DATA SHEET

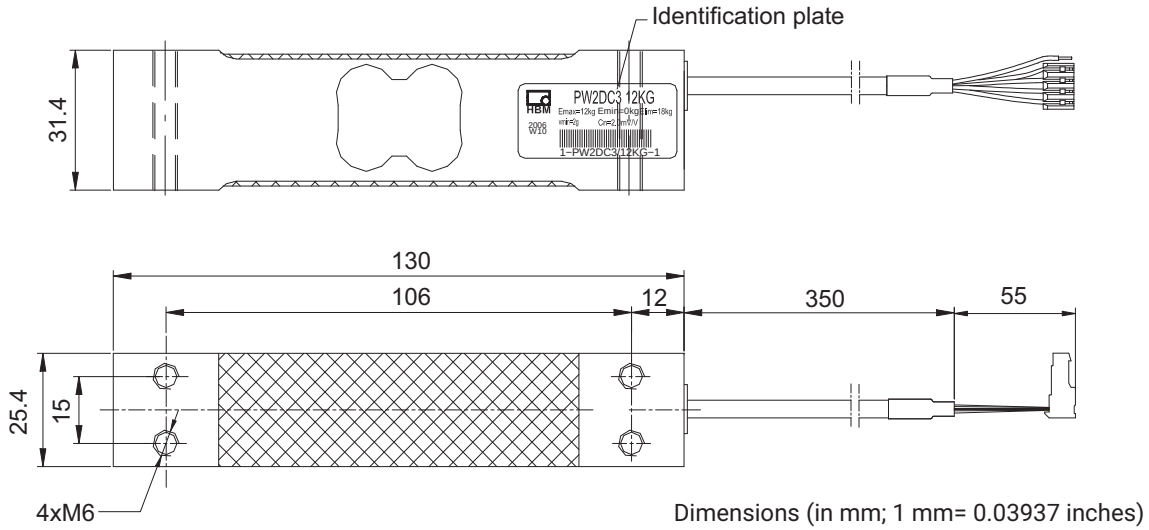
PW2D...
Single point load cells

with IO-Link option

SPECIAL FEATURES

- Max. capacities: 7.2 kg ... 72 kg
- Aluminum
- High ratio of minimum verification interval Y
- Optimized for dynamic weighing applications
- Shielded connection cable
- Different cable lengths and other options 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



Dimensions (in mm; 1 mm= 0.03937 inches)

SPECIFICATIONS

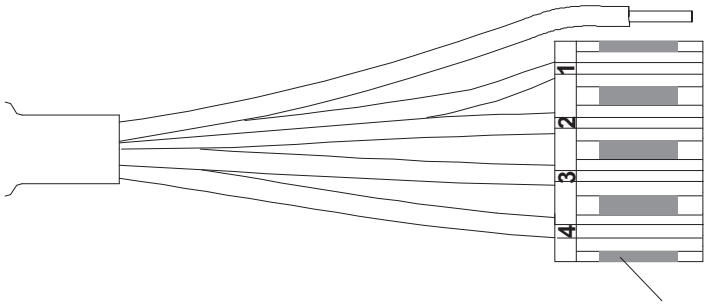
Type			PW2D...				
Accuracy class according to OIML R60 [1]			C3 Multi Range (MR)				
Maximum number of load cell intervals	n_{LC}		3000				
Maximum capacity	E_{max}	kg	7.2	12	18	36	72
Minimum LC verification interval	v_{min}	g	0.5	1	2	5	10
Temperature effect on zero balance	TK_0	% of C_n/ 10 K	±0.0097	±0.0116	±0.0155	±0.0194	±0.0194
Ratio of minimum verification interval	Y		14,400	12,000	9,000	7,200	
Accuracy class according to NTEP [2]			III S				
Maximum number of load cell intervals	n_{LC}		3000				
Maximum capacity	E_{max}	kg	7.2	12	18	36	72
Minimum LC verification interval	v_{min}	g	0.5	1	2	5	10
Ratio of minimum verification interval	Y		14,400	12,000	9,000	7,200	
General specifications							
Max. platform size		mm	380 x 380				
Sensitivity	C_n	mV/V	2.0 ±0.2 (Option 6: A = 2mV/V ±0.1%)				
Zero signal		mV/V	0 ±0.1				
Temperature effect on sensitivity [3] **in the temperature range** +20 ... +40 °C [+68 ... +104 °F] -10 ... +20 °C [+14 ... +68 °F]	TK_C	% of C_n/ 10 K	 ±0.0175 ±0.0117				
Relative reversibility error [3]	d_{hy}	% of C_n	±0.0166				
Linearity deviation [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 range of excitation voltage	B_u		1 ... 12				
Maximum excitation voltage			15				
Isolation resistance at 100 V_{DC}	R_{is}	GΩ	> 2				
Nominal (rated) range of ambient temperature	B_T	°C [°F]	-10 ... +40 [+14 ... +104]				
Operating temperature range	B_{tu}		-10 ... +50 [+14 ... +122]				
Storage temperature range	B_{tl}		-25 ... +70 [-13 ... +158]				
Limit load at max. 160 mm eccentricity	E_L	% of E_{max}	150				
Lateral load limit, 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				
Nominal (rated) displacement at E_{max}, approx.	s_{nom}	mm	0.15	0.13	0.12	0.12	0.13
Natural frequency, approx.		Hz	340	460	600	840	1140
Weight, approx.	m	kg	0.25				
Degree of protection [5]			IP67				
Material **Measuring body** **Application protection** **Cable sheath**			 Aluminum Silicone caoutchouc PVC				

1) With P_{LC} = 0.7
2) Only with 4 wire cable
3) The values for linearity deviation (d_{lin}), relative reversibility error (d_{hy}) and temperature effect on sensitivity (TK_C) are recommended values. The sum of these values remain within the cumulated error limit according to OIML R60.
4) According to OIML R76
5) According to EN 60 529 (IEC 529)

WIRING CODE

Connection with 4 wire cable (cable length: 0.35 m)

Detailed description of the Pancon plug (CE100F26-4), 4-pole



Shield (yellow) = Shield connected to load cell body

Plug-in contact 1 (blue) = Excitation (+)

Plug-in contact 2 (white) = Signal (+)

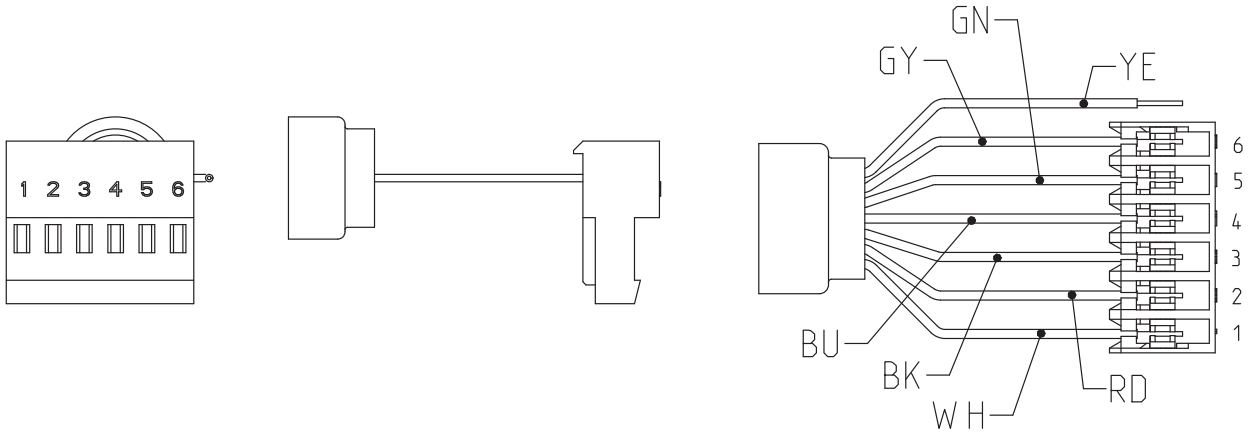
Plug-in contact 3 (red) = Signal (-)

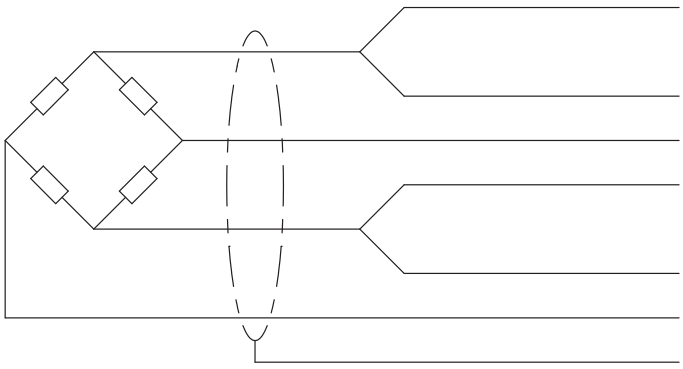
Plug-in contact 4 (black) = Excitation (-)

blue marking

Connection with 6 wire cable, 6 x 0.14 mm²/AWG 26 (cable length, selectable: 0.35 m; 1.5 m; 3 m; 6 m)

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





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

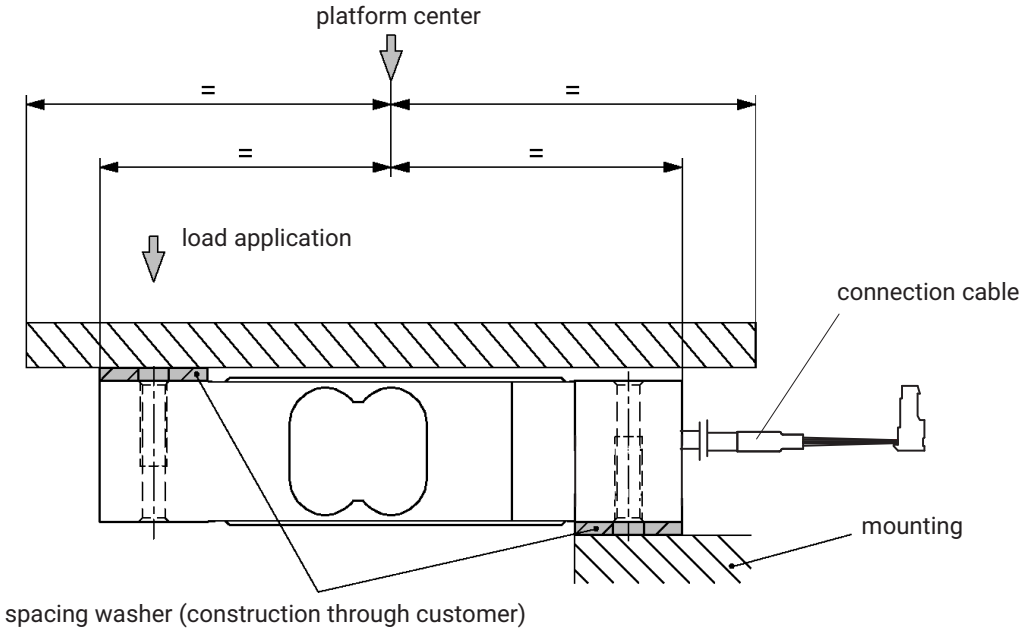
MOUNTING AND LOAD APPLICATION

The load cells are fixed at the mounting bores. For the recommended screws and tightening torques refer to the table below:

Max. capacity	Thread	Min. property class	Tightening torque[1)]
7.2...36 kg	M6	8.8	6 N·m
72 kg	M6	10.9	10 N·m

1) Recommended value for the stated property class. For screw dimensioning please refer to the appropriate information given by the screw manufacturers.

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



ORDERING DESIGNATIONS

PW2D… / K-PW2D-…

Optimized for dynamic applications

PW2D… (Aluminum)

Type	PW2D
Accuracy	OIML R60 C3MR / NTEP III S 3000
Note	Cable length 0.35 m (4 wire)

Capacity	Order no.
7,2 kg 12 kg 18 kg	1-PW2DC3/7.2KG-1 1-PW2DC3/12KG-1 1-PW2DC3/18KG-1
36 kg 72 kg	1-PW2DC3/36KG-1 1-PW2DC3/72KG-1

K-PW2D… (Aluminum), optional versions

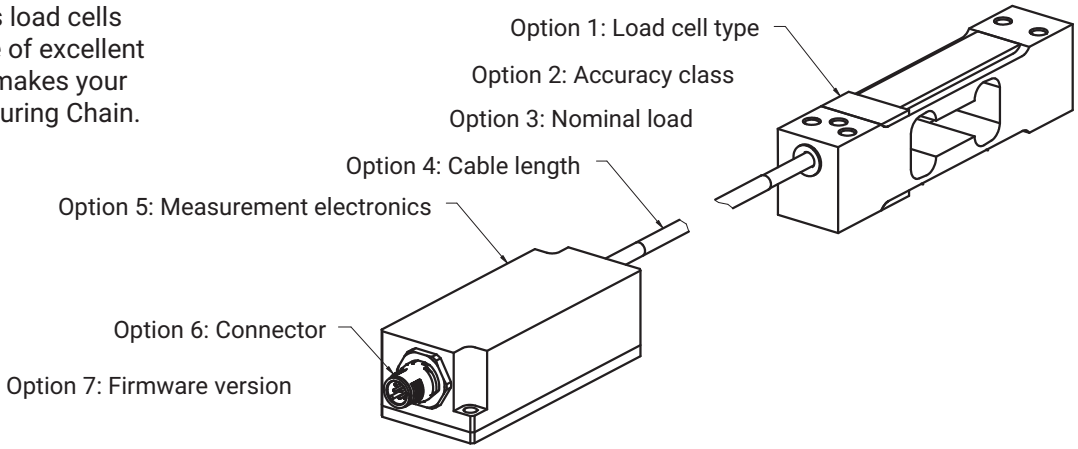
K-PW2D		
1	**Code**	**Option 1: Mechanical version**
	N	-
2	**Code**	**Option 2: Accuracy**
	C3MR	C3MR (OIML) (Multi Range)
3	**Code**	**Option 3: Capacity**
	7.2	7.2 kg
	12	12 kg
	18	18 kg
	36	36 kg
	72	72 kg
4	**Code**	**Option 4: NN**
	N	-
5	**Code**	**Option 5: Cable length**
	4_0.35	0.35 m (4 wire) (Standard)
	6_0.35	0.35 m (6 wire)
	6_1.5	1.5 m (6 wire)
	6_3	3 m (6 wire)
	6_6	6 m (6 wirer)
6	**Code**	**Option 6: Miscellaneous**
	N	Without
	A	2mV/V ±0.1% / 410 Ohm ±0.2 Ohm (aligned output, suitable for connection in parallel)

K-PW2D - [**N**] - [**C**][**3**][**M**][**R**] - [ ][ ][ ] - [**N**] - [ ][ ][ ][ ][ ][ ] - [ ]

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

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-PW2D ordering options

K-LCMC			
1	**Code**	**Option 1: Load cell type**	
	PW2D	PW2D	
2	**Code**	**Option 2: Accuracy class**	
	MR	C3 MR (OIML)	
3	**Code**	**Option 3: Nominal load**	
	7K20	7.2 kg	
	12K0	12 kg	
	18K0	18 kg	
	36K0	36 kg	
	72K0	72 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 2 D - M R - [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ] - [ ] [ ] [ ] [ ] [ ] - [ ] [ ]

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

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