

# Z16A...

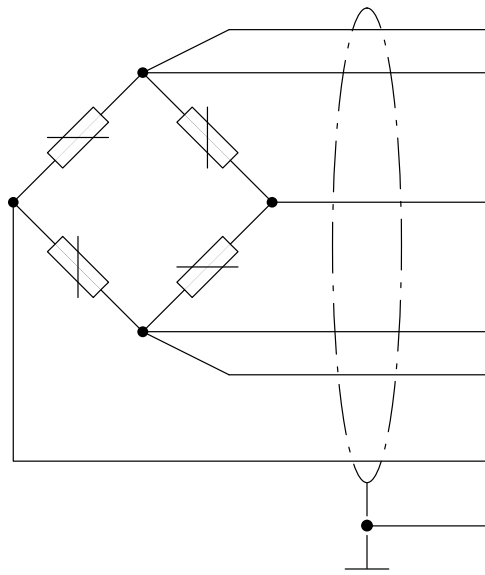
## Rugged tension load cell

### Special features

- Nominal (rated) loads: 7.5 t, 15 t
- Simple installation
- Rust-resistant materials, laser-welded, IP68, IP69K
- Accuracy class up to C3 (OIML R60 test report)
- Optimized for parallel connection by off-center load compensation
- Meets EMC requirements as per EN 45501
- Adapter for M36x3 internal thread available
- Six-wire configuration
- Explosion protection versions per ATEX and IECEx



### Cable assignment (6-wire configuration)



(gray)	Sense lead (-)
(black)	Excitation voltage (-)
(white)	Measurement signal (+)
(blue)	Excitation voltage (+)
(green)	Sense lead (+)
(red)	Measurement signal (-)
(-)	Cable shield / drain wire connected to transducer housing

With this cable assignment, the output voltage at the measuring amplifier is positive in the tensile direction when the transducer is loaded.

## Specifications

Type			Z16A		
Accuracy class per OIML R60 <sup>1)</sup>			D1		C3
Number of load cell verification intervals	$n_{LC}$		1000		3000
Nominal (rated) load	$E_{max}$	t	7.5	15	15
Minimum load cell verification interval	$v_{min}$	% of $E_{max}$	0.0200		0.0100
Ratio of minimum verification interval	Y		5,000		10,000
<b>General specifications</b>					
Nominal (rated) sensitivity <sup>2)</sup>	$C_n$	mV/V	2		
Sensitivity tolerance		%	±0.5		
Temperature coefficient of sensitivity <sup>3)</sup>	$TC_S$	% of $C_n/10$ K	±0.0250		±0.0080
Temperature coefficient of zero signal	$TC_0$		±0.0285		±0.0140
Relative reversibility error <sup>3)</sup>	$d_{hy}$		±0.0330		±0.0170
Linearity error <sup>3)</sup>	$d_{lin}$		±0.0300		±0.0180
Load creep in 30 min.	$d_{cr}$		±0.0330		±0.0167
Input resistance (black-blue)	$R_{LC}$		Ω	700 ±20	
Output resistance <sup>2)</sup> (red-white)	$R_0$	706 ±3.5 (Option 40 m: 711 ±3.5)			
Reference excitation voltage	$U_{ref}$	V	5		
Nominal (rated) range of the excitation voltage	$B_U$		0.5 ... 12		
Insulation resistance at 100V <sub>DC</sub>	$R_{is}$	GΩ	> 5		
Nominal (rated) ambient temperature range	$B_T$	°C	-10 ... +40		
Operating temperature range	$B_{tu}$		-30 ... +70		
Storage temperature range	$B_{tl}$		-50 ... +85		
Limit load	$E_L$	% of $E_{max}$	150		
Breaking load	$E_d$		> 350		
Relative permissible oscillatory stress (oscillation width as per DIN 50100)	$F_{srel}$		70		
Nominal (rated) displacement at $E_{max}$ , approx.	$s_{nom}$	mm	0.20	0.27	
Weight without cable, approx.	G	kg	2.3		
Degree of protection per DIN EN 60529 (IEC 529)			IP68 (test conditions: 100 hours under 1m water column); IP69 K (water at high pressure, steam cleaner) <sup>4)</sup>		
Cable length, six-wire configuration			12 m		
Material					
Measuring body and housing			Stainless steel <sup>5)</sup>		
Cable entry			Stainless steel <sup>5)</sup>		
Seal			Viton <sup>®</sup>		
Cable sheath			Thermoplastic elastomer		

1)  $P_{LC} = 0.7$

2) Sensitivity and output resistance are matched in such a way on each transducer that the measured value lies within the permissible error limits when they are connected in parallel.

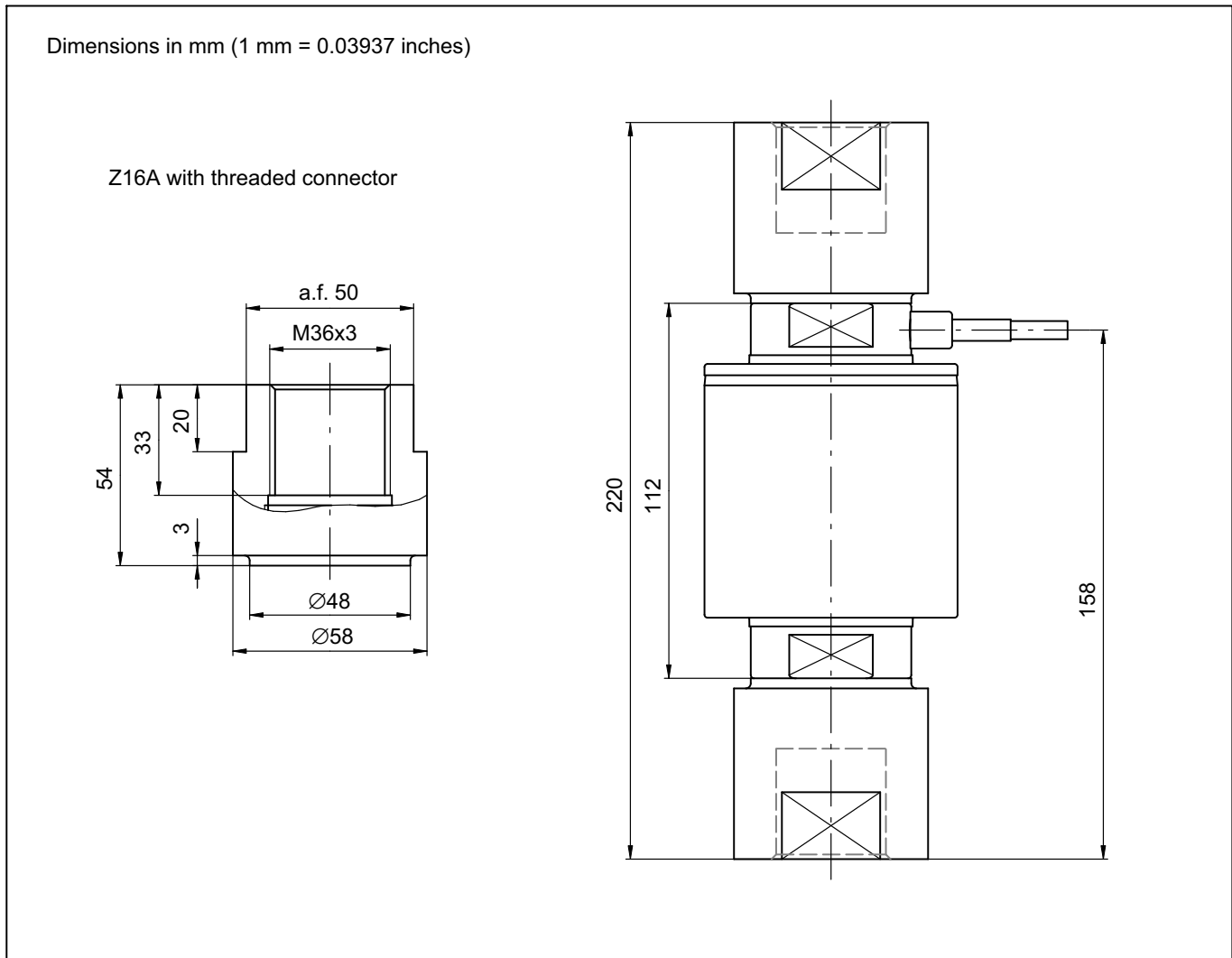
3) The values for non-linearity ( $d_{lin}$ ), relative reversibility error ( $d_{hy}$ ) and temperature coefficient of sensitivity ( $TC_S$ ) are recommended values. The sum of these values is within the cumulative error limits according to OIML R60.

4) Based on DIN 40050, Part 9 specifications, for road vehicles

5) As per EN 10088-1



**Accessories, thread adapter (to be ordered separately):  
1-Z16/ADAPTERM36x3, comprising 2 thread adapters**



**Options for Z16A**

- Explosion protection per IECEx and ATEX

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

AI2/21\*\* IECEx+ATEX zone 2/21 not intrinsically safe, II 3G Ex ec IIC T6/T4 Gc, II 2D Ex tb IIIC T125°C Db\*

\* with EU type examination certificate (BVS13ATEX E 10 X) and IECEx Certificate of Conformity (IECEx BVS 13.0109 X)

\*\* Option AI2/21 IEC + ATEX zone 2/21 includes zone 2/22

- Overvoltage protection
- Cable length 20 m ( $E_{max} = 7.5 \text{ t} \dots 15 \text{ t}$ ) / - Cable length 40 m ( $E_{max} = 7.5 \text{ t} \dots 15 \text{ t}$ )
- 20 m cable with braided wire ( $E_{max} = 7.5 \text{ t} \dots 15 \text{ t}$ )

## Product numbers

Type	Z16AD1	Z16AC3
Accuracy class	D1 (OIML)	C3 (OIML)
Nominal (rated) load	Order No.	Order No.
7.5 t	1-Z16A3D1/7.5t	
15 t	1-Z16A3D1/15t	1-Z16A3C3/15t

## Z16A load cells, optional versions

Order No.	
<b>K-Z16A3</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 = 15 t]
Code	Option 3: Nominal (rated) load
<b>7.5</b>	7.5 t
<b>15</b>	15 t
Code	Option 4: Explosion protection
<b>N</b>	No explosion protection
<b>AI1/21</b>	IECEX + ATEX zone 1/21
<b>AI2/21</b>	IECEX + ATEX zone 2/21
Code	Option 5: Cable length
<b>S12</b>	12 m (Standard)
<b>20</b>	20 m
<b>40</b>	40 m
<b>20R</b>	20 m (metal braiding)
Code	Option 6: Overvoltage protection
<b>N</b>	None
<b>L</b>	With overvoltage protection
Code	Option 7: Other
<b>N</b>	None

K-Z16A3 - S -  -  -  -  -  -  -  -  -  - N

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

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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