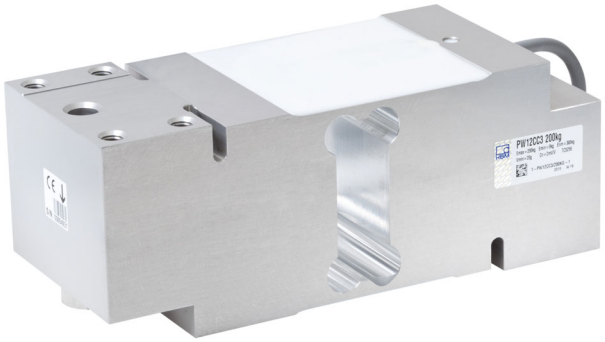
DATA SHEET

PW12C...
Single point load cells

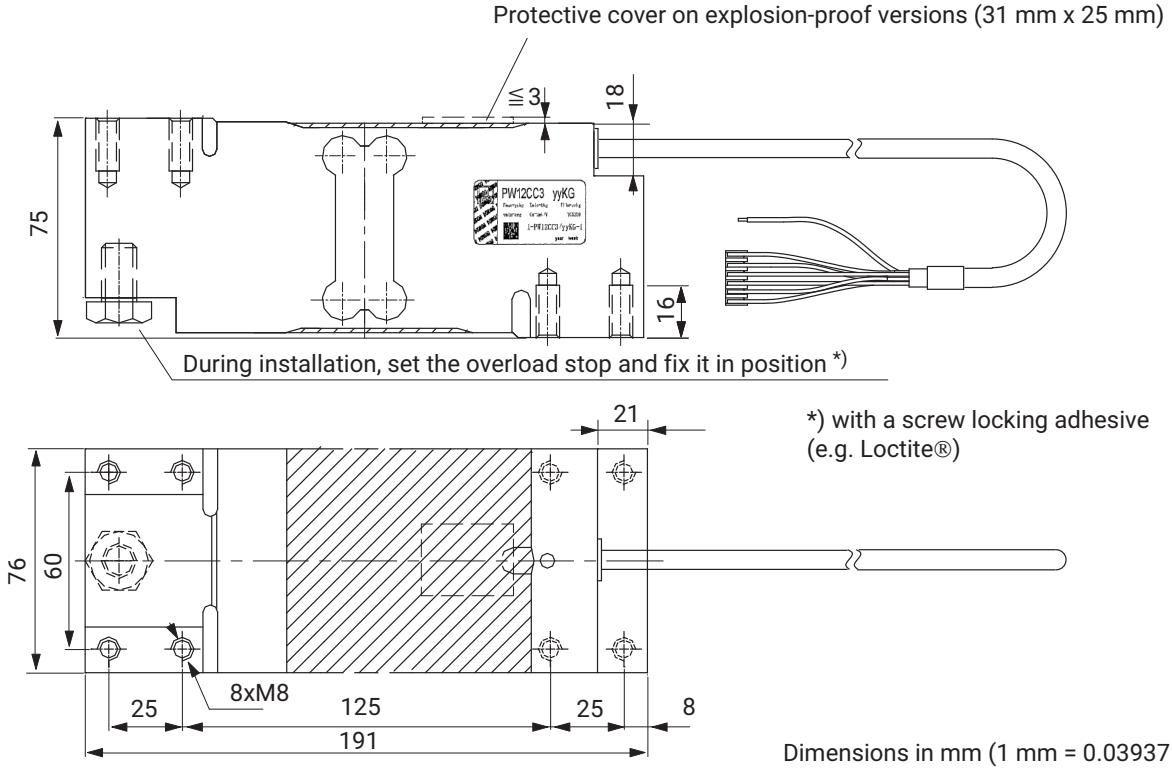
with IO-Link option

SPECIAL FEATURES

- Maximum capacities: 50 kg ... 750 kg
- Aluminum
- High ratio of minimum verification interval Y
- Off-center load compensation
- Complies with EMC directives
- Six-wire circuit
- Explosion protection and other options also available
- Available as LCMC measurement chain with smart option (IO-Link), with digital option (CANopen or RS-485), with analog option (4 ... 20 mA or 0 ... 10 V)



DIMENSIONS



*) with a screw locking adhesive (e.g. Loctite®)

Dimensions in mm (1 mm = 0.03937 inches)

SPECIFICATIONS

Type			PW12C...									
Accuracy class[1)]			**C3 Multi Range (MR)**									
Number of load cell verification intervals	n_{LC}		3000									
Maximum capacity[2)]	E_{max}	kg	50	75	100	150	200	250	300	500	635	750
Minimum load cell verification interval, accuracy class C3MR	v_{min}	g	5	5	10	10	20	20	20	50	50	50
Temperature coefficient of zero signal, accuracy class C3MR	TC_0	% of C_n/ 10 K	±0.0140	±0.0093	±0.0140	±0.0093	±0.0140	±0.0112	±0.0093	±0.0140	±0.0110	±0.0093
Ratio of minimum verification interval		Y	10,000	15,000	10,000	15,000	10,000	12,500	15,000	10,000	12,700	15,000
Maximum platform size		mm	800 x 800									
Nominal sensitivity	C_n	mV/V	2.0 ±0.2 (Option 6: A = 2mV/V ± 0.1%)									
Zero signal			0 ±0.1									
Temperature coefficient of sensitivity[3)] Temperature range: +20 ... +40 °C -10 ... +20 °C	TC_c	% of C_n/ 10K	±0.0175 ±0.0117									
Relative reversibility error[3)]	d_{hy}	% of C_n	±0.0166									
Non-linearity[3)]	d_{lin}		±0.0166									
Minimum dead load output return	DR		±0.0166									
Off-center load error[4)]			±0.0233									
Input resistance	R_{LC}	Ω	300 ... 500									
Output resistance	R_0		300 ... 500 (Option 6: A = 410 Ω ± 0.2 Ω)									
Reference excitation voltage	U_{ref}	V	5									
Nominal (rated) range of the excitation voltage	B_U		1 ... 12									
Maximum excitation voltage	B_U		15									
Insulation resistance at 100 V_{DC}	R_{is}	GΩ	> 2									
Nominal (rated) range of the ambient temperature	B_T	°C	-10 ... +40									
Operating temperature range	B_{tu}		-10 ... +50									
Storage temperature range	B_{tl}		-25 ... +70									
Limit load at max. 100 mm eccentricity	E_L	% of E_{max}	150									
Limit lateral loading, static	E_{lq}		300									
Service load at max. 100 mm eccentricity	E_u		150									
Breaking load at max. 20 mm eccentricity	E_d		300									
Relative permissible oscillation stress at max. 20 mm eccentricity	F_{srel}		70									
Rated displacement at E_{max}, approx.	s_{nom}	mm	< 0.5									
Weight, approx.	m	kg	2.4									

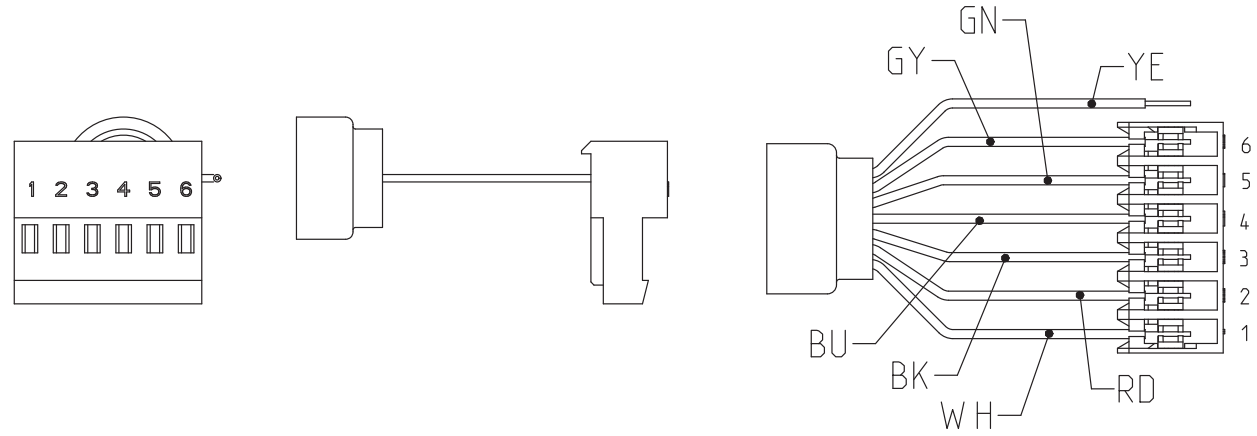
Type			PW12C...
Degree of protection[5)]			IP67
Material			
Measuring body			Aluminum
Covering agent			Silicone rubber
Cable sheath			PVC

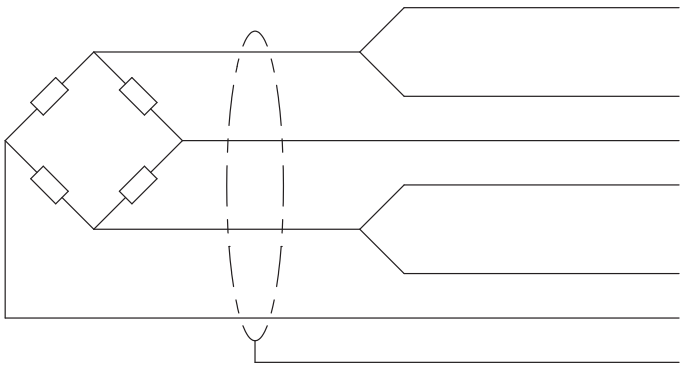
1) As per OIMLR60, with P_{LC} = 0.7
2) Maximum eccentric loading as per OIML R76
3) If the values for non-linearity (d_{lin}), relative reversibility error (d_{hy}) and temperature coefficient of sensitivity (TC_C) are added together, they are within the cumulated error limit specified in OIML R60.
4) Off-center load deviation per OIML R76
5) As per EN 60 529 (IEC 529)

CABLE ASSIGNMENT

6-wire cable connection, 6 x 0.14 mm²/AWG 26 (available cable lengths: 1.5 m; 3 m; 6 m; 12 m)

Schematic diagram of a TE connector (TE 3-640442-6), 6-pin





Plug-in contact 4 (blue [BU]) = excitation voltage (+)

Plug-in contact 5 (green [GN]) = sense line (+)

Plug-in contact 1 (white [WH]) = measurement signal (+)

Plug-in contact 3 (black [BK]) = excitation voltage (-)

Plug-in contact 6 (gray [GY]) = sense line (-)

Plug-in contact 2 (red [RD]) = measurement signal (-)

Shield (yellow [YN]) = Cable shield

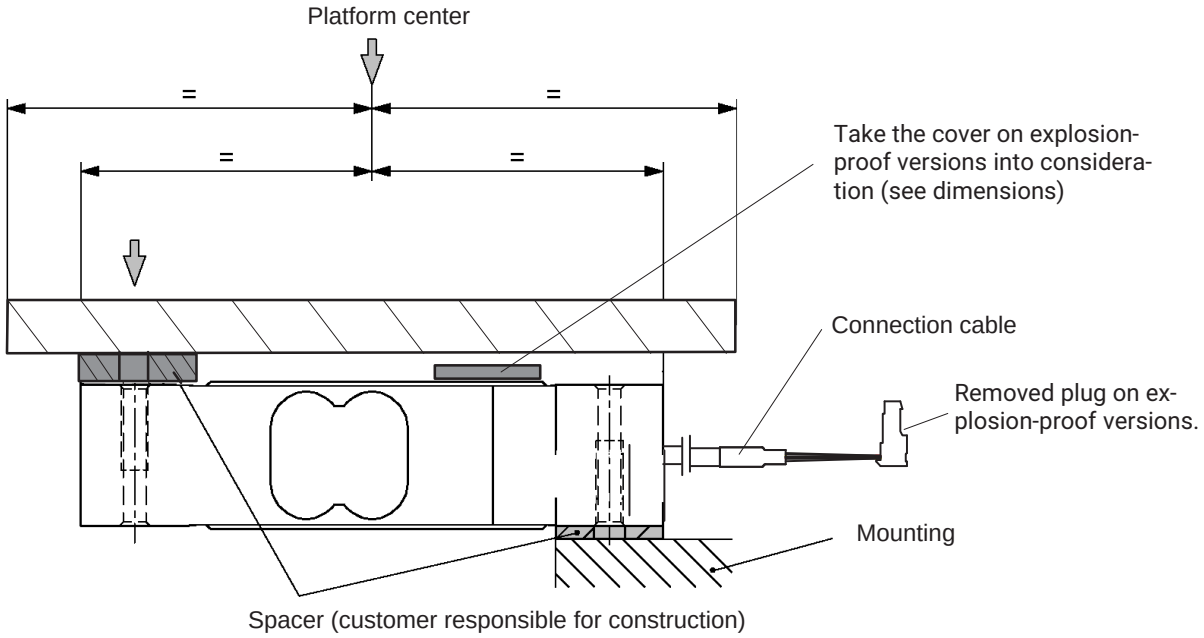
MOUNTING AND LOAD APPLICATION

The load cells are attached at the mounting holes, the load is applied at the other end. The recommended screws and tightening torques can be found in the table below:

Maximum capacities	Thread	Min. property class	Tightening torque[1)]
50...500 kg	M8	10.9	35 N·m
635 kg, 750 kg	M8	12.9	42 N·m

1) Recommended value for the specified property class. Please comply with the screw manufacturer's instructions with regard to screw dimensions

Load must not be applied to the side where the cable connection is located, as this would cause a force shunt.



PRODUCT NUMBERS

PW12C... (aluminum)

Type	PW12C
Accuracy class	C3-MR (OIML) (Multi Range)
Comments	Cable length 3 m (6-wire)

Maximum capacity [kg]	Ordering number
50	1-PW12CC3/50KG-1
75	1-PW12CC3/75KG-1
100	1-PW12CC3/100KG-1
150	1-PW12CC3/150KG-1
200	1-PW12CC3/200KG-1
250	1-PW12CC3/250KG-1
300	1-PW12CC3/300KG-1
500	1-PW12CC3/500KG-1
635	1-PW12CC3/635KG-1
750	1-PW12CC3/750KG-1

K-PW12C-… (aluminum), optional versions

K-PW12C		
1	**Code**	**Option 1: Mechanical design**
	N	-
2	**Code**	**Option 2: Accuracy class**
	MR	C3-MR (OIML) (Multi Range)
3	**Code**	**Option 3: Nominal load**
	50	50 kg
	75	75 kg
	100	100 kg
	150	150 kg
	200	200 kg
	250	250 kg
	300	300 kg
	500	500 kg
	635	635 kg
	750	750 kg
4	**Code**	**Option 4: Explosion protection**
	N	No explosion protection
	AI1/21	ATEX+IECEx+FM+NEPSI zone 1/21, intrinsically safe; II 2G Ex ia IIC T6/T4 Gb + II 2D Ex ia IIIC T125°C Db*
	AI2/22	ATEX+IECEx zone 2/22 +NEPSI, not intrinsically safe; II 3G Ex ec IIC T6/T4 Gc + II 3D Ex tc IIIC T125°C Dc*
5	**Code**	**Option 5: Cable length**
	1.5	1.5 m
	3	3 m (standard)
	6	6 m
	12	12 m
6	**Code**	**Option 6: Other**
	N	Without
	A	2 mV/V ±0.1% / 410 Ω ± 0.2 Ω (adjusted output, suitable for parallel connection)

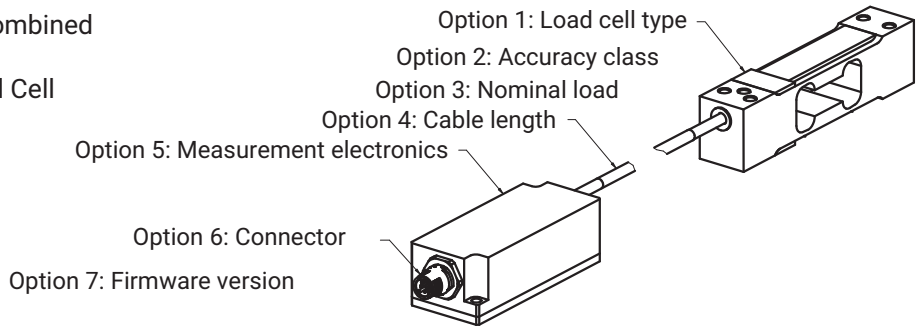
K-PW12C - [N] - [M][R] - [ ][ ][ ] - [ ][ ][ ][ ][ ][ ] - [ ][ ][ ] - [ ]

1 2 3 4 5 6

* Including EC-Type Examination Certificate/Certificate of Conformity BVS 13 ATEX X 108 X/IECEx BVS 13.0109 X

LCMC - LOAD CELL MEASURING CHAIN

A wide range of famous load cells combined with a choice of excellent measuring electronics makes your tailored Load Cell Measuring Chain.



K-LCMC-PW12C ordering options

K-LCMC			
1	**Code**	**Option 1: Load cell type**	
	PW12C	PW12C	
2	**Code**	**Option 2: Accuracy class**	
	MR	C3 MR (OIML)	
3	**Code**	**Option 3: Nominal load**	
	50K0	50 kg	
	75K0	75 kg	
	100K	100 kg	
	150K	150 kg	
	200K	200 kg	
	250K	250 kg	
	300K	300 kg	
	500K	500 kg	
	635K	635 kg	
	750K	750 kg	
4	**Code**	**Option 4: Cable length**	
	0M3	0.3 m	
	0M5	0.5 m	
	1M0	1.0 m	
	3M0	3.0 m	
5	**Code**	**Option 5: Measurement electronics**	
	105C	CAN (200 S/s)	
	105R	RS485 (200 S/s) 2-wire	
	112C	CAN (1,200 S/s)	
	112R	RS485 (1,200 S/s) 4-wire	
	RM42	Analog 4 … 20 mA	
	RM43	Analog 0 .. 10 V	
	RMIO	IO-link	
6	**Code**	**Option 6: Connector**	
	M12A8	M12 A-coded, male, 8-pin	[only with option 5 = 105C, 105R, 112C, 112R, RM42, RM43]
	M12A4	M12 A-coded, male, 4-pin	[only with option 5 = RMIO]
7	**Code**	**Option 7: Firmware version**	
	N	NA	[only with option 5 = 105C, 105R, 112C, 112R, RM42, RM43]
	01	WTIO 1.07	[only with option 5 = RMIO]

K-LCMC - P W 1 2 C - M R - [ ][ ][ ][ ] - [ ][ ][ ] - [ ][ ][ ][ ] - [ ][ ][ ][ ][ ] - [ ][ ]

1 **2** **3** **4** **5** **6** **7**

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@hbkworld.com

B02188 07 E00 04 03.02.2025