

PW15AH... Single point load cell

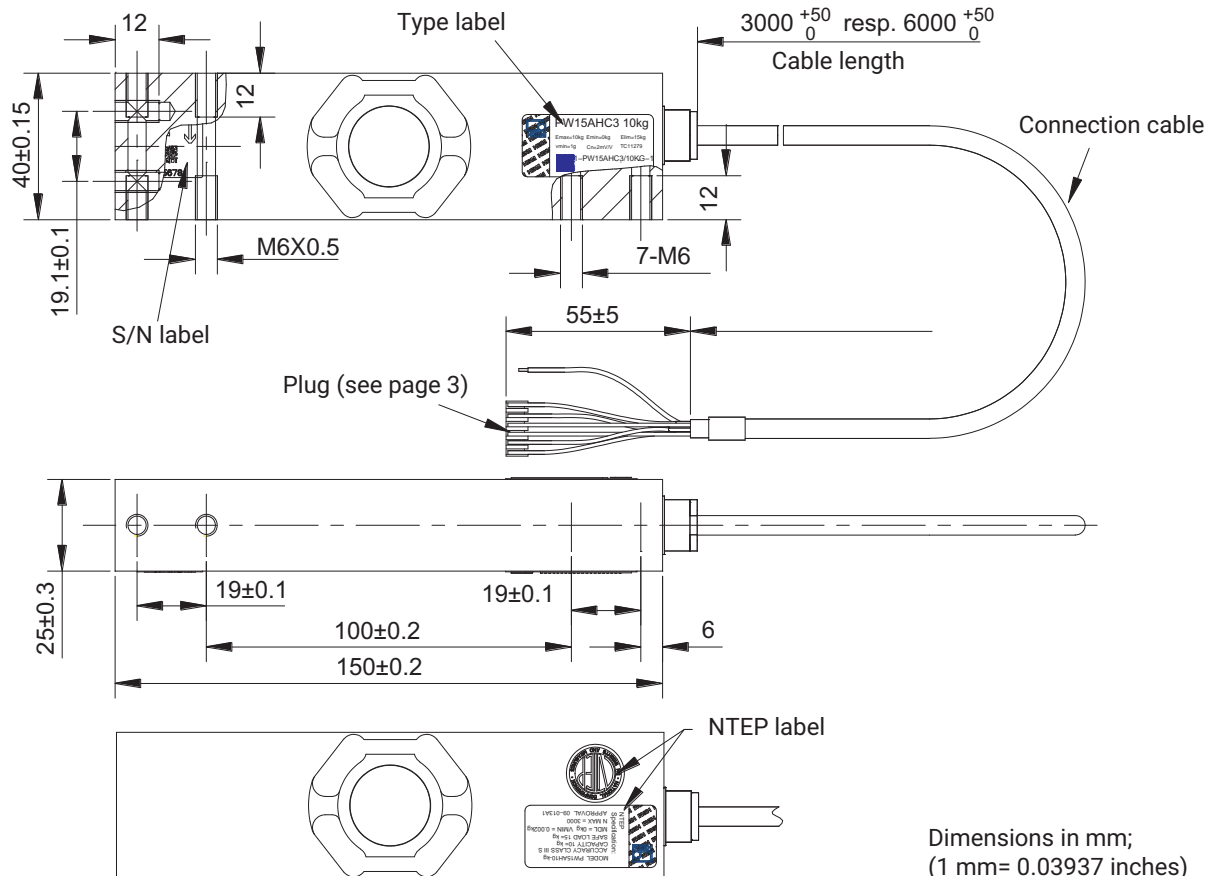
with  **IO-Link**
option

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



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 $C_n/10\text{ K}$	± 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 $C_n/10\text{ K}$	± 0.0070		± 0.0056	± 0.0070
Maximum platform size		mm	500 x 400			
Sensitivity	C_n	mV/V	2.0 \pm 0.2			
Zero balance			0 \pm 0.1			
Temperature effect on sensitivity ²⁾ Temperature range: +20 ... +40°C [+68 ... +104°F] -10 ... +20°C [+14 ... +68°F]	TK_C	% of $C_n/10\text{ K}$	± 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}		$G\Omega$ > 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		±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}		±0.0083			
Minimum dead load output return	MDLOR		±0.0083			
Off center load error ¹⁰⁾			±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		±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}		±0.0062			
Minimum dead load output return	MDLOR		±0.0062			
Off center load error ¹⁰⁾			±0.0116			
Material cable sheath			PVC (3 m)			

⁸⁾ As per OIML R60, with $P_{LC} = 0.7$

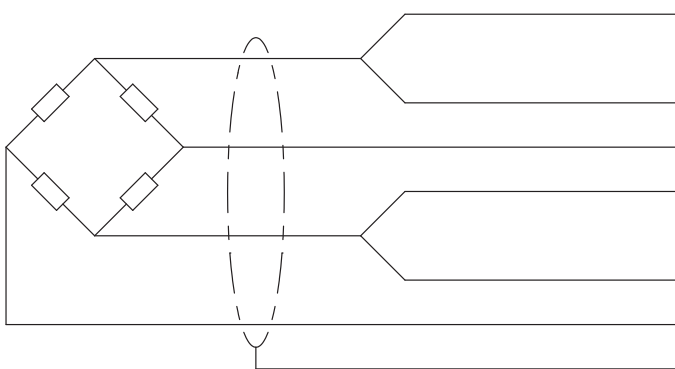
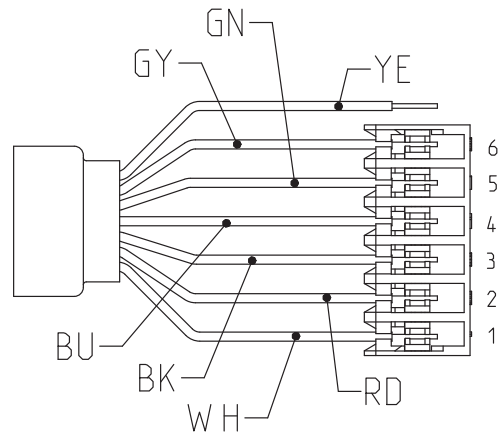
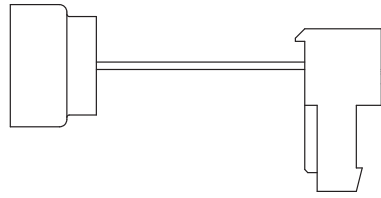
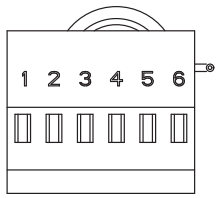
⁹⁾ The sum of data for Non-linearity, Hysteresis and TC Span meets the requirements of OIML R60

¹⁰⁾ As per OIML R76

WIRING CODE

Connection with 6 wire cable, 6 x 0.14 mm²/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 (-)

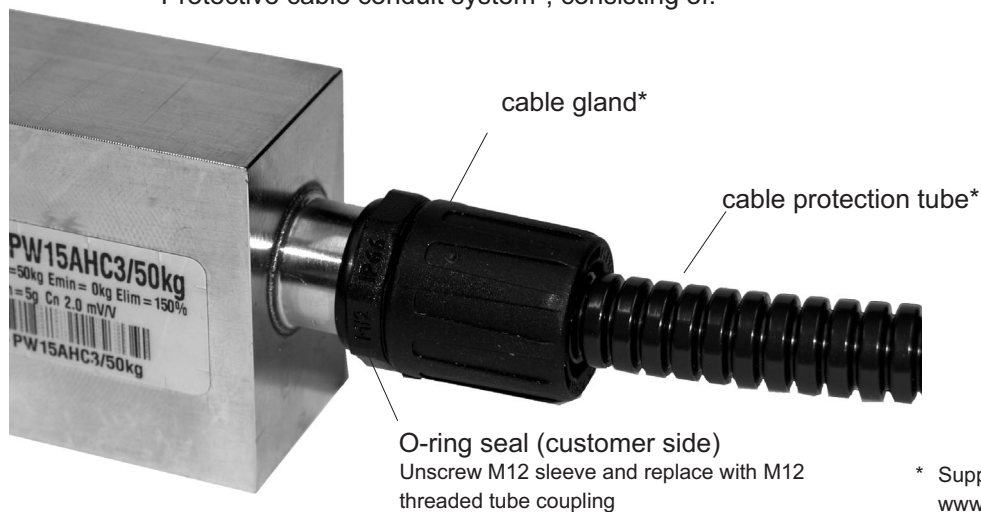
Plug-in contact 2 (red [RD]) = measurement signal (-)

Shield (yellow [YN]) = Cable shield

* not for explosion protection variants

CABLE PROTECTION (TO BE IMPLEMENTED BY THE CUSTOMER)

Protective cable conduit system*, consisting of:

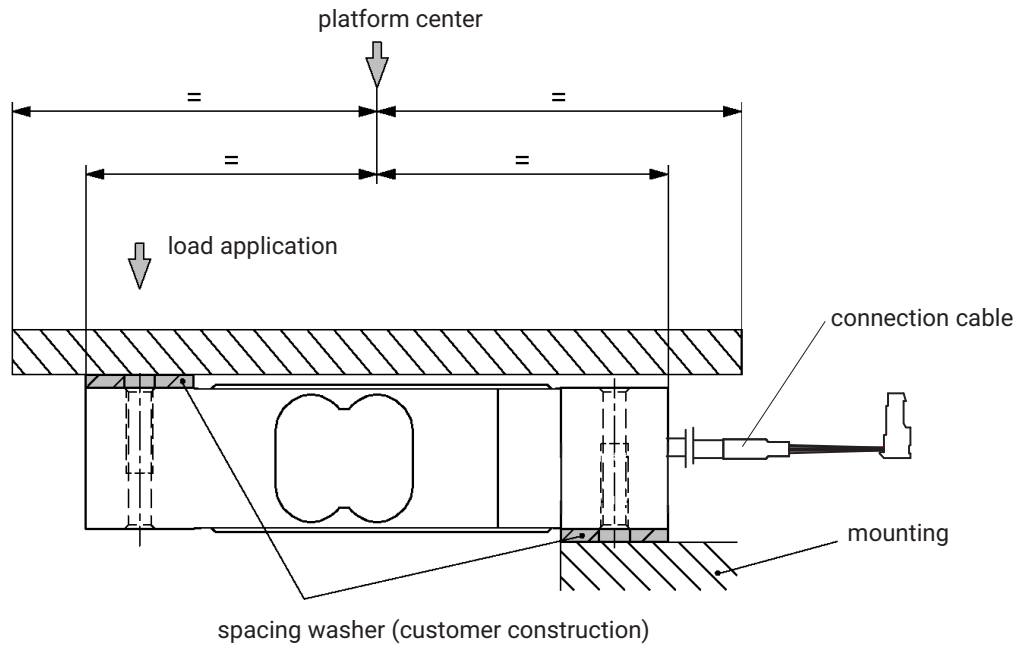


O-ring seal (customer side)
Unscrew M12 sleeve and replace with M12 threaded tube coupling

* 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.



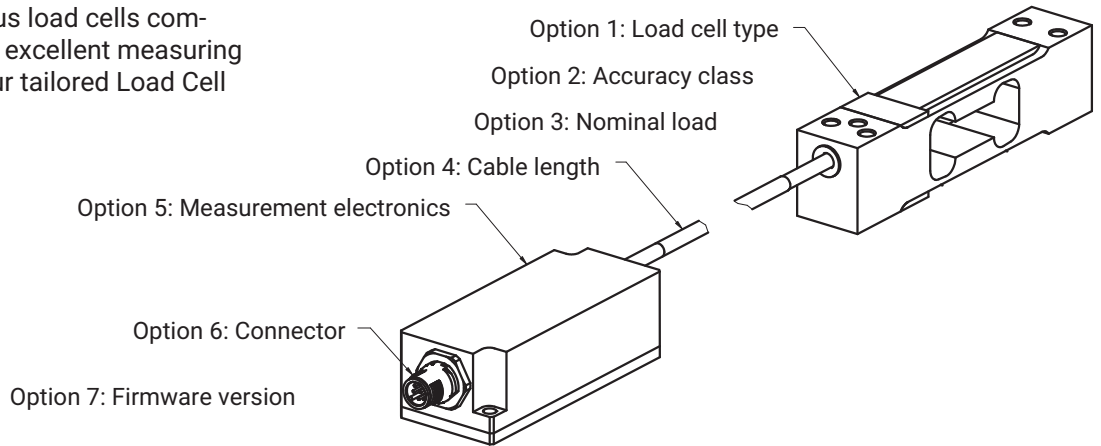
ORDERING CODES

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			

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
4	Code	Option 4: Cable length
	0M3	0.3 m
	0M5	0.5 m
	1M0	1.0 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)
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	5	A	H
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M	R
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