

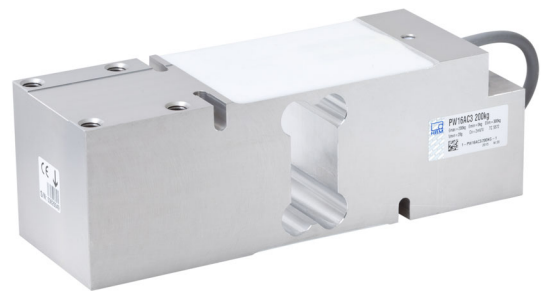
# PW16A...

## Single point load cells

with  **IO-Link**  
option

### SPECIAL FEATURES

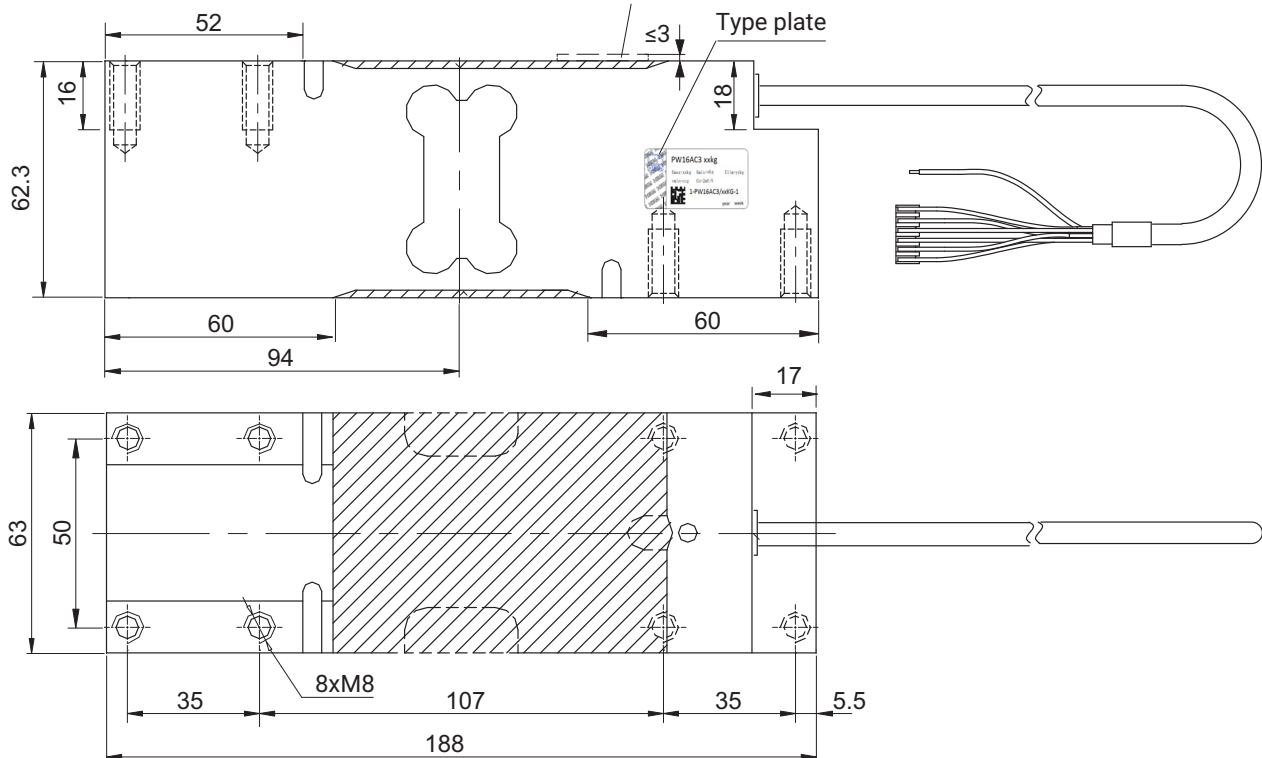
- Maximum capacities: 30 kg ... 660 kg
- Aluminum
- High ratio of minimum verification interval Y
- Off-center load compensation
- Complies with EMC directives
- Explosion protection and other options also available
- Available as LCMC measurement chain with smart option (IO-Link), with digital option (CANopen or RS-485), with analog option (4 ... 20 mA or 0 ... 10 V)



### DIMENSIONS

Dimensions in mm (1 mm = 0.03937 inches)

Protective cover on explosion-proof versions  
(31 mm x 25 mm)



## SPECIFICATIONS PW16A C3

Type			PW16A...									
Accuracy class according to OIMLR60 <sup>1)</sup>			C3 Multi Range (MR)									
Number of load cell verification intervals	$n_{LC}$		3,000									
Maximum capacity	$E_{max}$	kg	30	50	75	100	150	200	250	300	500	660
Minimum load cell verification interval	$V_{min}$	g	2	5	5	10	10	20	20	20	50	50
Temperature coefficient of zero signal	$TC_0$	% of $C_n / 10\text{ K}$	$\pm 0.0093$	$\pm 0.0140$	$\pm 0.0093$	$\pm 0.0140$	$\pm 0.0093$	$\pm 0.0140$	$\pm 0.0112$	$\pm 0.0093$	$\pm 0.0140$	$\pm 0.0106$
Ratio of minimum verification interval Y	Y		15,000	10,000	15,000	10,000	15,000	10,000	12,500	15,000	10,000	13,200
General specifications												
Maximum platform size		mm	600 x 600									
Nominal sensitivity	$C_n$	mV/V	2.0 $\pm$ 0.2									
Zero signal			0 $\pm$ 0.1									
Temperature coefficient of sensitivity <sup>2)</sup>	$TC_S$	% of $C_n / 10\text{ K}$	Temperature range +20 ... +40 °C -10 ... +20 °C $\pm 0.0175$ $\pm 0.0117$									
Relative reversibility error <sup>2)</sup>			$d_{hy}$	$\pm 0.0166$								
Non-linearity <sup>2)</sup>	$d_{lin}$	% of $C_n$	$\pm 0.0166$									
Minimum dead load output return	MDLOR		$\pm 0.0166$									
Off-center load error <sup>3)</sup>			$\pm 0.0233$									
Input resistance	$R_{LC}$	$\Omega$	300 ... 500									
Output resistance	$R_0$		300 ... 500									
Reference excitation voltage	$U_{ref}$	V	5									
Nom. (rated) range of the excitation voltage	$B_U$		1 ... 12									
Max. excitation voltage			15									
Insulation resistance at 100 V <sub>DC</sub>	$R_{is}$	G $\Omega$	> 2									
Nominal (rated) range of the ambient temperature	$B_T$	°C	-10 ... +40									
Service temperature range	$B_{tu}$		-10 ... +50									
Storage temperature range	$B_{tl}$		-25 ... +70									
Limit load	$E_L$	% 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	1.8									
Degree of protection <sup>4)</sup>			IP67									
Material			Aluminum Silicone rubber PVC									

1) With  $P_{LC} = 0.7$

2) 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.

3) Off-center load deviation per OIML R76.

4) EN 60 529 (IEC 529)

**SPECIFICATIONS PW16A C4**

Accuracy class according to OIMLR60 <sup>1)</sup>			C4 Multi Range (MR)								
Number of load cell verification intervals	$n_{LC}$		4,000								
Maximum capacity	$E_{max}$	kg	30	50	75	100	150	200	250	300	500
Minimum load cell verification interval	$v_{min}$	g	2	5	5	10	10	10	20	20	50
Temperature coefficient of zero signal	$TC_0$	% of $C_n / 10\text{ K}$	$\pm 0.0093$	$\pm 0.0140$	$\pm 0.0093$	$\pm 0.0070$	$\pm 0.0093$	$\pm 0.0070$	$\pm 0.0112$	$\pm 0.0093$	$\pm 0.0140$
Ratio of minimum verification interval Y	Y		15,000	10,000	15,000	20,000	15,000	20,000	12,500	15,000	10,000
Accuracy class according to NTEP			III S								
Number of load cell verification intervals	$n_{LC}$		5,000								
Maximum capacity	$E_{max}$	kg	30	50	75	100	150	200	250	300	500
Minimum load cell verification interval	$v_{min}$	g	1.8	3	4.5	6	9	12	15	18	30
Ratio of minimum verification interval Y	Y		16,667								
General specifications											
Maximum platform size		mm	600 x 600								
Nominal sensitivity	$C_n$	mV/V	2.0 $\pm$ 0.2								
Zero signal			0 $\pm$ 0.1								
Temperature coefficient of sensitivity <sup>2)</sup> Temperature range +20 ... +40 °C -10 ... +20 °C	$TC_S$	% of $C_n / 10\text{ K}$	$\pm 0.0131$ $\pm 0.0087$								
Relative reversibility error <sup>2)</sup>	$d_{hy}$	% of $C_n$	$\pm 0.0125$								
Non-linearity <sup>2)</sup>	$d_{lin}$		$\pm 0.0125$								
Minimum dead load output return	MDLOR		$\pm 0.0125$								
Off-center load error <sup>3)</sup>			$\pm 0.0175$								

1) With  $P_{LC} = 0.7$

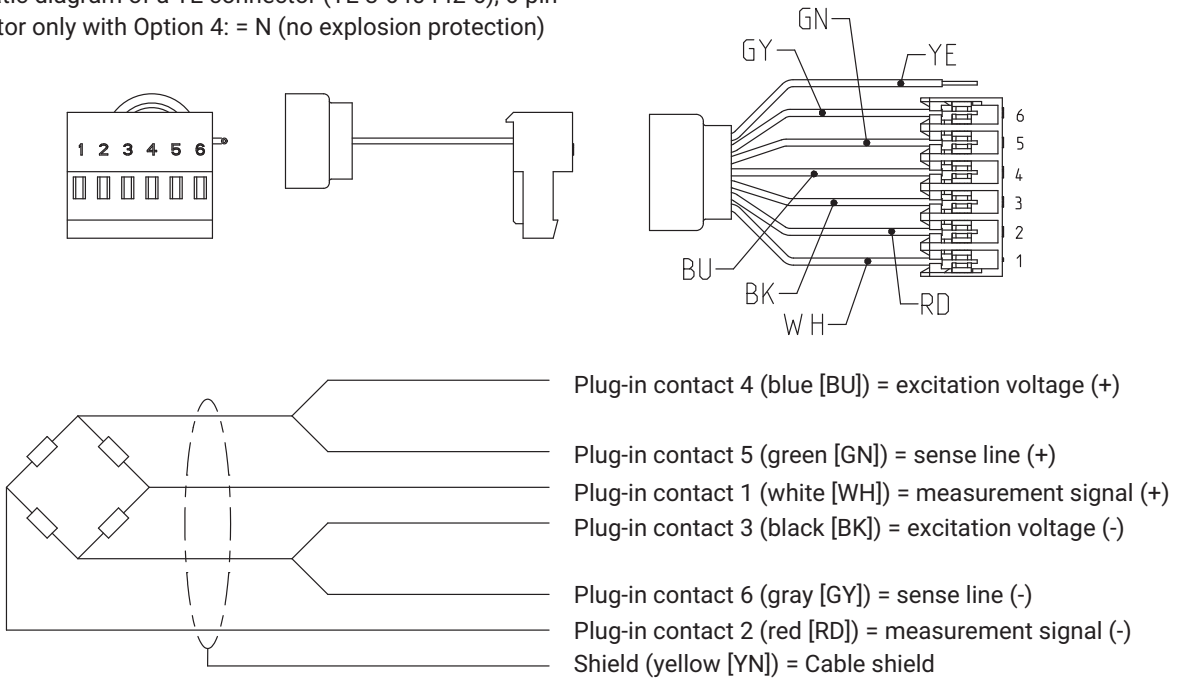
2) If the values for non-linearity ( $d_{lin}$ ), relative reversibility error ( $d_{hy}$ ) and temperature coefficient of sensitivity ( $TC_C$ ) are added together, they are within the cumulated error limit specified in OIML R60.

3) Off-center load deviation per OIML R76.

## CABLE ASSIGNMENT

6-wire cable connection, 6 x 0.14 mm<sup>2</sup>/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  
 Connector only with Option 4: = N (no explosion protection)



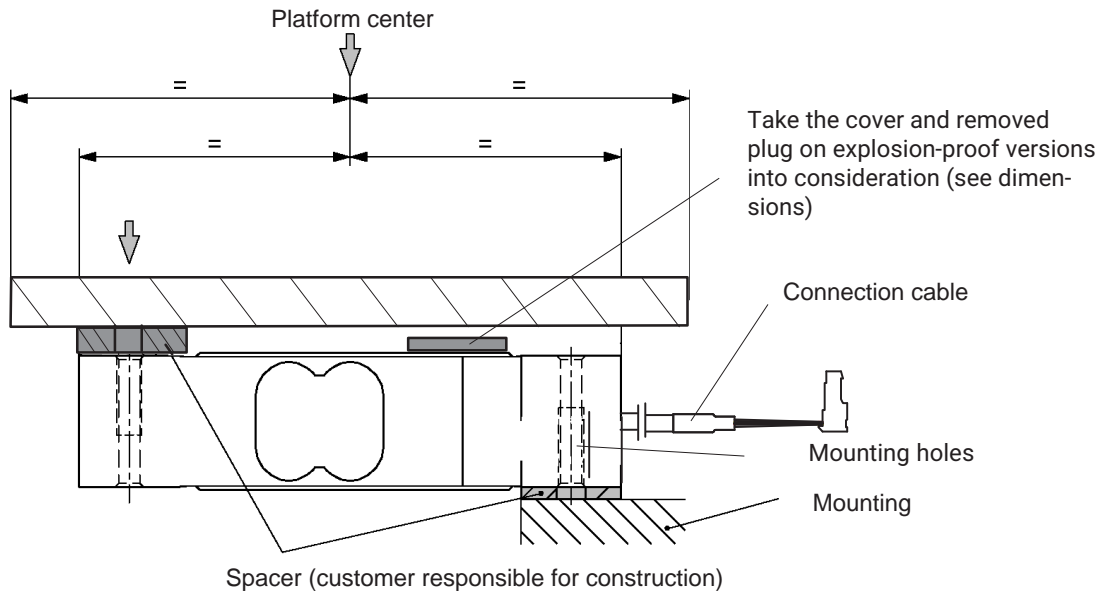
## MOUNTING AND LOAD APPLICATION

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 <sup>1)</sup>
30...500 kg	M8	10.9	32 N·m
660 kg	M8	12.9	39 N·m

<sup>1)</sup> 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

### PW16A... (aluminum)

<b>Type</b>	PW16A
<b>Accuracy class</b>	C3-MR (OIML) (Multi Range)
<b>Comments</b>	Cable length 3 m (6-wire)

Maximum capacity	Ordering number	Maximum capacity	Ordering number
30 kg	1-PW16AC3/30KG-1	200 kg	1-PW16AC3/200KG-1
50 kg	1-PW16AC3/50KG-1	250 kg	1-PW16AC3/250KG-1
75 kg	1-PW16AC3/75KG-1	300 kg	1-PW16AC3/300KG-1
100 kg	1-PW16AC3/100KG-1	500 kg	1-PW16AC3/500KG-1
150 kg	1-PW16AC3/150KG-1	660 kg	1-PW16AC3/660KG-1

<b>Type</b>	PW16A
<b>Accuracy class</b>	C4-MR+NTEP S5000 (OIML) (Multi Range)
<b>Comments</b>	Cable length 3 m (6-wire)

Maximum capacity	Ordering number	Maximum capacity	Ordering number
30 kg	1-PW16AC4/30KG-1	200 kg	1-PW16AC4/200KG-1
50 kg	1-PW16AC4/50KG-1	250 kg	1-PW16AC4/250KG-1
75 kg	1-PW16AC4/75KG-1	300 kg	1-PW16AC4/300KG-1
100 kg	1-PW16AC4/100KG-1	500 kg	1-PW16AC4/500KG-1
150 kg	1-PW16AC4/150KG-1		

### K-PW16A... (aluminum), optional version

K-PW16A		
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
	30	30 kg
	50	50 kg
	75	75 kg
	100	100 kg
	150	150 kg
	200	200 kg
	250	250 kg
	300	300 kg
	500	500 kg
4	Code	Option 4: Explosion protection
	N	No explosion protection
	AI1/21	ATEX+IECEX+FM 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, 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	2mV/V ±0.1% / 410 Ω ± 0.3 Ω [only with option 4 = N] (adjusted output, suitable for parallel connection)

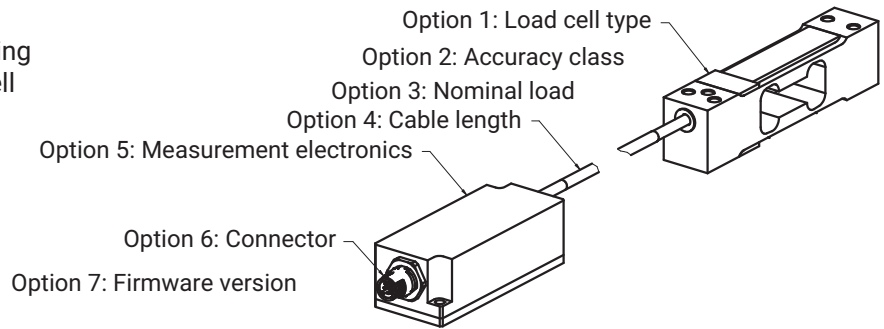
K-PW16A -  -  -  -  -  -

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

## 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-PW16A ordering options

K-LCMC		
1	<b>Code</b>	<b>Option 1: Load cell type</b>
	PW16A	PW16A
2	<b>Code</b>	<b>Option 2: Accuracy class</b>
	MR	C3 MR (OIML)
3 3	<b>Code</b>	<b>Option 3: Nominal load</b>
	30K0	30 kg
	50K0	50 kg
	75K0	75 kg
	100K	100 kg
	150K	150 kg
	200K	200 kg
	250K	250 kg
	300K	300 kg
	500K	500 kg
660K	660 kg	
4	<b>Code</b>	<b>Option 4: Cable length</b>
	0M3	0.3 m
	0M5	0.5 m
	1M0	1.0 m
3M0	3.0 m	
5	<b>Code</b>	<b>Option 5: Measurement electronics</b>
	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	<b>Code</b>	<b>Option 6: Connector</b>
	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	<b>Code</b>	<b>Option 7: Firmware version</b>
	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	6	A
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M	R
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