d_{hy}$	% of $C_n$	±0.0500				±0.0170			
Non-linearity <sup>1)</sup>	$d_{lin}$		±0.1000				±0.0333			
Creep in 30 min.	$d_{cr}$		±0.0735				±0.0167			
Input resistance at reference temperature	$R_{LC}$	$\Omega$	> 350							
Output resistance at reference temperature	$R_O$		356±0.2				356±0.12			
Nominal rang of excitation voltage	$U_{ref}$	V	0.5...12							
Maximum excitation voltage	$B_U$		18							
Reference temperature		°C [°F]	+23 [+73.4]							
Nominal temperature range	$B_T$		-10...+40 [+14...+104]							
Operating temperature range	$B_{tu}$		-30...+70 [-22...+158]							
Storage temperature range	$B_{tl}$		-50...+85 [-58...+185]							
Save load limit	$E_L$	% of $E_{max}$	150							
Breaking load	$E_d$		300							
Max. capacity	$E_{max}$	t	0.5	1	2	5	10			
Relative static lateral force limit <sup>2)</sup>	$E_{lq}$	% of $E_{max}$	100	50	25 (100) <sup>2)</sup>	15 (100) <sup>2)</sup>	18 (100) <sup>2)</sup>			
Permissible dynamic load (vibration amplitude according to DIN 50100)	$F_{srel}$		70							
Nominal displacement, approx.	$s_{nom}$	mm	0.25	0.30	0.35	0.45	0.70			
Weight, approx.	G	kg	2.3	2.3	2.3	5	8			
Degree of protection according to EN60529 (IEC529)			IP 67							
Material			Steel, galvanized Stainless steel <sup>3)</sup> / Viton <sup>®</sup> PVC, TPE with metal braiding (optional)							

1) 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.

2) 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.

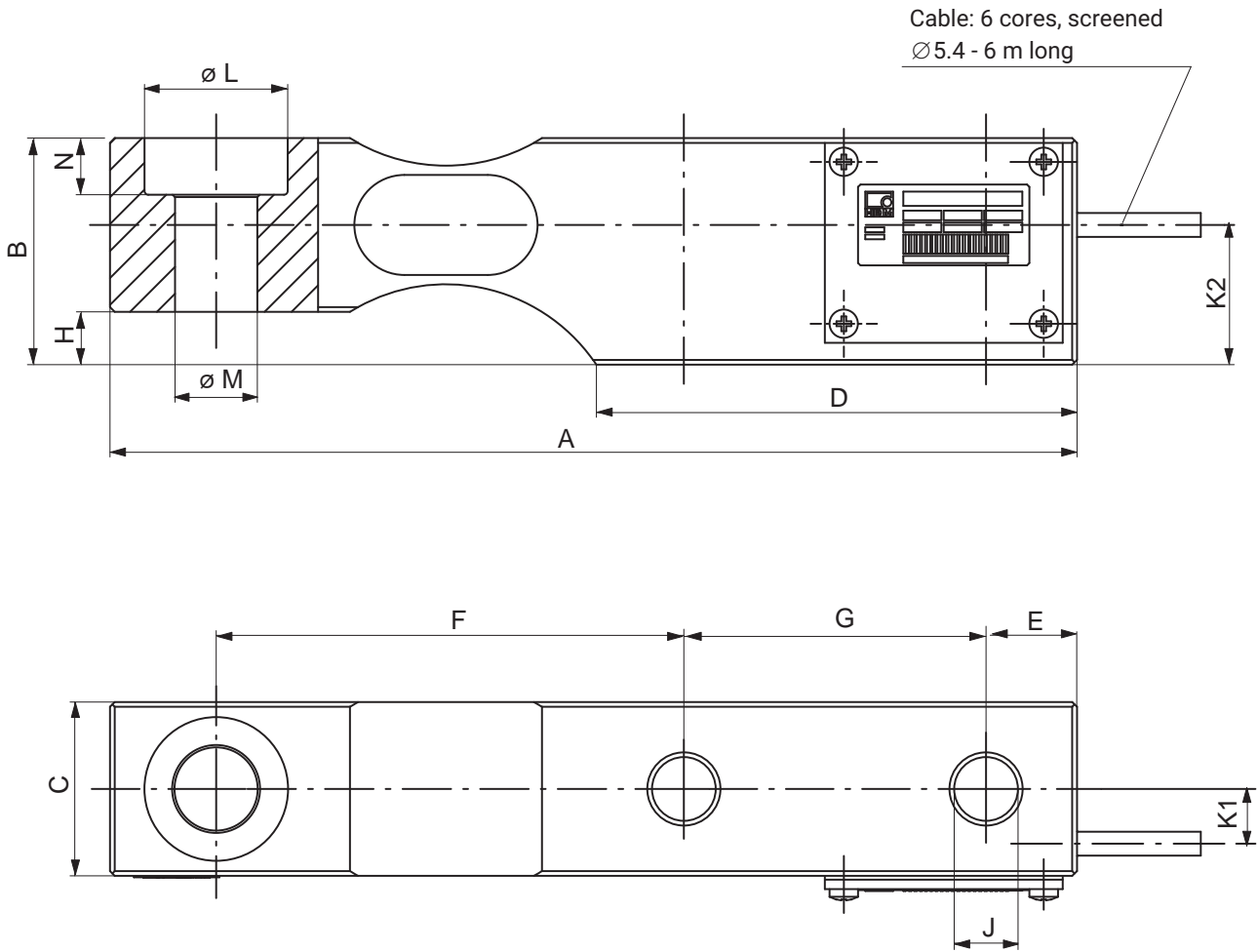
3) According to EN 10088-1

## OPTIONS

### Explosion protection versions as per ATEX and IECEx

- AI1/21 ATEX+IECEx zone 1/21, intrinsically safe;  
ATEX/IECEx: II 2G Ex ia IIC T6/T4 Gb + II 2D Ex ia IIIC T125°C Db
- AI2/22 ATEX+IECEx zone 2/22, not intrinsically safe;  
ATEX/IECEx: II 3G Ex ec IIC T6/T4 Gc + II 3D Ex tc IIIC T125°C Dc

**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
<b>0.5 and 1</b>	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
<b>2</b>	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
<b>5</b>	41.3	25.5	22.5	70	22.2	15.9	235	118	123.7	66.5	20.6	47.6	16	46	660
<b>10</b>	51	32	27	82.6	19.1	20.7	279.4	140	139.7	82.6	25.4	60.3	21	51	1150

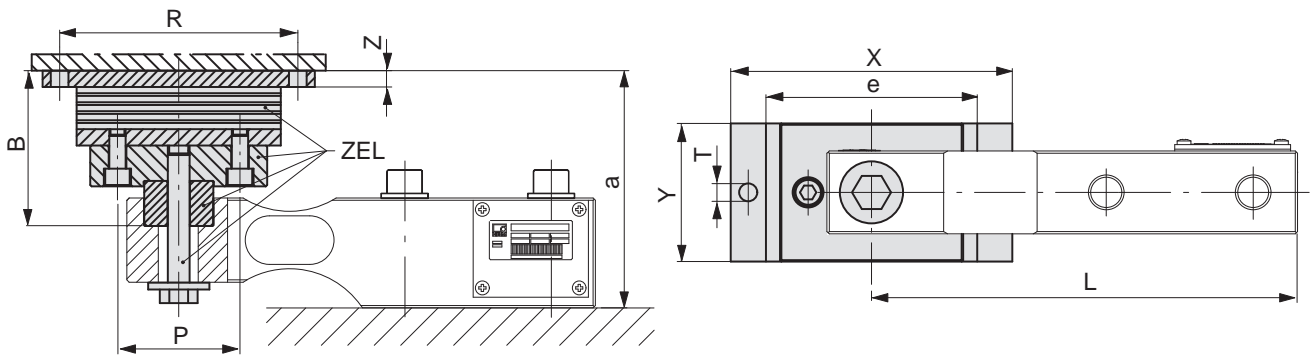
\* Tightening torque with screws of property class 10.9 (with  $\mu=0.16$ ).

**ACCESSORIES, TO BE ORDERED SEPARATELY**

- Rubber-metal bearing ZEL
- Pendulum bearing ZPL

## MOUNTING AIDS (DIMENSIONS IN MM; 1MM = 0.03937 INCHES)

### Rubber-metal bearing ZEL

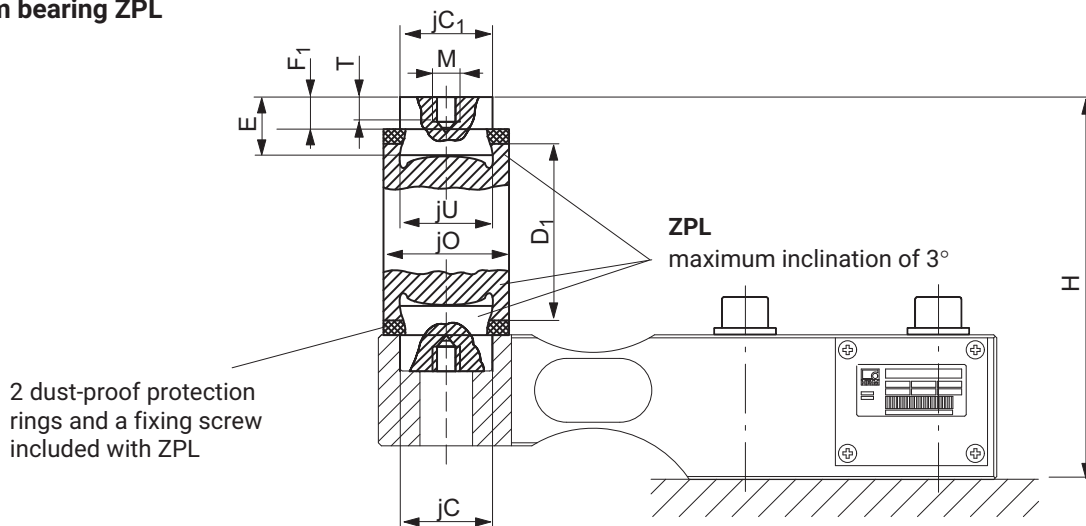


Max. capacity in t	Rubber-metal bearing ZEL	B	L	P	R	T	X	Y	Z	a	e	F <sub>R</sub> * (N)	s <sub>max</sub> ** (mm)
0.5...2	Z17/2t/ZEL	76.3	180.9	70	100	9	120	60	10	112 <sup>+1,5</sup> <sub>-1,7</sub>	80	400	4.5
5	Z17/5t/ZEL	93	210.8	70	125	11	150	100	10	147 <sup>+1,2</sup> <sub>-2,0</sub>	100	620	8
10	HLCB/10t/ZEL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

## PLACING ORDERS

When placing an order please specify the ordering numbers from the tables. If you need other versions (accuracy classes, explosion protection, other cable lengths, etc.) for the available products, please look in the overview "Z7A load cells, optional versions". You can generate a specific ordering number there from your individual requirements.

Maximum capacity	Accuracy class	
	D1	C3
500 kg	1-Z7AD1/500KG	
1 t	1-Z7AD1/1T	
2 t	1-Z7AD1/2T	1-Z7AC3/2T
5 t	1-Z7AD1/5T	1-Z7AC3/5T
10 t	1-Z7AD1/10T	1-Z7AC3/10T

Cable lengths: All maximum capacities have a 6 m cable as standard

## Z7A LOAD CELLS, OPTIONAL VERSIONS

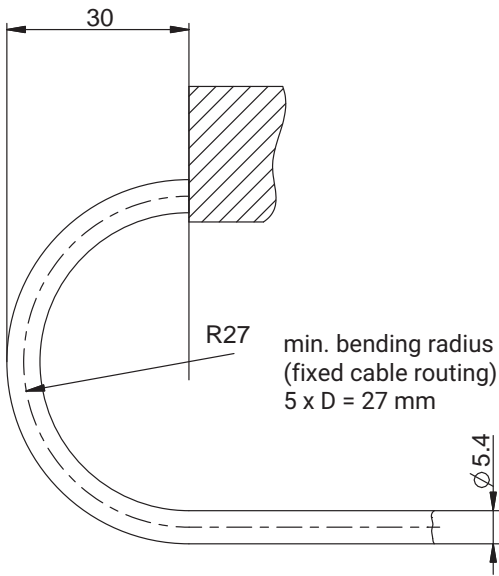
Order number	
<b>K-Z7A</b>	
Code	Option 1: Mechanical design
<b>S</b>	Standard
Code	Option 2: Accuracy class
<b>D1</b>	D1 (OIML)
<b>C3</b>	C3 (OIML) [only with Option 3 = 2 / 5 / 10]
Code	Option 3: Max. capacity
<b>500</b>	500 kg [only with Option 2 = D1]
<b>1</b>	1 t [only with Option 2 = D1]
<b>2</b>	2 t
<b>5</b>	5 t
<b>10</b>	10 t
Code	Option 4: Explosion protection
<b>N</b>	No explosion protection
<b>AI1/21</b>	ATEX + IECEx zone 1/21
<b>AI2/22</b>	ATEX + IECEx zone 2/22
Code	Option 5: Cable length
<b>S</b>	6 m (standard)
<b>12</b>	12 m
<b>6R</b>	6 m braided wire
<b>12R</b>	12 m braided wire
Code	Option 6: Other
<b>N</b>	Standard

K-Z/A - S - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - N

**Not all codes can be combined with one another. Take note of the conditions in square brackets!**

**MINIMUM DISTANCES AND BENDING RADII OF THE CABLES (with fixed cable routing)**

**PVC cable type (standard)**



**TPE with metal braiding (optional)**

