

C16A../20t ... 100t

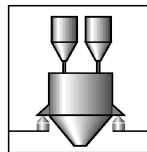
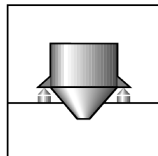
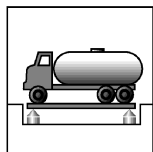
www.hbm.sh.cn



Self-restoring rockerpin load cell



Max. capacities:
20t ... 100t

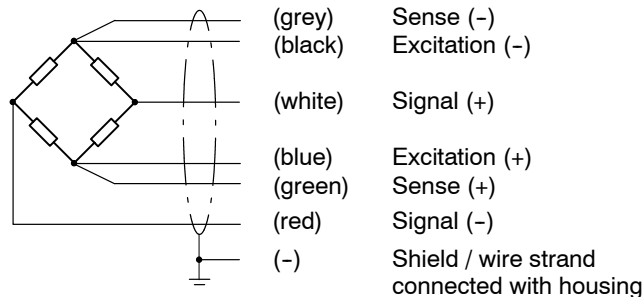


Special features

- Self-restoring function
- Simple to install
- Stainless steel materials, laser welded, IP68
- Legal for trade verification
 - up to 5000d (OIML R60)
 - up to 10 000d (NTEP class III LM)
- Optimized for parallel connection by corner pre-adjustment
- Meets EMC / ESD requirements according to EN 45 501
- **Available Options:**
 - Explosion proof versions
 - EEx ib IIC T4
 - EEx d IIC T6
 - Lightning protection

Wiring code

Wiring code (6-wire circuit):



Technical Data



Type		C16A D1					C16A C3				
Maximum capacity (E_{max})		20t	30t	40t	60t	100t	20t	30t	40t	60t	100t
Accuracy class accord. to OIML R60 Max. numbers of load cell verification intervals (n_{LC})		D1 (0.0330%) 1000 (10000 NTEP III LM)					C3 (0.0170%) 3000				
Min. load cell verification interval (v_{min})	% of E_{max}	0.0200 (0.0068 NTEP)					0.0100			0.0083	0.0167
Min. scale verification interval (e_{min}) according to EN 45 501 [... LC = max. Number of load cells]	kg	-	-	-	-	-	5 [6 LC] 10 [10 LC]	10 [10 LC]	10 [6 LC] 20 [10 LC]	10 [4 LC] 20 [10 LC]	50 [8 LC]
Sensitivity (C_n)	mV/V	2									
Sensitivity tolerance ¹⁾	%	$\leq \pm 0.5000$ ¹⁾									
Temperature effect on sensitivity (TK_C) ²⁾	% of C_n	$\leq \pm 0.0250$ ²⁾					$\leq \pm 0.0080$ ²⁾				
Temperature effect on zero signal (TK_0)	/ 10K	$\leq \pm 0.0285$					$\leq \pm 0.0140$			$\leq \pm 0.0116$	$\leq \pm 0.0234$
Hysteresis error (d_{hy}) ²⁾	% of C_n	$\leq \pm 0.0330$ ²⁾					$\leq \pm 0.0170$ ²⁾				
Non-Linearity (d_{lin}) ²⁾	% of C_n	$\leq \pm 0.0300$ ²⁾					$\leq \pm 0.0180$ ²⁾				
Creep (d_{cr}), 30 min.		$\leq \pm 0.0330$					$\leq \pm 0.0167$				
Input resistance (R_{LC}) (black-blue)	Ω	700 \pm 20									
Output resistance (R_0) ¹⁾ (red-white)		706 \pm 3.5 ¹⁾									
Reference excitation voltage (U_{ref})	V	5									
Nominal range of excitation voltage (B_U)		0.5 ... 12									
Insulation resistance (R_{is})		> 5									
Nominal range of ambient temperature (B_T)	$^{\circ}C$ [$^{\circ}F$]	-10 ... +40 [15...105]									
Service temperature range (B_{tu})		-30 ... +70 [-20...160]									
Storage temperature range (B_{tl})		-50 ... +85 [-60...185]									
Limit load (E_L)	% of E_{max}	150									
Breaking load (E_d)		> 350									
Permissible dynamic load (F_{srel}) (vibration amplitude according to DIN 50100)		70									
Deflection at E_{max} (s_{nom}), approx.	mm	0.65	0.75	0.85	1.22	1.57	0.65	0.75	0.85	1.22	1.57
Weight (G) with cable, approx.	kg	2.1	2.3	2.9	3.7	8	2.1	2.3	2.9	3.7	8
Protection class according to EN60529 (IEC529)		IP68 (test conditions 100h at 1m water column) IP69K (water at high pressure, steam jet cleaning)									
Material:	Meas. body + housing Cable fitting Sealing Cable-sheath	stainless steel stainless steel (Maximum capacity 100t: nickel-plated brass) neoprene thermoplastic elastomer									

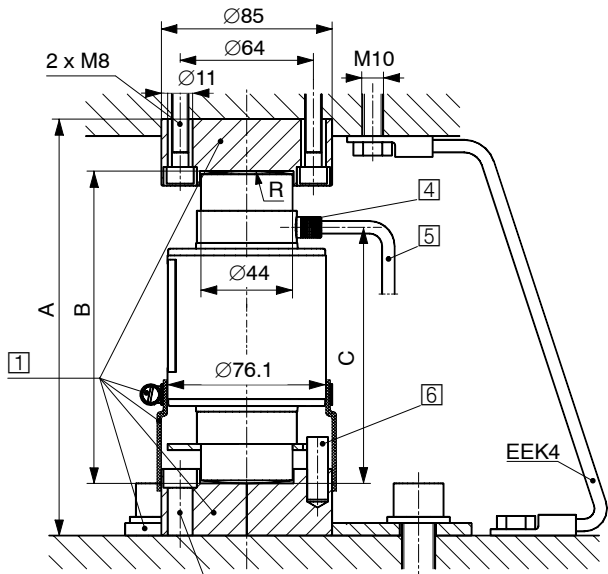
¹⁾ Smaller tolerances on Sensitivity and Output resistance are not necessary. Throughout corner pre-adjustment the Sensitivity and Output resistance are coordinated, so that the indicated value of the scale is within permissible limits when off-center load is applied.

²⁾ The data for Non-Linearity (d_{lin}), Hysteresis error (d_{hy}) and Temperature effect on sensitivity (TK_C) are typical values. The sum of these data meets the requirements for $p_{LC} = 0.7$ according to OIML R60 respectively NTEP.

Mounting variation 1:

max. load per load cell = 40t

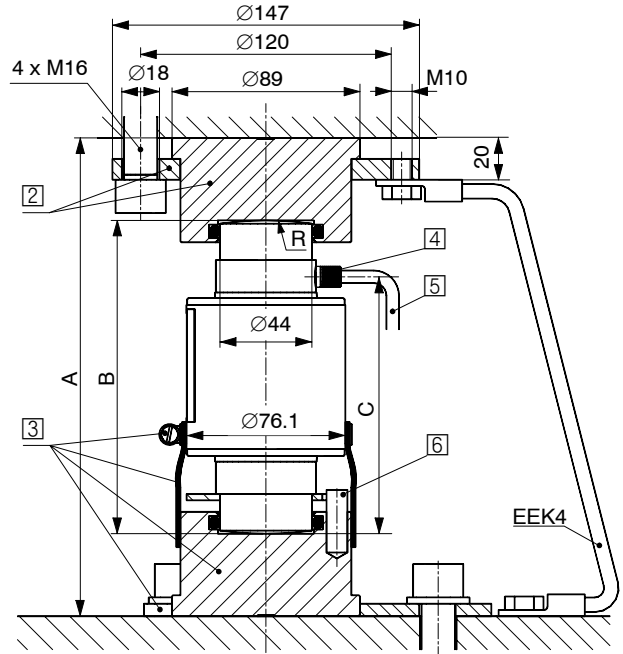
C16A + C16/ZOU44A



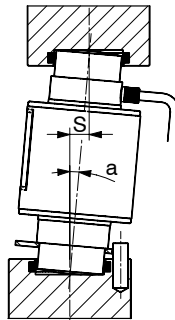
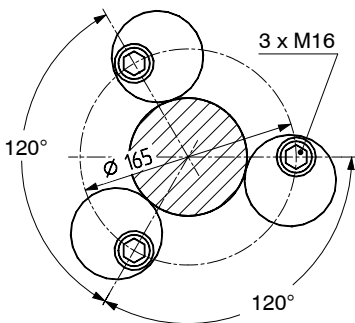
Fixing bolt, drawing turned by 90°

Mounting variation 2:

C16A + EPO3/50t + C16/EPU44A



Top view



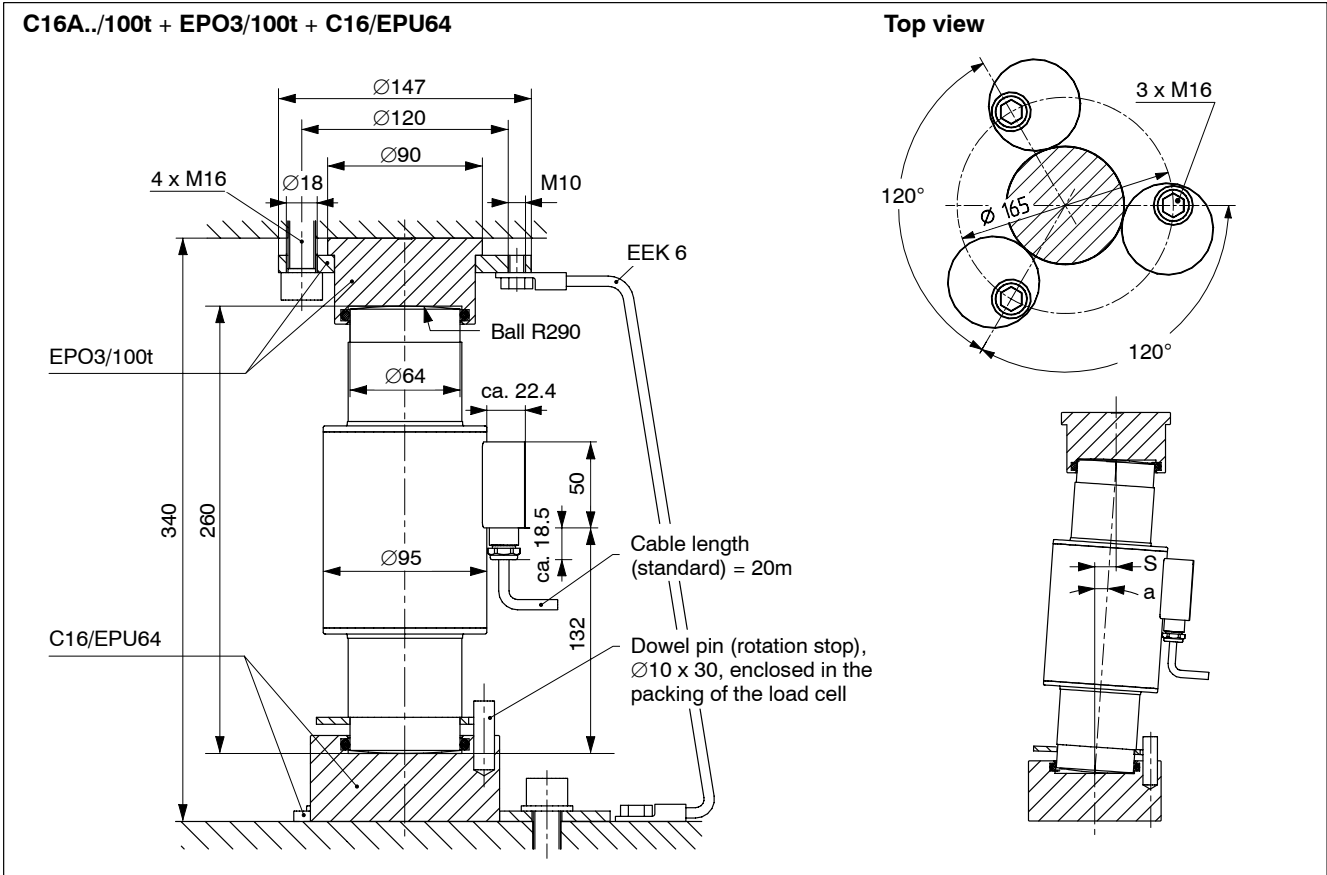
- 1 C16/ZOU44A
- 2 EPO3/50t
- 3 C16/EPU44A
- 4 Entry fitting Ø10 for protective cable conduit
- 5 Cable length (standard):
20t + 30t = 12m;
40t + 60t = 20m
- 6 Dowel pin (rotation stop), Ø10 x 30, enclosed in the packing of the load cell

Mount. variation 1	E _{max} C16i	Thrust pieces above + below (1 set = 2 pcs.)		A	B	C	R Ball	a _{max} ²⁾	S _{max} ³⁾	F _R ⁴⁾ (% of applied load)	
										at S _{max}	at S = 1mm
20t	C16/ZOU44A ¹⁾			200	150	123	130	5°	13	6.4	0.49
				200	150	123	160	5°	13	9.9	0.76
				200	150	123	180	5°	13	12.2	0.94
				260	210	157	220	3°	11	5.7	0.52

Mount. variation 2	E _{max} C16i	Thrust pieces		A	B	C	R Ball	a _{max} ²⁾	S _{max} ³⁾	F _R ⁴⁾ (% of applied load)		
		above	below							at S _{max}	at S = 1mm	
20t	EPO3/50t	C16/ EPU44A			229	150	123	130	5°	13	6.4	0.49
					229	150	123	160	5°	13	9.9	0.76
					229	150	123	180	5°	13	12.2	0.94
					289	210	157	220	3°	11	5.7	0.52

- 1) Max. load: 40t
- 2) Max. permissible skewing
- 3) Max. permissible lateral displacement of load introduction
- 4) Restoring force

Dimensions and Accessories for Max. capacity 100t (in mm; 1mm = 0.03739 inches)



a_{\max} (max. permissible skewing)	S_{\max} (max. permissible lateral displacement of load introduction)	F_R (Restoring force, % of applied load)	
		at S_{\max}	at $S = 1\text{ mm}$
4°	18	8.6	0.48

Furthermore deliverable: Maximum capacity 200tons (see separate data sheet)

Options:

- Explosion-proof version EEx ib IIC T4 for the use in intrinsically safe circuits
- Explosion-proof enclosure EEx d IIC T6 (see separate data sheet)
- Lightning protection
- Accuracy classes C4 and C5 on request

Accessories (to be ordered separately):

Thrust pieces

Maximum capacities 20t ... 60t - Mounting Variation 1:

- **C16/ZOU44A** Thrust pieces (stainless steel) for above and below (1 Set = 2 pcs.), for use with C16.../≤60t up to a maximum load per load cell of 40 tons, incl. mounting set 2-9290.0070 (3 excentric washers, 90mm flexible tube, tube clip)

Maximum capacities 20t ... 60t - Mounting Variation 2:

- **EPO3/50t** Thrust piece for above, incl. spanner
- **C16/EPU44A** Thrust piece for below, incl. mounting set 2-9290.0070 (3 excentric washers, 90mm flexible tube, tube clip)

Maximum capacity 100t:

- **EPO3/100t** Thrust piece for above, incl. spanner
- **C16/EPU64** Thrust piece for below, incl. 3 excentric washers



Hottinger Baldwin Messtechnik GmbH
Im Tiefen See 45, D-64293 Darmstadt, Germany
TEL:021-51087017 FAX:021-51685107
www.hbm.sh.cn hbm_sh@126.com

Modifications reserved.
All details describe our products in general form. They are not to be understood as express warranty and do not constitute any liability whatsoever.