



# C16A... 100/200/400 t

Self-centering  
pendulum lead cells

## Special features

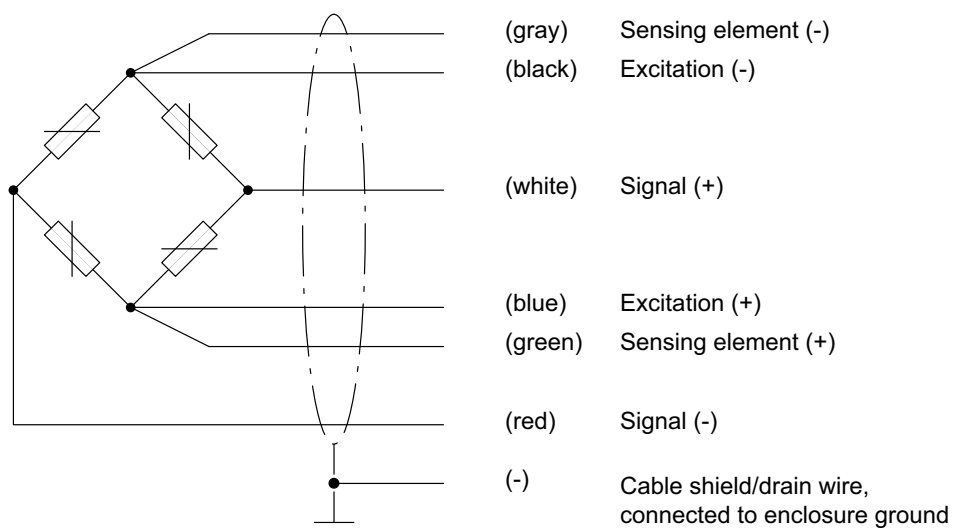
- Self-restoring function
- Nominal (rated) loads: 100 t, 200 t and 400 t
- Simple installation
- Rust-resistant materials, laser-welded, IP68/IP69K
- Legal for trade  
100 t with up to 3000 d (OIML R60 D1 + C3)  
200 t, 400 t with up to 1000 d (OIML R60 D1)
- Optimized for parallel connection by off-center load compensation
- Meets EMC requirements as per EN 45501:2015
- Ex-protection design as per ATEX and IECEx, FM and EAEU

Data sheet

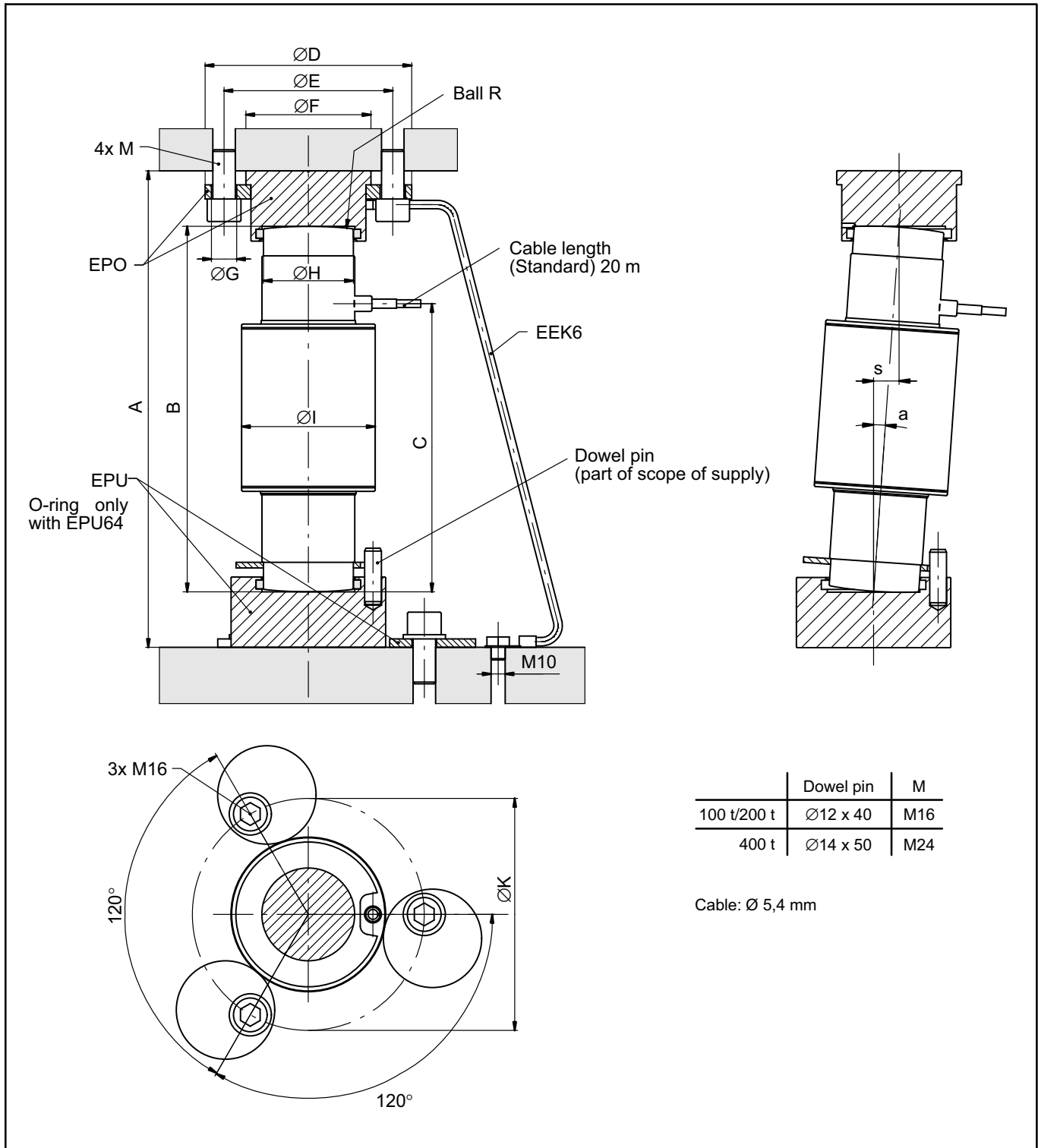


## Cable assignment

Cable assignment (six-wire configuration):



# Dimensions and mounting depth



	Dowel pin	M
100 t/200 t	$\varnothing 12 \times 40$	M16
400 t	$\varnothing 14 \times 50$	M24

Cable:  $\varnothing 5,4 \text{ mm}$

Nominal (rated) load	Thrust pieces top + bottom (1 set = 2 pieces)	A	B	C	$\varnothing D$	$\varnothing E$	$\varnothing F$	$\varnothing G$	$\varnothing H$	$\varnothing I$	$\varnothing K$	R	$\alpha_{\max}^1$	$s_{\max}^2$	$F_R^3$	
															at $s_{\max}$	at $s = 1 \text{ mm}$
100 t 200 t	EPO3/100 t, C16/EPU64	339 $\pm 1.5$	260	205	147	120	89	18	64	95	165	290	4°	18	8.6	0.48
															400	2°
400 t	EPO3/400 t, C16/EPU109	412 $\pm 1.5$	260	205	240	196	160	26	109	154	230	570	2°	9	11.8	1.31

1) max. permissible misalignment

2) max. permissible lateral displacement of load application

3) Restoring force in % of applied load

## Specifications

Type			C16A D1			C16A C3
Nominal (rated) load	$E_{max}$		100 t	200 t	400 t	100 t
Accuracy class per OIML R60			D1 (0.0330 %)			C3 (0.0170 %)
Number of scale intervals	$n_{LC}$		1000 (10000 NTEP III LM)	1000		3000
Minimum load cell verification interval	$v_{min}$	% of $E_{max}$	0.0200 (0.0068 NTEP III LM)	0.0200		0.0100
Nominal (rated) sensitivity	$C_n$	mV/V	2			
Sensitivity tolerance <sup>1)</sup>		%	±0.5			
Temperature coefficient of sensitivity <sup>2)</sup>	$TK_C$	% of	±0.0250			±0.0080
Temperature coefficient of zero signal	$TK_0$	$C_n/10$ K	±0.0285			±0.0140
Relative reversibility error <sup>2)</sup>	$d_{hy}$	% of $C_n$	±0.0330			±0.0170
Non-linearity <sup>2)</sup>	$d_{lin}$		±0.0300			±0.0180
Load creep in 30 min.	$d_{cr}$		±0.0330			±0.0167
Input resistance	$R_{LC}$	Ω	700 ±20			
Output resistance <sup>1)</sup>	$R_0$		706 ±3.5			
Reference excitation voltage	$U_{ref}$	V	5			
Nominal (rated) range of the supply voltage	$B_U$		0.5 ... 12			
Insulation resistance	$R_{is}$		> 5			
Nominal (rated) ambient temperature range	$B_T$	°C	-10 ... +40			
Operating temperature range	$B_{tu}$		-50 ... +70			
Storage temperature range	$B_{tl}$		-50 ... +85			
Limit load	$E_L$	% of $E_{max}$	150			
Breaking load	$E_d$		> 350	> 200	> 300	> 350
Relative permissible oscillatory stress (oscillation width as per DIN 50100)	$F_{srel}$		70			
Nominal (rated) displacement at $E_{max}$ , approx.	$s_{nom}$		mm	1.57	2.15	2.64
Weight without cable, approx.	$G$	kg	8	10.8	22.0	8
Degree of protection per EN60529 (IEC529)			IP68 (test conditions 1 m water column / 100 h) IP69 K (water at high pressure, steam cleaner)			
Material: Measuring body+ housing Cable entry Seal Cable sheath			Stainless steel <sup>3)</sup> Stainless steel <sup>3)</sup> Viton® Thermoplastic elastomer			

<sup>1)</sup> Because of the off-center load compensation, the sensitivity and output resistance are matched in such a way that when there is eccentric loading, the scale display is within the permissible error limits.

<sup>2)</sup> 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 limit for  $p_{LC} = 0.7$  according to OIML R60.

<sup>3)</sup> as per EN 10088-1

## Options

- **Overvoltage protection**
- **Ex protection versions as per IECEx, ATEX and FM**
  - 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 non-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 108 X) and IECEx Certificate of Conformity (IECEx BVS 13.0109 X)
- \*\* IECEx zone 2/21 includes the ATEX2/22 option and offers the added customer benefit of usage with conductive dust as well.
- **Ex protection versions per EAC (Eurasian economic union with the member states: Russia, Belarus, Armenia, Kazakhstan, Kyrgyzstan)**
  - R1/21 EAEU zone 1/21 TR ZU 012/2011 Ex certificate, 1 Ex ia IIC T6/T4 Gb X / Ex ia IIIC T125°C Db X\*\*\*
  - R2/21 EAEU zone 2/21 TR ZU 012/2011 Ex certificate, 2 Ex ia IIC T6/T4 Gc X / Ex tb IIIC T125°C Db X\*\*\*
- \*\*\* with certificate "СЕРТИФИКАТ СООТВЕТСТВИЯ № ТС RU С-ДЕ.ГБ08.В.01138"
- **Explosion protection in "flameproof enclosure Ex d" version, see separate data sheet**
- **40 m cable**

## Accessories (to be ordered separately)

- **EPO3/100t** Thrust piece for top, incl. clamping ring (100 t and 200 t)
- **C16/EPU64** Thrust piece for bottom, incl. 3 eccentric discs (100 t and 200 t)
- **EPO3/400t** Thrust piece for top, incl. clamping ring (400 t)
- **C16/EPU109** Thrust piece for bottom, incl. 3 eccentric discs (400 t)
- **EEK6** Ground cable, 600 mm long


## C16A load cells, optional versions

Ordering number
<b>K-C16A2</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 = 20 / 30 / 40 / 60 / 100]
<b>C4</b>	C4 (OIML) [only with option 3 = 30 / 40 / 60]
<b>C5</b>	C5 (OIML) [only with option 3 = 30 / 40 / 60] (on request)

Code	Option 3: Maximum capacity
<b>20</b>	20 t [only with option 2 = D1 / C3]
<b>30</b>	30 t [only with option 2 = D1 / C3 / C4 / (C5 on request)]
<b>40</b>	40 t [only with option 2 = D1 / C3 / C4 / (C5 on request)]
<b>60</b>	60 t [only with option 2 = D1 / C3 / C4 / (C5 on request)]
<b>100</b>	100 t [only with option 2 = D1 / C3]
<b>200</b>	200 t [only with option 2 = D1 and option 6 = N]
<b>400</b>	400 t [only with option 2 = D1]

Code	Option 4: Explosion protection
<b>N</b>	No Ex protection
<b>AI1/21</b>	IECEX + ATEX zone 1/21 and FM 
<b>AI2/21</b>	IECEX + ATEX zone 2/21
<b>R1/21</b>	EAEU zone 1/21
<b>R2/21</b>	EAEU zone 2/21

Code	Option 5: Cable length
<b>S12</b>	12 m (standard) [only with option 3 = 20 / 30]
<b>S20</b>	20 m (standard) [only with option 3 = 40 / 60 / 100 / 200]
<b>20</b>	20 m [only with option 3 = 20 / 30]
<b>40</b>	40 m
<b>20R</b>	20 m (standard) [only with option 3 = 20 / 30 / 40 / 60]

Code	Option 6: Overvoltage protection
<b>N</b>	None
<b>L</b>	With overvoltage protection

Code	Option 7: Other
<b>N</b>	None
<b>Y</b>	Y=20000 [only with option 2 = C3+ Option 3 = 30/40/60]

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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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