DATA SHEET

PW10A...
Single-point load cell

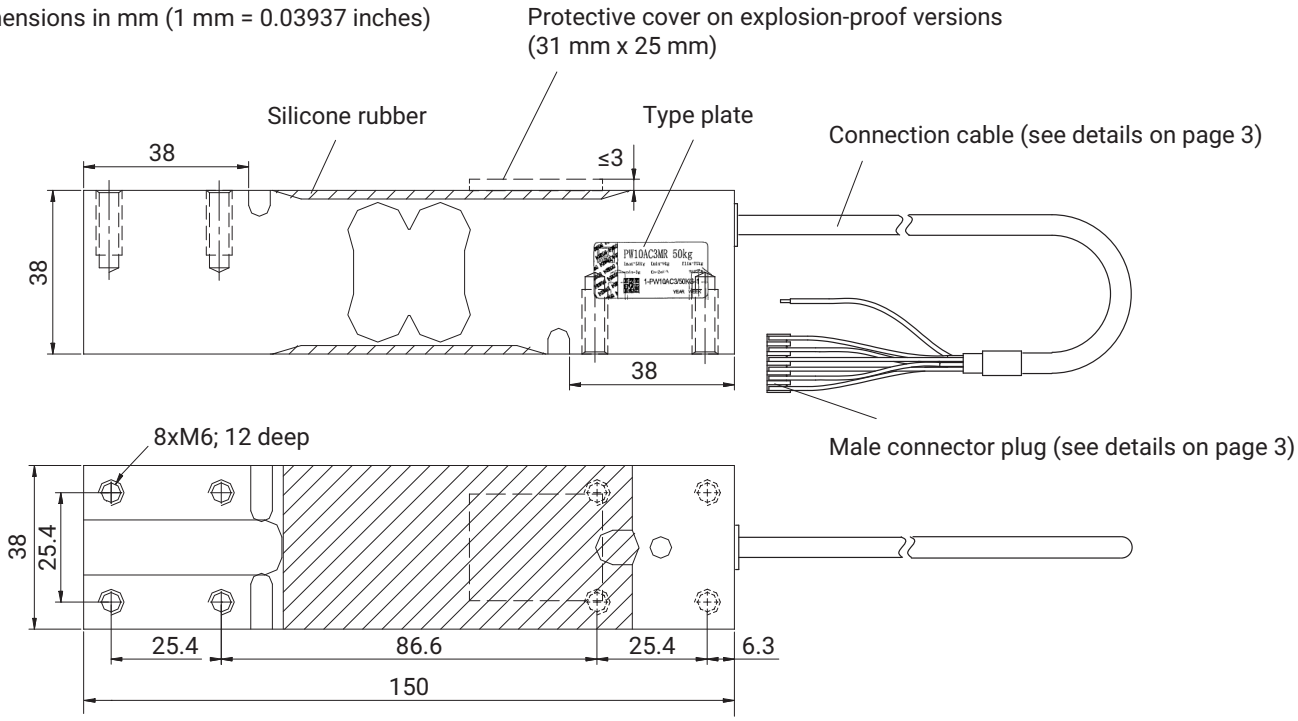
with IO-Link option

SPECIAL FEATURES

- Maximum capacities: 50 kg ... 300 kg
- Aluminum
- High ratio of minimum verification interval Y
- Compensated off-center load error
- Complies with EMC directives
- Shielded connection cable
- 6-wire configuration
- 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

Dimensions in mm (1 mm = 0.03937 inches)



SPECIFICATIONS

Type			PW10A...					
Accuracy class [1]			C3 Multi Range (MR)					
Number of load cell verification intervals	n_{LC}		3000					
Maximum capacity [2]	E_{max}	kg	50	100	150	200	250	300
Minimum load cell verification interval Accuracy class C3MR	v_{min}	g	5	10	10	20	20	20
Temperature coefficient of zero signal Accuracy class C3MR	TC_0	% of C_n/10 K	±0.0140	±0.0140	±0.0093	±0.0140	±0.0112	±0.0093
Ratio of minimum verification interval Y	Y		10,000		15,000	10,000	12,500	15,000
Maximum platform size		mm	600 x 500					
Rated output (nominal)	C_n	mV/V	2.0 ±0.2 (Option 6: A = 2 mV/V ±0.1 %)					
Zero signal			0 ±0.1					
Temperature coefficient of sensitivity [3] Temperature range +20 ... +40 °C -10 ... +20 °C	TC_S	% of C_n/10 K	±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 Ohm ±0.2 Ohm)					
Reference excitation voltage	U_{ref}	V	5					
Nominal (rated) range of the excitation voltage	B_U		1 ... 12					
Maximum excitation voltage			15					
Insulation resistance	R_{is} at 100 V_{DC}	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					
Breaking load	E_d	of E_{max}	300					
Rated displacement at E_{max}, approx.	s_{nom}	mm	< 0.5					
Weight, approx.	m	kg	0.6					
Degree of protection [5]			IP67					
Material: Measuring body Application protection Cable sheath			Aluminum Silicone rubber 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_S) 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)

SPECIFICATIONS (CONTINUED)

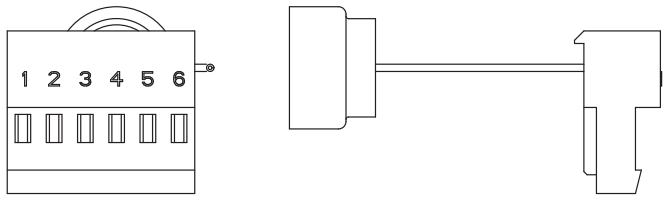
Type			PW10A...
Accuracy class [1]			**C4**
Number of load cell verification intervals	n_{LC}		**4000**
Maximum capacity [2]	E_{max}	kg	**300**
Minimum load cell verification interval	v_{min}	g	20
Ratio of minimum verification interval	Y		15,000
Temperature coefficient of zero signal	TC_0	% of C_n / 10 K	±0.0093
Temperature coefficient of sensitivity [3] Temperature range +20 ... +40 °C -10 ... +20 °C	TC_S	% of C_n / 10 K	 ±0.0131 ±0.0087
Relative reversibility error [3]	d_{hy}	% of C_n	±0.0125
Non-linearity [3]	d_{lin}		±0.0125
Minimum dead load output return	MDLOR		±0.0125
Off-center load error [4]			±0.0175

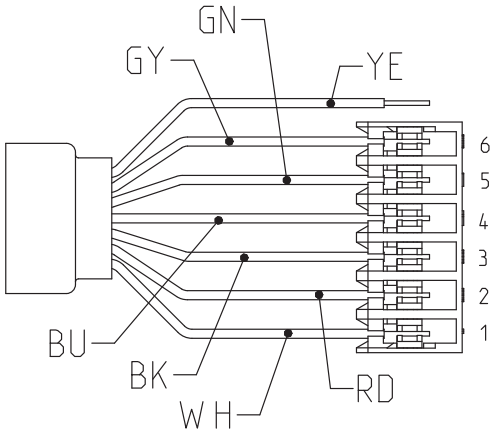
1) As per OIML R60, with P_{LC} = 0.7
2) Maximum eccentric loading as per OIML R76
3) If the values for non-linearity (d_{lin}), relative reversibility error (d_{hy}) and temperature coefficient of sensitivity (TC_S) are added together, they are within the accumulated error limit specified in OIML R60.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

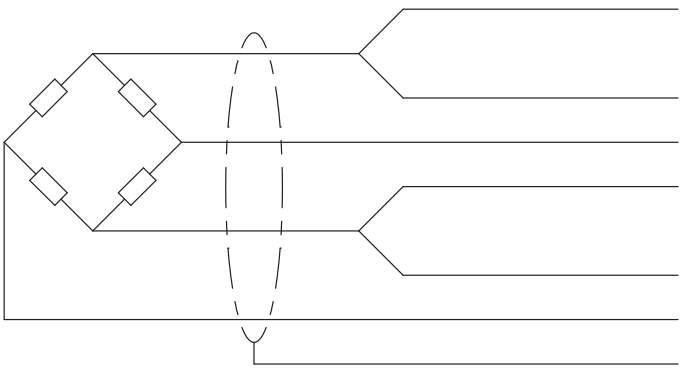
CABLE ASSIGNMENT

6-wire cable connection (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

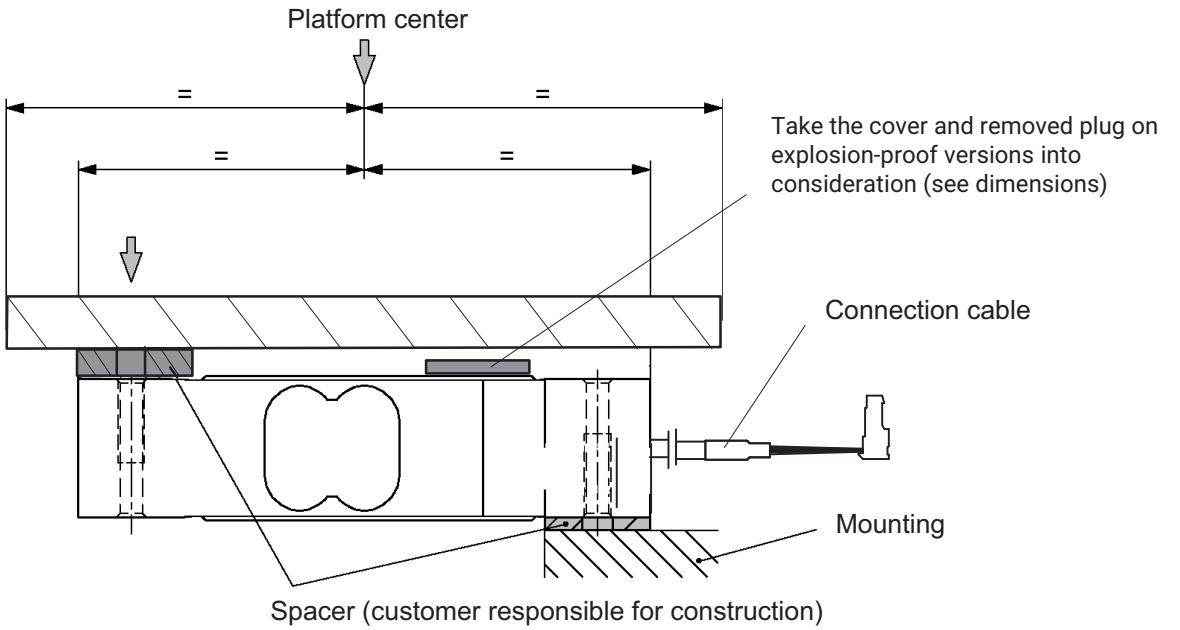
MOUNTING AND LOAD APPLICATION

The load cells are firmly screwed in to 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...300 kg	M6	10.9	14 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

PW10A... (aluminum)

Type	PW10A	
Accuracy class	C3-MR (OIML) (Multi Range)	C4
Comment	Cable length 3 m (6-wire)	Cable length 3 m (6-wire)

Maximum capacity	Ordering number	Ordering number
50 kg	1-PW10AC3/50KG-1	-
100 kg	1-PW10AC3/100KG-1	-
150 kg	1-PW10AC3/150KG-1	-
200 kg	1-PW10AC3/200KG-1	-
250 kg	1-PW10AC3/250KG-1	-
300 kg	1-PW10AC3/300KG-1	1-PW10AC4/300KG-1

K-PW10A… (aluminum), optional version

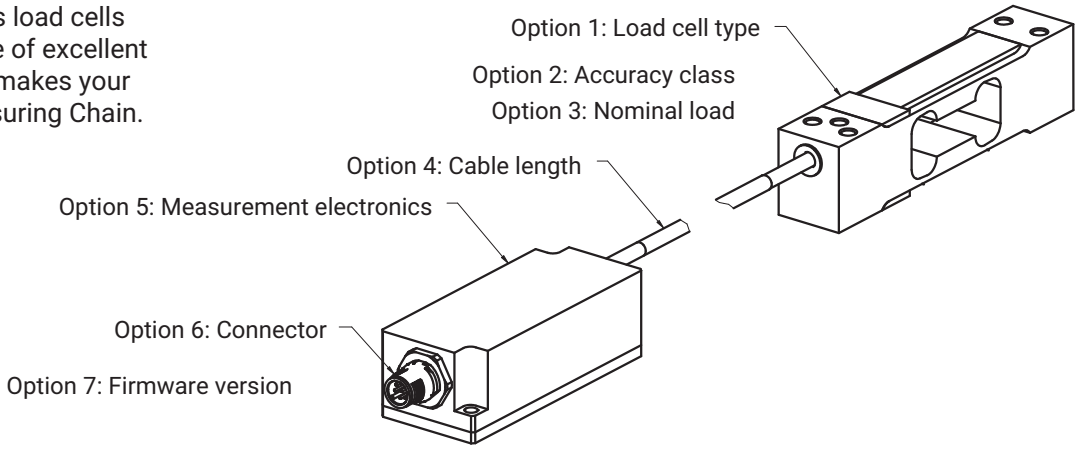
K-PW10A		
1	**Code**	**Option 1: Mechanical design**
	N	-
2	**Code**	**Option 2: Accuracy class**
	MR	C3-MR (OIML) (Multi Range)
3	**Code**	**Option 3: Nominal load**
	50	50 kg
	100	100 kg
	150	150 kg
	200	200 kg
	250	250 kg
	300	300 kg
4	**Code**	**Option 4: Explosion protection**
	N	No explosion protection
	AI1/21	ATEX+IECEx+FM Zone 1/21, intrinsically safe; ATEX/IECEx: 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
	AI2/22	ATEX+IECEx Zone 2/22, not intrinsically safe; ATEX/IECEx: 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	2mV/V ±0.1% / 410 Ohm ± 0.2 Ohm [only with option 4 = N] (adjusted output, suitable for parallel connection)

K-PW10A - [N] - [M][R] - [ ][ ][ ] - [ ][ ][ ][ ][ ][ ] - [ ][ ][ ] - [ ]

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-PW10A ordering options

K-LCMC			
1	**Code**	**Option 1: Load cell type**	
	PW10A	PW10A	
2	**Code**	**Option 2: Accuracy class**	
	MR	C3 MR (OIML)	
3	**Code**	**Option 3: Nominal load**	
	50K0	50 kg	
	100K	100 kg	
	200K	200 kg	
	250K	250 kg	
	300K	300 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 0 A** - **M R** - [ ][ ][ ][ ] - [ ][ ][ ] - [ ][ ][ ][ ] - [ ][ ][ ][ ][ ] - [ ][ ]

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

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