

# C16A...

## 100/200/400 t

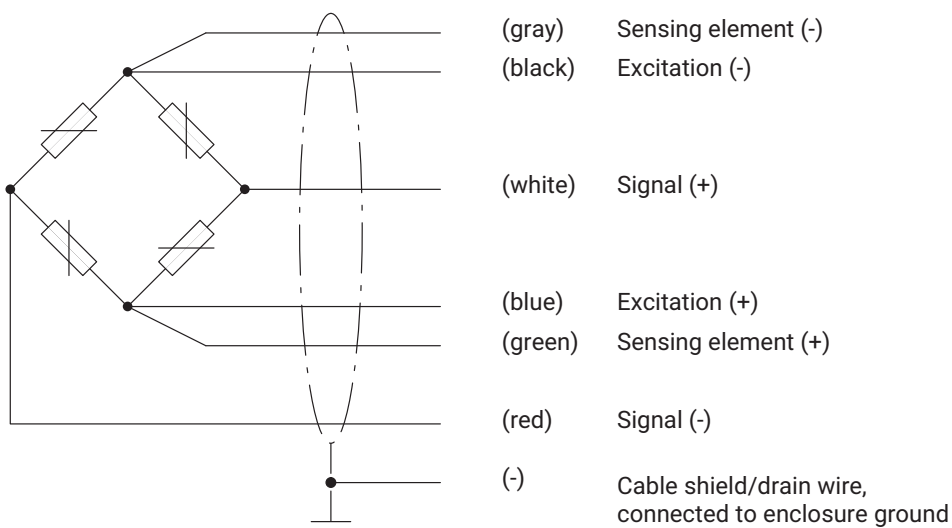
### Self-centering pendulum lead cells

#### 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
- Explosion-protection design as per ATEX, IECEx and FM (US/CA)



#### CABLE ASSIGNMENT (6-WIRE CONFIGURATION)



## SPECIFICATIONS

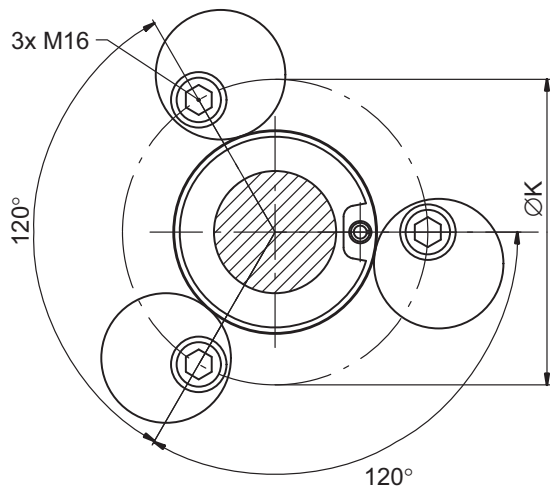
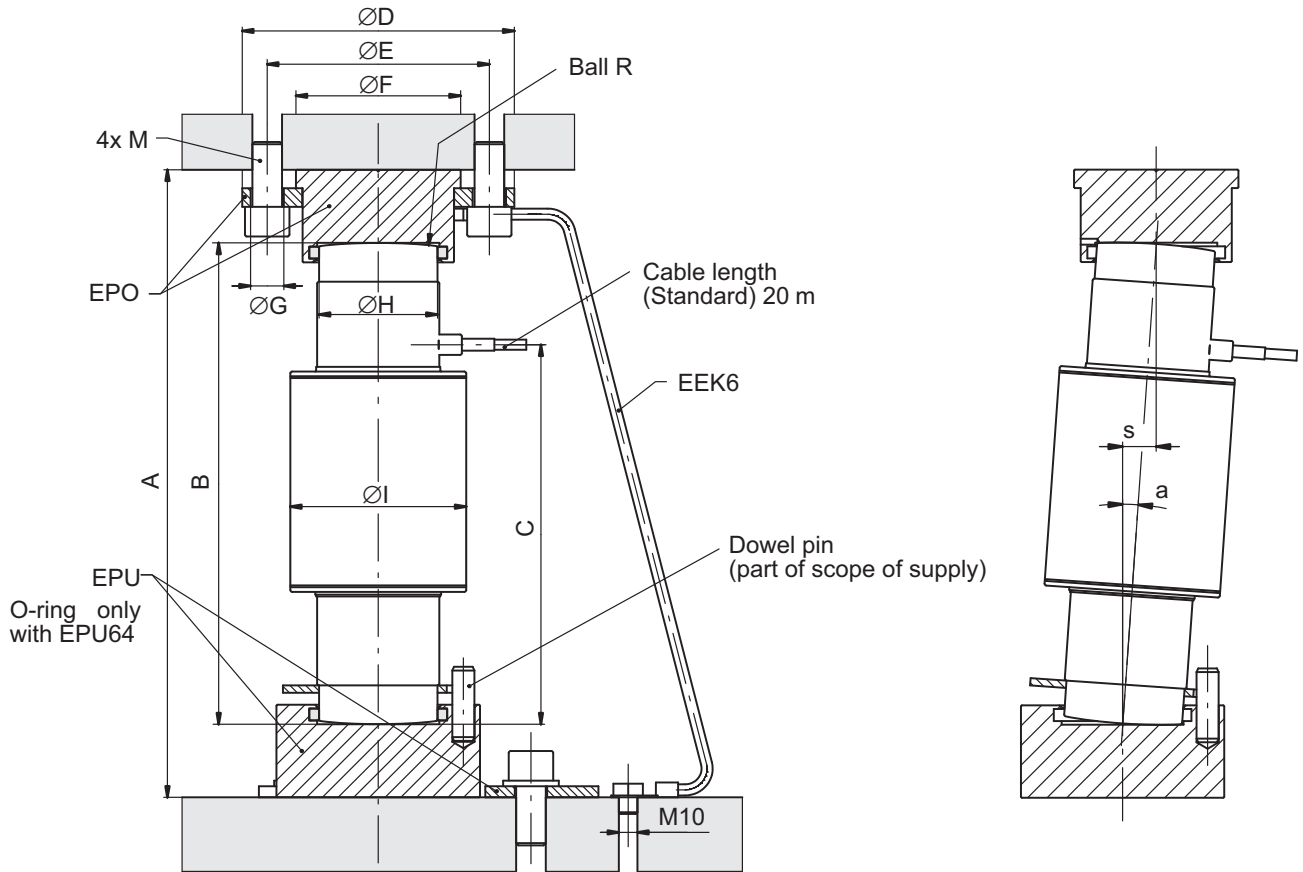
Type	C16A						
Accuracy class per OIML R60			D1			C3	
Number of scale intervals	$n_{LC}$		1000			3000	
Nominal (rated) load	$E_{max}$	t	100	200	400	100	
Minimum load cell verification interval	$v_{min}$	% of $E_{max}$	0.0200			0.0100	
Ratio of minimum verification interval	Y		5000			10000	
<b>General specifications</b>							
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 $C_n/10\text{ K}$	±0.0250			±0.0080	
Temperature coefficient of zero signal	$TK_0$		±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	
Minimum dead load output return, 30 min.	DR		± 0.0330			±0.0167	
Input resistance (black-blue)	$R_{LC}$	$\Omega$	700 ±20				
Output resistance <sup>1)</sup> (red-white)	$R_0$		706 ±3.5				
Reference excitation voltage	$U_{ref}$	V	5				
Nominal (rated) range of the supply voltage	$B_U$		0.5 ... 12				
Insulation resistance	$R_{is}$	G $\Omega$	> 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	1.57	
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 <sup>®</sup> 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

**DIMENSIONS AND LOADING FITTINGS FOR MAXIMUM CAPACITIES 100 T ... 400 T**



	Dowel pin	M
100 t/200 t	Ø12 x 40	M16
400 t	Ø14 x 50	M24

Cable: Ø 5,4 mm

Nominal (rated) load	Thrust pieces top + bottom (1 set = 2 pieces)	A	B	C	ØD	ØE	ØF	ØG	ØH	ØI	ØK	R	a <sub>max</sub> <sup>1</sup>	s <sub>max</sub> <sup>2</sup>	F <sub>R</sub> <sup>3)</sup>	
															at s <sub>max</sub>	at s = 1 mm
100 t 200 t	EPO3/100 t, C16/EPU64	339 ±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	386 ±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

## OPTIONS FOR C16A

---

- Explosion protection versions as per ATEX, IECEx and FM (US/CA)
  - AI1/21 ATEX+IECEEx+FM Zone 1/21, intrinsically safe;
    - ATEX/IECEEx: II 2G Ex ia IIC T6/T4 Gb + II 2D Ex ia IIIC T125°C Db;
    - FM(US/CA): Class I Zone 1 AEx/Ex ia IIC T4 Gb + Zone 21 AEx/Ex ia IIIC T125°C Db;
    - FM(US): Class I, II, III Division 1, Groups A, B, C, D, E, F, G T4
  - AI2/21 ATEX+IECEEx Zone 2/21, not intrinsically safe;
    - ATEX/IECEEx: II 3G Ex ec IIC T6/T4 Gc + II 2D Ex tb IIIC T125°C Db
- Overvoltage protection
- Cable length 40 m

## 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)
- **EEK6** Ground cable, 600 mm long

# C16A LOAD CELLS, OPTIONAL VERSIONS

Ordering number  
**K-C16A2**

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>	ATEX+IECEEx+FM zone 1/21 [only with option 6 = N]
<b>AI2/21</b>	ATEX+IECEEx 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]

K-C16A2 - S -     -       -           -       -      

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

**Hottinger Brüel & Kjaer GmbH**  
 Im Tiefen See 45 · 64293 Darmstadt · Germany  
 Tel. +49 6151 803-0 · Fax +49 6151 803-9100  
 www.hbkworld.com · info@hbkworl.com

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

B03329 09 E00 00 09.02.2023