Data sheet

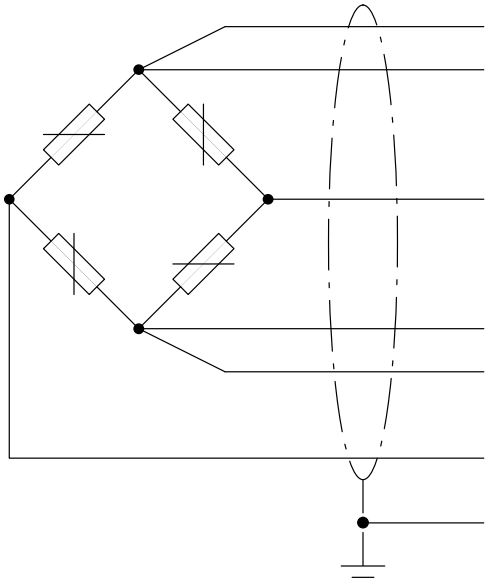
Z16A...

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.

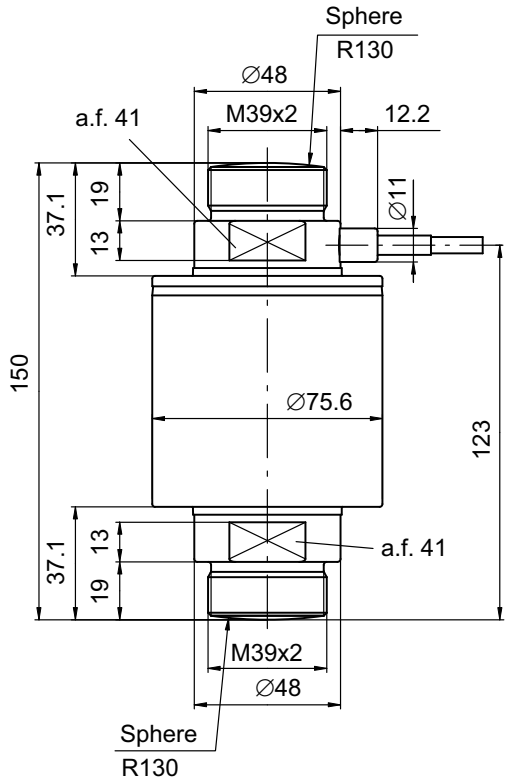
Specifications

Type			**Z16A**	
Accuracy class per OIML R60[1)]			**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
General specifications				
Nominal (rated) sensitivity[2)]	C_n	mV/V	2	
Sensitivity tolerance		%	±0.5	
Temperature coefficient of sensitivity[3)]	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[3)]	d_{hy}		±0.0330	±0.0170
Linearity error[3)]	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[2)] (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 $100V_{DC}$	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)[4)]	
Cable length, six-wire configuration			12 m	
Material				
Measuring body and housing			Stainless steel [5)]	
Cable entry			Stainless steel[5)]	
Seal			Viton®	
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

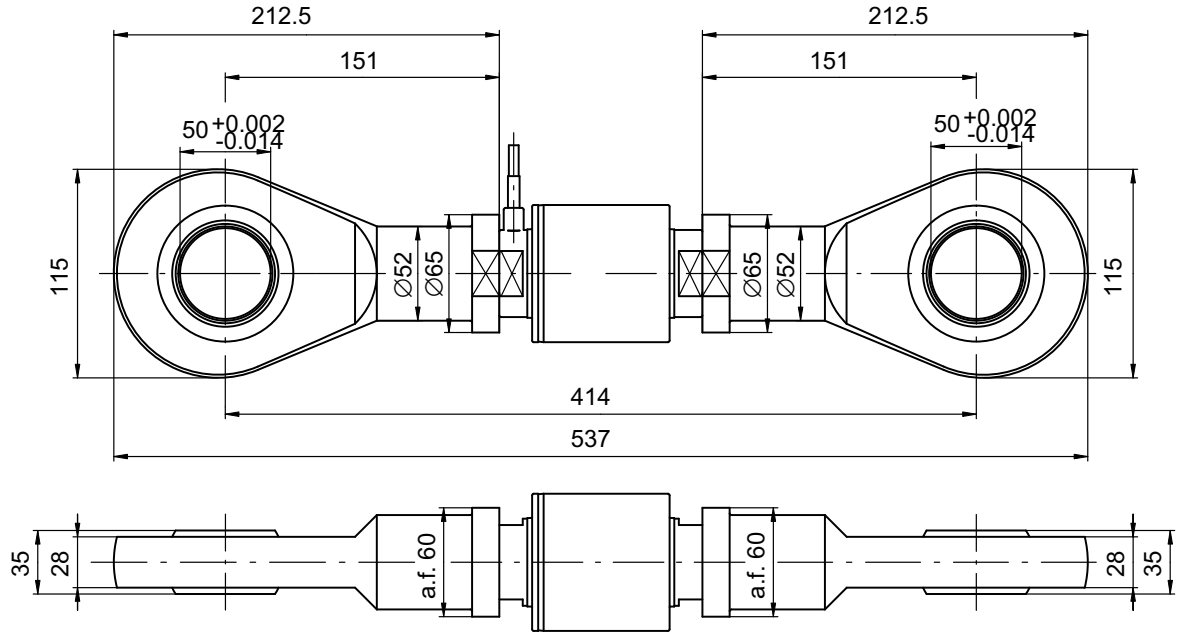
Dimensions and mounting parts for maximum capacities 7.5 t ... 20 t

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)

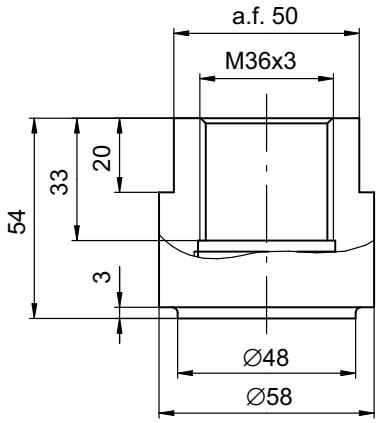


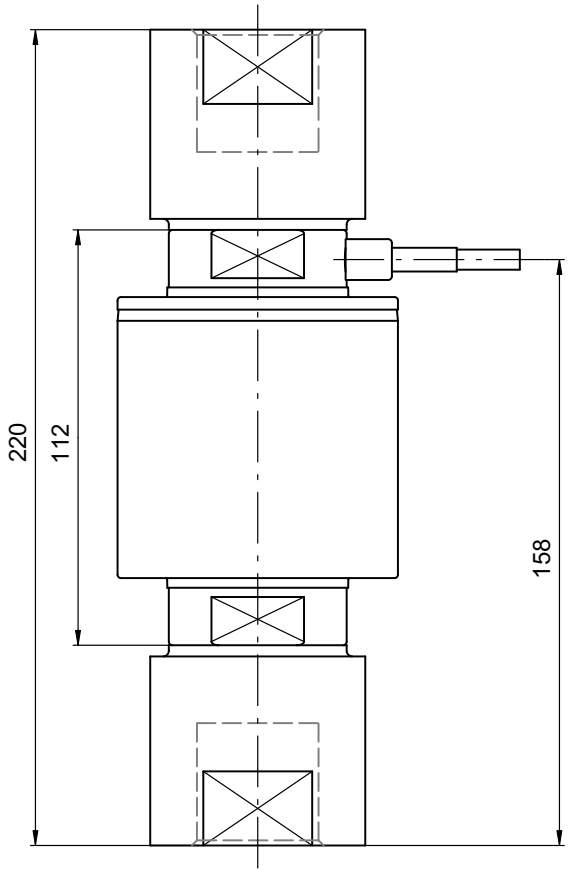
WARNING: The maximum capacity of the knuckle eye is 300 kN.

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





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 t … 15 t) / - Cable length 40 m (E_{max} = 7.5 t … 15 t)
- 20 m cable with braided wire (E_{max} = 7.5 t … 15 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.
K-Z16A3

Code	Option 1: Mechanical design
S	Standard

Code	Option 2: Accuracy class	
D1	D1 (OIML)	
C3	C3 (OIML)	[only with option 3 = 15 t]

Code	Option 3: Nominal (rated) load
7.5	7.5 t
15	15 t

Code	Option 4: Explosion protection
N	No explosion protection
AI1/21	IECEx + ATEX zone 1/21
AI2/21	IECEx + ATEX zone 2/21

Code	Option 5: Cable length
S12	12 m (Standard)
20	20 m
40	40 m
20R	20 m (metal braiding)

Code	Option 6: Overvoltage protection
N	None
L	With overvoltage protection

Code	Option 7: Other
N	None

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

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

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