DATA SHEET

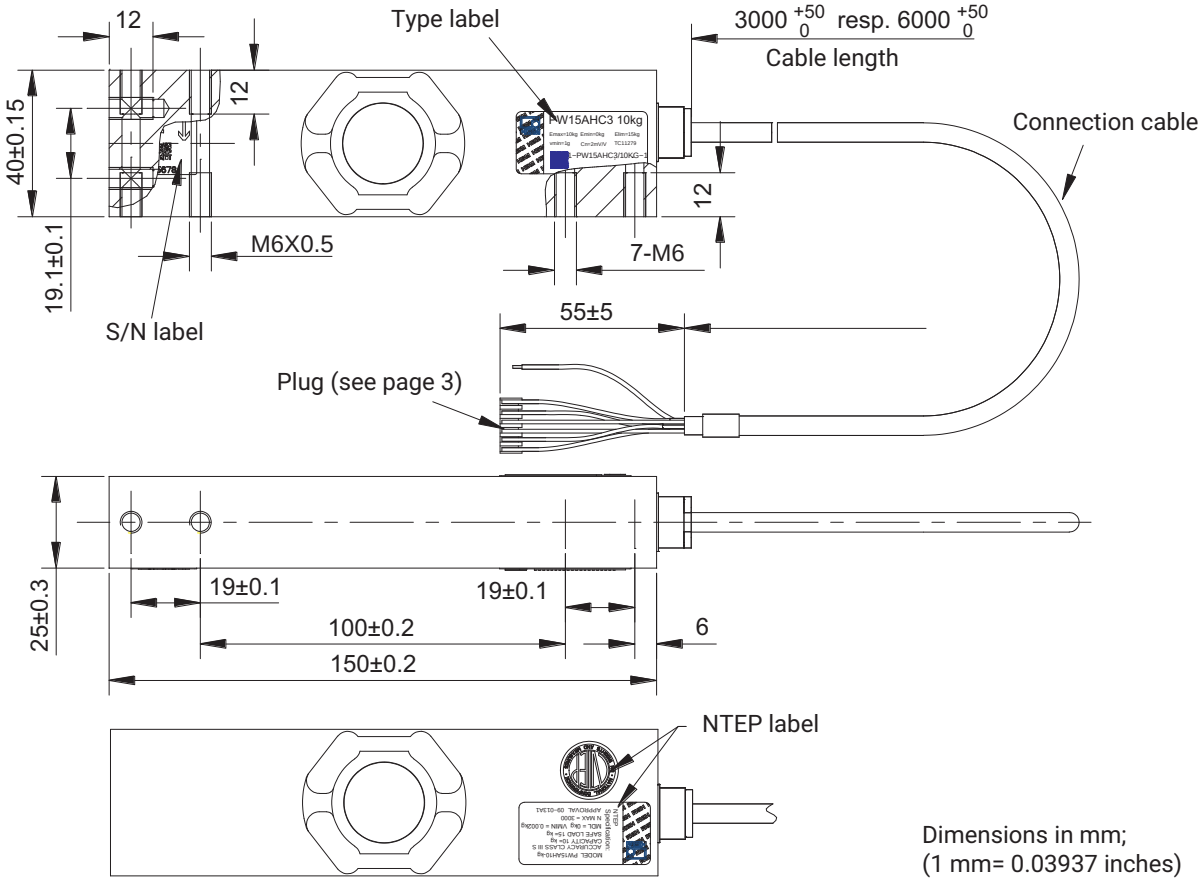
PW15AH...
Single point load cell

with IO-Link option

SPECIAL FEATURES

- Nominal load 10 kg ... 100 kg
- Stainless steel
- High ratio of minimum verification interval Y
- Industrial Footprint (SP4M)
- Degree of Protection IP68; IP69K
- 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			PW15AH/PW15AHY (C3 MR)			
Accuracy class [1]			C3 Multi Range (MR)			
Max. number of load cell interval	n_{LC}		3000			
Maximum capacity	E_{max}	kg	10	20	50	100
Min. LC verification interval (PW15AH)	v_{min}	g	1	2	5	10
Ratio of minimum verification interval (PW15AH)	Y		10000			
Temperature effect on zero balance (PW15AH)	TK_0	% of C_n/ 10 K	±0.0140			
Min. LC verification interval (PW15AHY)	v_{min}	g	0.5	1	2	5
Ratio of minimum verification interval (PW15AHY)	Y		20000		25000	20000
Temperature effect on zero balance (PW15AHY)	TK_0	% of C_n/ 10 K	±0.0070		±0.0056	±0.0070
Maximum platform size		mm	500 x 400			
Sensitivity	C_n	mV/V	2.0 ± 0.2			
Zero balance			0 ±0.1			
Temperature effect on sensitivity [2] 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			
Hysteresis error [2]	d_{hy}	% of C_n	±0.0166			
Non-linearity [2]	d_{lin}		±0.0166			
Minimum dead load output return	MDLOR		±0.0166			
Off center load error [3]			±0.0233 [3]			
Input resistance	R_{LC}	Ω	300 … 500			
Output resistance	R_0		300 … 500			
Reference excitation voltage [4]	U_{ref}	V	5			
Nom. range of excitation voltage [4]	B_U		1 ... 12			
Max. excitation voltage [4]			15			
Insulation resistance with 100 V_{DC}	R_{is}	GΩ	> 1			
Nominal temperature range [4]	B_T	°C [°F]	-10 ... +40 [+14 ... +104°F]			
Service temperature range [4]	B_{tu}		-10 ... +50 [+14 ... +122°F]			
Storage temperature range	B_{tl}		-25 ... +70 [-13 ... +158°F]			
Limit load at max. 160 mm eccentricity	E_L	% of E_{max}	150			
	E_L	mm	160			
Lateral load limit, static	E_{lq}	% of E_{max}	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			
Deflect. at E_{max}, approx.	s_{nom}	mm	< 0.5			
Weight, approx.	m	kg	1.0			
Protection class [5]			IP 68 (test conditions 100 h at 1 m water column); IP69K (water at high pressure, steam jet cleaning) [6]			
Material Measuring element Cable sheath			1.4545 [7] PVC (3 m) or PUR (6 m)			

1) According to OIML R60 with P_{LC} = 0.7
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 according to OIML R60.
3) According to OIML R76
4) For explosion protection variants, see “Explosion protection: Safety instructions,” available at https://www.hbm.com/en/3010/pw15b-robust-stainless-steel-single-point-load-cell/
5) According to EN60529 (IEC529)
6) Following the definitions of the DIN 40050, part of 9, for road vehicles
7) According to EN 10088-1

Type			PW15AH (C6 MR)			
Accuracy class [8]			C6 MR (Multi Range)			
Max. number of load cell interval	n_{LC}		6,000			
Maximum capacity	E_{max}	kg	10	20	50	100
Minimum load cell verification interval	v_{min}	g	0.5	1	2	5
Ratio of minimum verification interval	Y		20,000		25,000	20,000
Temperature coefficient of zero signal	TC_0	% of C_n / 10 K	±0.0070	±0.0070	±0.0056	±0.0070
Temperature coefficient of sensitivity [9] Temperature range: +20 ... +40°C [+68 ... +104°F] -10 ... +20°C [+14 ... +68°F]	TC_s	% of C_n / 10 K	±0.0087 ±0.0058			
Hysteresis error [9]	d_{hy}	% of C_n	±0.0083			
Non-linearity [9]	d_{lin}	% of C_n	±0.0083			
Minimum dead load output return	MDLOR	% of C_n	±0.0083			
Off center load error [10]		% of C_n	±0.0116			
Material cable sheath			PVC (3 m)			

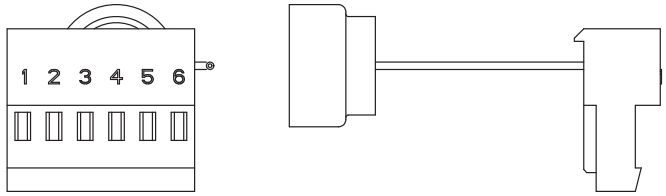
Type			PW15AH (C3MI8)			
Accuracy class [8]			C3MI8			
Max. number of load cell interval	n_{LC}		3,000			
Maximum capacity	E_{max}	kg	10	20	50	100
Minimum load cell verification interval	v_{min}	g	1	2	5	10
Ratio of minimum verification interval	Y		10,000			
Temperature coefficient of zero signal	TC_0	% of C_n / 10 K	±0.0140			
Temperature coefficient of sensitivity [9] Temperature range: +20 ... +40°C [+68 ... +104°F] -10 ... +20°C [+14 ... +68°F]	TC_s	% of C_n / 10 K	±0.0175 ±0.0117			
Hysteresis error [9]	d_{hy}	% of C_n	±0.0062			
Non-linearity [9]	d_{lin}	% of C_n	±0.0062			
Minimum dead load output return	MDLOR	% of C_n	±0.0062			
Off center load error [10]		% of C_n	±0.0116			
Material cable sheath			PVC (3 m)			

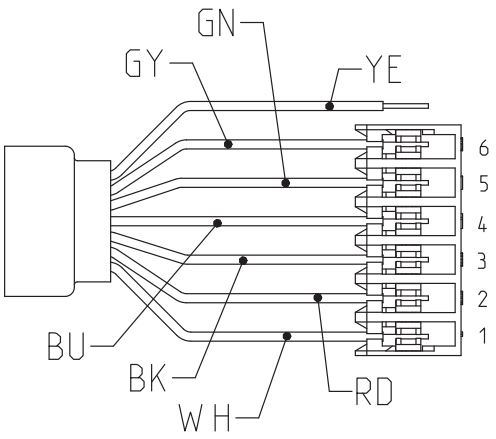
[8] As per OIML R60, with P_{LC} = 0.7
[9] The sum of data for Non-linearity, Hysteresis and TC Span meets the requirements of OIML R60
[10] As per OIML R76

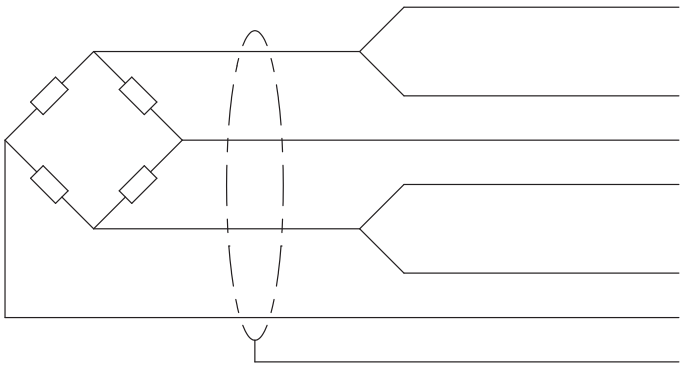
WIRING CODE

Connection with 6 wire cable, 6 x 0.14 mm^2/AWG 264 (selectable cable length: 3 m; 6 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 (-)

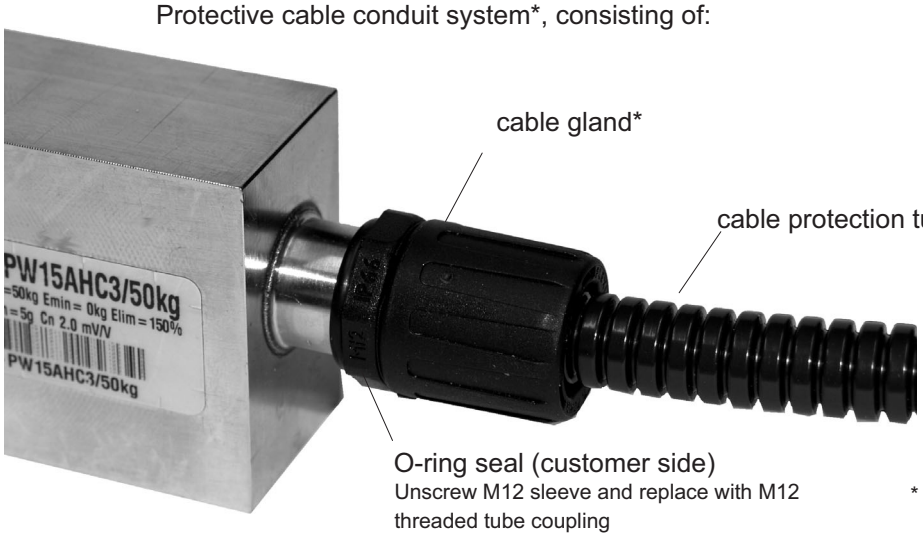
Plug-in contact 2 (red [RD]) = measurement signal (-)

Shield (yellow [YN]) = Cable shield

* not for explosion protection variants

CABLE PROTECTION (TO BE IMPLEMENTED BY THE CUSTOMER)

Protective cable conduit system*, consisting of:

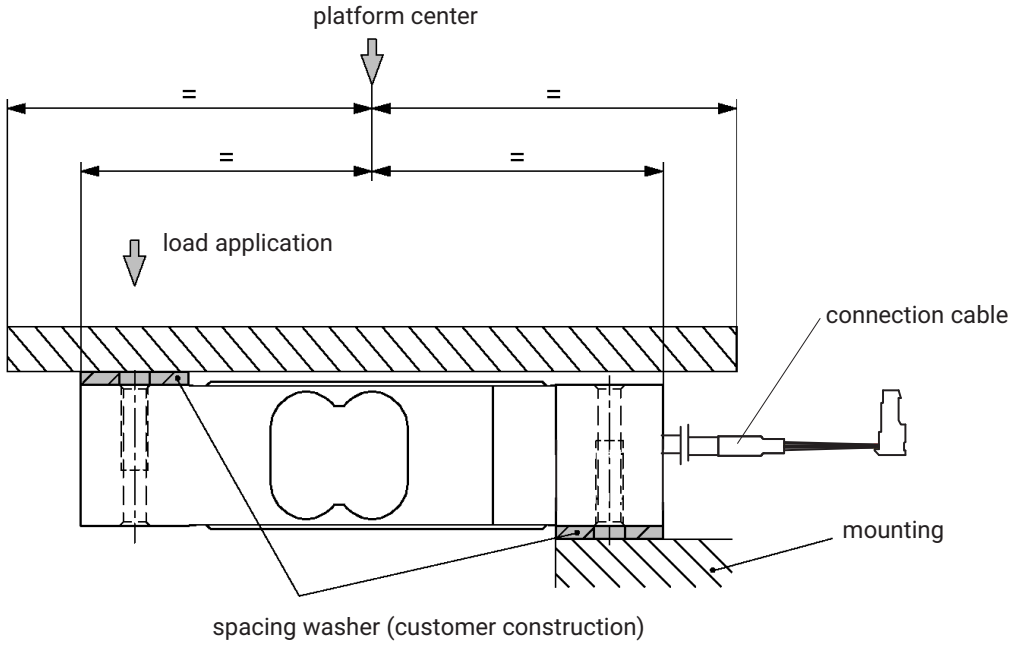


Unscrew M12 sleeve and replace with M12 threaded tube coupling

* Supplier, e.g. Comp. Flexicon, www.flexicon.uk.com

LOAD APPLICATION

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



ORDERING CODES

PW15AH... (Stainless steel, hermetically sealed)

Type	PW15AH	PW15AHY	PW15AH C3 MI8	PW15AH C6-MR
Accuracy class	C3-MR (OIML) (Multi Range)	C3-MR (OIML) (Multi Range, high Y value)	C3 MI8 (OIML)	C6-MR (OIML) (Multi Range)
Capacity	**Order number**			
Cable length 3 m (6-wire, PVC)				
10 kg	1-PW15AHC3/10KG-1	1-PW15AHY/10KG-1	1-PW15AHMI/10KG-1	1-PW15AHC6/10KG-1
20 kg	1-PW15AHC3/20KG-1	1-PW15AHY/20KG-1	1-PW15AHMI/20KG-1	1-PW15AHC6/20KG-1
50 kg	1-PW15AHC3/50KG-1	1-PW15AHY/50KG-1	1-PW15AHMI/50KG-1	1-PW15AHC6/50KG-1
100 kg	1-PW15AHC3/100KG-1	1-PW15AHY/100KG-1	1-PW15AHMI/100KG-1	1-PW15AHC6/100KG-1
Cable length 6 m (6-wire, PUR)				
20 kg	1-PW15AHC3/20KU-1			
50 kg	1-PW15AHC3/50KU-1			
100 kg	1-PW15AHC3/100KU-1			

PW15AH..., OPTIONAL VERSIONS

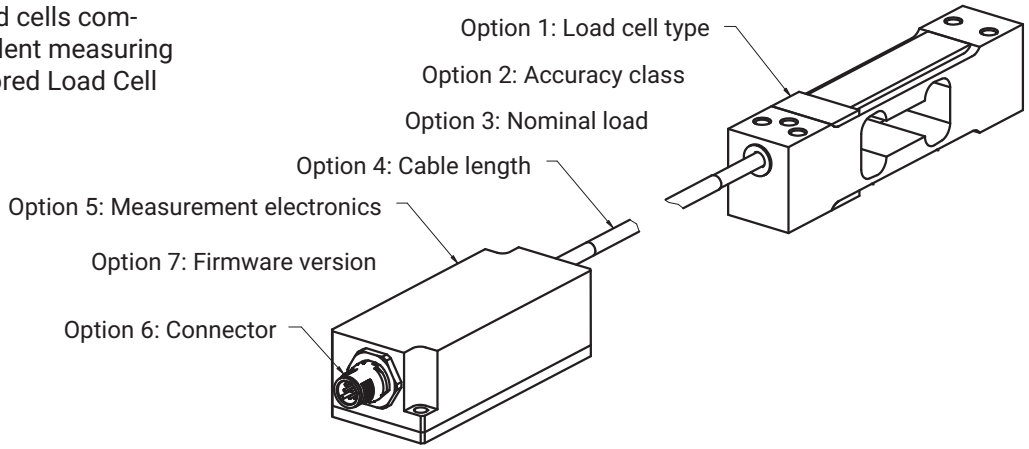
K-PW15PH		
1	**Code**	**Option 1: Mechanical design**
	N	Standard
2	**Code**	**Option 2: Accuracy class**
	MR	C3-MR (OIML)
3	**Code**	**Option 3: Nominal load**
	10	10 kg
	20	20 kg
	50	50 kg
	100	100 kg
4	**Code**	**Option 4: Explosion protection**
	N	No explosion protection
	AI1/21	ATEX+IECEx+FM Zone 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 [only with Option 6: = N]
	AI2/21	ATEX+IECEx zone 2/21 + FM, not intrinsically safe; ATEX/IECEx: II 3G Ex ec IIC T6/T4 Gc + II 2D Ex tb IIIC T125°C Db; FM(US): Class I, II, III Division 2, Groups A, B, C, D, F, G T4 [only with Option 6: = N]
5	**Code**	**Option 5: Cable length**
	3	3 m
	6	6 m
6	**Code**	**Option 6: Other**
	N	Without
	A	2mV/V ±0.1% / 410 Ω ± 0.2 Ω [only with option 4 = N] (adjusted output, suitable for parallel connection)
7	**Code**	**Option 7**
	N	Standard

K-PW15PH - [N] - [M][R] - [ ][ ][ ] - [ ][ ][ ][ ][ ][ ] - [ ][ ][ ] - [ ] - [N]

1 2 3 4 5 6 7

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-PW15AH ordering options

K-LCMC		
1	**Code**	**Option 1: Load cell type**
	PW15AH	PW15AH
2	**Code**	**Option 2: Accuracy class**
	MR	C3 MR (OIML)
3	**Code**	**Option 3: Nominal load**
	10K0	10 kg
	20K0	20 kg
	50K0	50 kg
	100K	100 kg
4	**Code**	**Option 4: Cable length**
	0M3	0.3 m
	0M5	0.5 m
	1M0	1.0 m
	3M0	3.0 m ±0.03 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
	M12A4	M12 A-coded, male, 4-pin
7	**Code**	**Option 7: Firmware version**
	N	NA
	01	WTIO 1.03.00

K-LCMC	-	P W 1 5 A H	-	M R	-		-		-		-		-	
		1		2		3		4		5		6		7

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