

# Z16A...

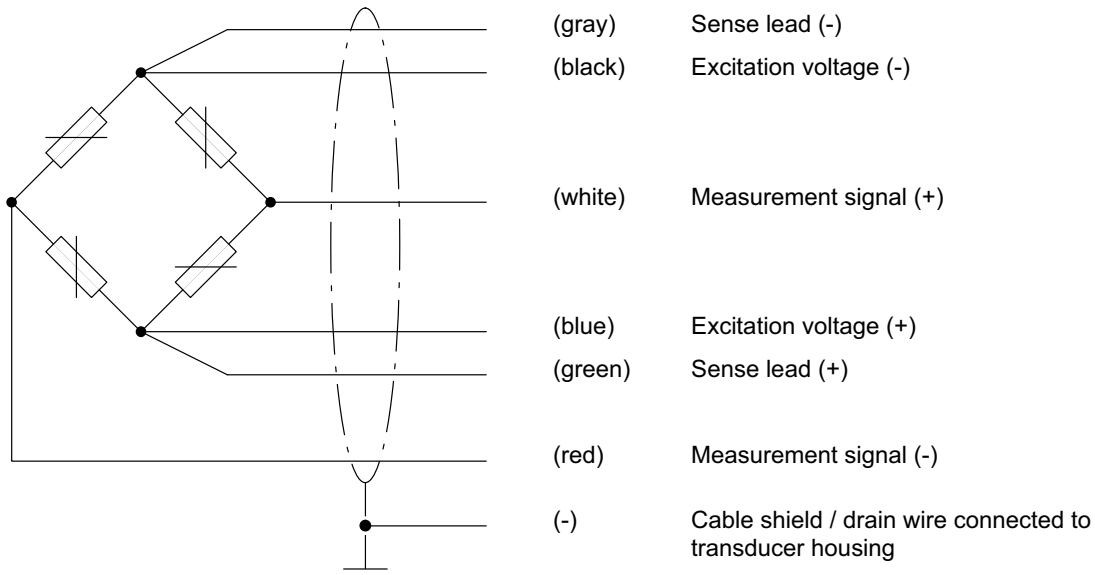
## Rugged tension load cell

### 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
- Ex protection versions per ATEX and IECEx



### Cable assignment



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

## Specifications

Type			Z16AD1			Z16AC3
Accuracy class <sup>1)</sup>			D1			C3
Number of load cell verification intervals	$n_{LC}$		1000			3000
Nominal (rated) load	$E_{max}$	t	7.5	15	20	15
Minimum load cell verification interval	$v_{min}$		$E_{max}/5000$			$E_{max}/10,000$
Temperature coefficient of zero signal per 10K	$TC_0$	% of $C_n$	$\pm 0.0285$			$\pm 0.0140$
Nominal (rated) sensitivity <sup>2)</sup>	$C_n$	mV/V	2			
Sensitivity tolerance		%	$\pm 0.5$			
Temperature coefficient of sensitivity per 10K <sup>3)</sup>	$TC_S$	% of $C_n$	$\pm 0.0250$			$\pm 0.0080$
Linearity error <sup>3)</sup>	$d_{lin}$		$\pm 0.0300$			$\pm 0.0180$
Relative reversibility error <sup>3)</sup>	$d_{hy}$		$\pm 0.0330$			$\pm 0.0170$
Load creep in 30 min.	$d_{cr}$		$\pm 0.0330$			$\pm 0.0167$
Input resistance	$R_{LC}$	$\Omega$	700 $\pm$ 20			
Output resistance <sup>2)</sup>	$R_0$		706 $\pm$ 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>	$R_{is}$	G $\Omega$	> 5			
Nominal (rated) ambient temperature range	$B_T$	$^{\circ}C$	-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) As per OIML R60, with  $P_{LC} = 0.7$ .

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.

## Options for Z16A

- Ex protection 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\*

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

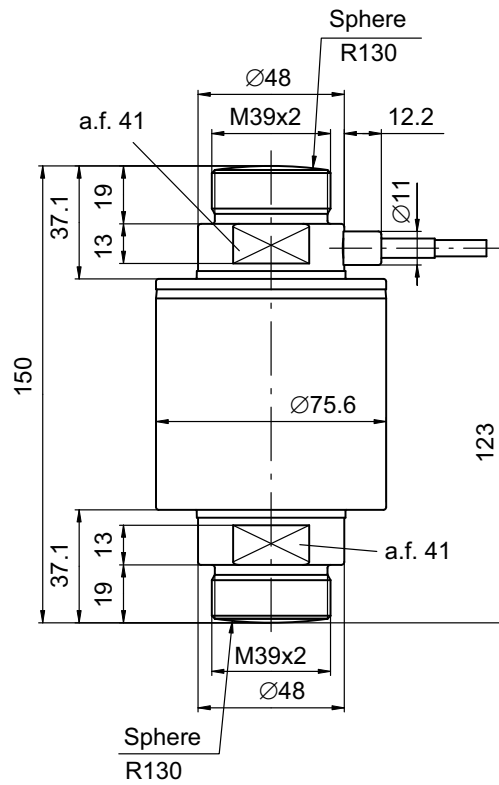
\* with EU type examination certificate (BVS13ATEX E 10 X) and IECEx Certificate of Conformity (IECEx BVS 13.0109 X)

\*\* IECEx zone 2/21 includes option ATEX 2/22 and also offers the additional customer benefit of usage with conductive dust as well.

- 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 ( $E_{\max} = 7.5 \text{ t} \dots 15 \text{ t}$ )

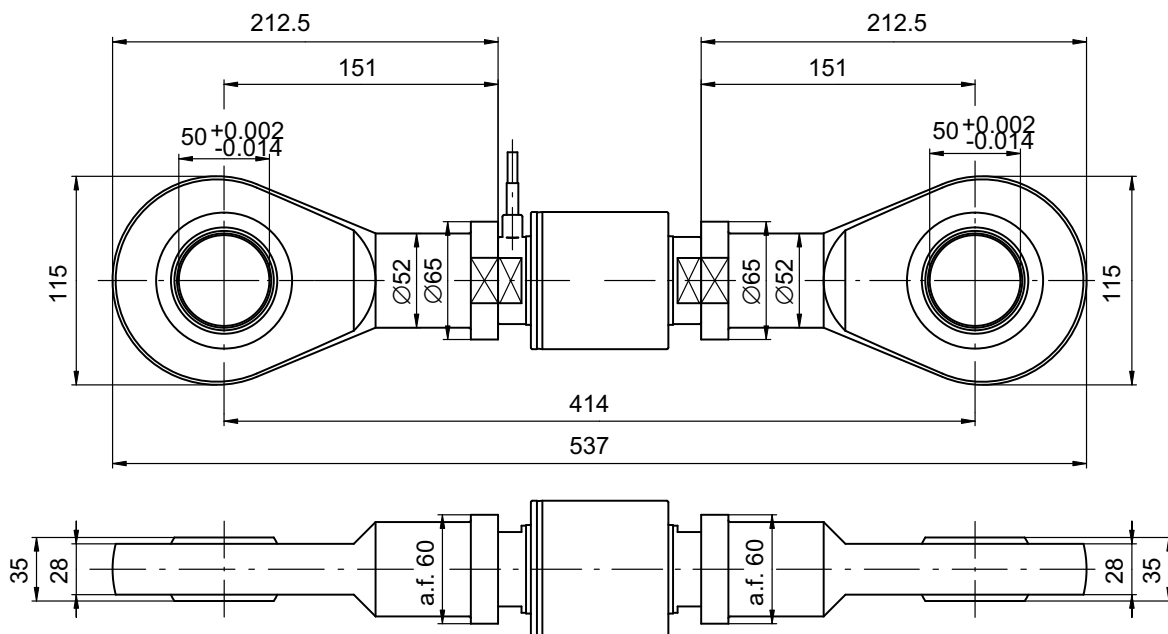
## Dimensions and mounting parts for maximum capacities 7.5 t ... 20 t

Dimensions in mm (1 mm = 0.03937 inches)



### Accessories, knuckle eyes (to be ordered separately): 1-U2A/10T/ZGOW, comprising 1 knuckle eye

Dimensions in mm (1 mm = 0.03937 inches)

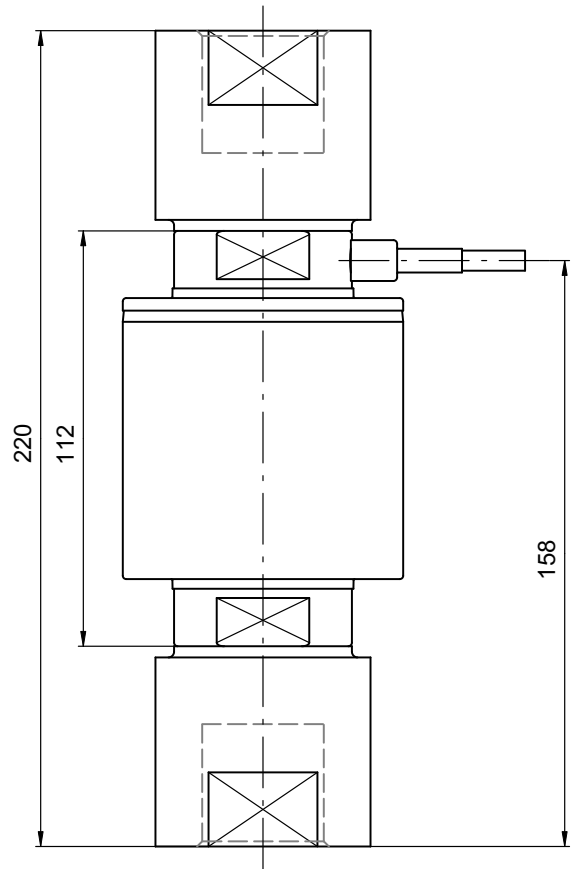
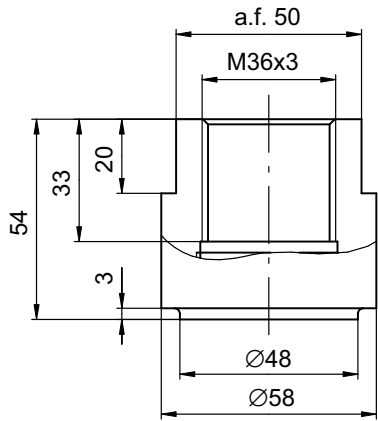


WARNING: The maximum capacity of the knuckle eye is 300 kN.

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

Dimensions in mm (1 mm = 0.03937 inches)


Z16A with threaded connector



## 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 ATEX
<b>AI1/21</b>	IECEX + ATEX 1/21 and FM 
<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** - **C3** - **15** - **N** - - - - - **20** - **N** - **N**

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

**Hottinger Baldwin Messtechnik GmbH**  
 Im Tiefen See 45 · 64293 Darmstadt · Germany  
 Tel. +49 6151 803-0 · Fax +49 6151 803-9100  
 Email: info@hbm.com · www.hbm.com