PW15PH…

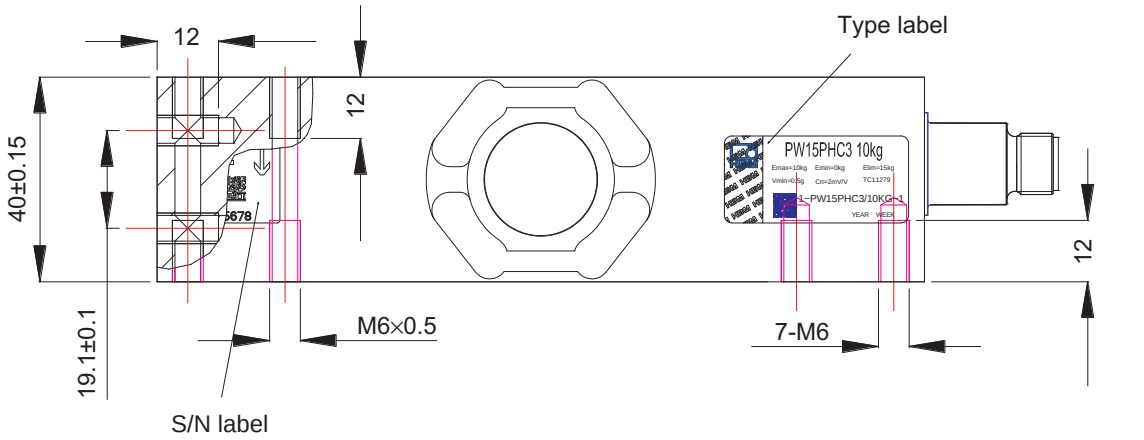
Single point load cell

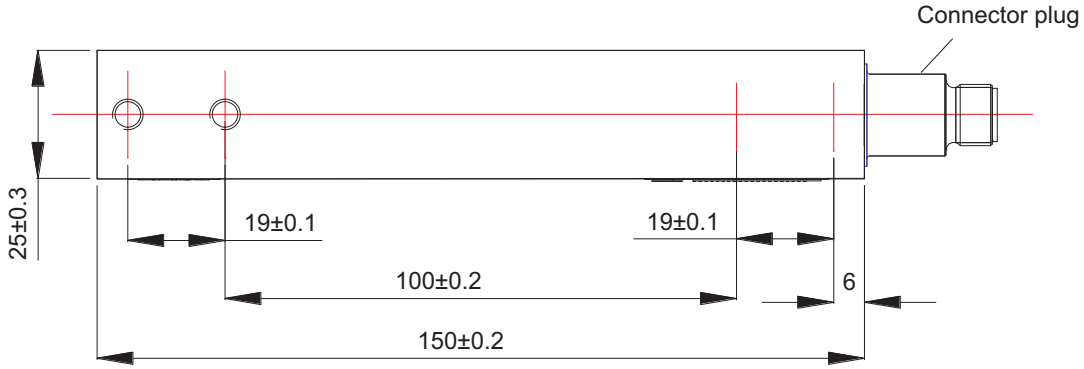
Special features

- **Maximum capacities 10 … 100 kg**
- **Stainless steel**
- **High ration of minimum verification interval Y**
- **Meets EMC guidelines**
- **M12 connection cable (aseptic) and other options available**

Data sheet

Dimensions (in mm; 1 mm = 0.03937 inches)





Specifications

Type			PW15PH/PW15PHY (C3 MR)			
Accuracy class [1]			C3 Multi Range (MR)			
Number of load cell verification intervals	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 (PW15PH)	Y		10,000			
Temperature coefficient of the zero signal per 10 K (PW15PH)	TK_0	% of C_n / 10 K	±0.0140			
Ratio of minimum verification interval (PW15PHY)	Y		20,000		25,000	20,000
Temperature coefficient of the zero signal per 10 K (PW15PHY)	TK_0	% of C_n / 10 K	±0.0070		±0.0056	±0.0070
Maximum platform size		mm	500 x 400			
Nominal (rated) sensitivity	C_n	mV/V	2.0 ±0.2			
Zero signal error			0 ±0.1			
Temperature coefficient of the sensitivity per 10 K [2] **in the temperature range** +20 ... +40 °C -10 ... +20 °C	TK_C	% of C_n	 ±0.0175 ±0.0117			
Non-linearity [2]	d_{lin}		±0.0166			
Relative reversibility error [2]	d_{hy}		±0.0166			
Minimum dead load output return	MDLOR		±0.0166			
Off-center load error[3]			±0.0166			
Input resistance	R_{LC}	Ω	300 .. 500			
Output resistance	R_0		300 .. 500			
Reference excitation voltage	U_{ref}	V	5			
Nominal (rated) range of the excitation voltage	B_U		1 … 12			
Maximum excitation voltage			15			
Insulation resistance at 100 V_{DC}	R_{is}	GΩ	>1			
Nominal (rated) ambient temperature range	B_T	°C	-10 … +40			
Operating temperature range	B_{tu}		-10 … +50			
Storage temperature range	B_{tl}		-25 … +70			
Cleaning temperature			Max. 120 °C for max. 10 minutes			
Service load at max. 100 mm eccentricity	E_U	% of E_{max}	150			
Limit load at max. eccentricity of 160 mm	E_L		150			
Limit lateral loading, static	E_{lq}		300			
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 [4]	s_{nom}	mm	<0.5			
Weight, approx.	m	kg	0.9			
Degree of protection [6]			IP68 (test conditions 1 m water column / 100 h); IP69K (water at high pressure, steam cleaner)[5]			
Measuring body material			Stainless steel 1.4545 [7]			

[1] As per OIML R60, with P_{LC} = 0.7.

[2] The values for non-linearity (d_{lin}), relative reversibility error (d_{hy}) and temperature coefficient of sensitivity (TK_C) are recommended values. The sum of these values is within the cumulated error limit laid down by OIML R60.

[3] As per OIML R76.

[4] Loading with E_{max} and center of gravity in center of load cell.

[5] Based on DIN 40050, Part 9 specifications, for road vehicles.

[6] As per EN 60529 (IEC 529)

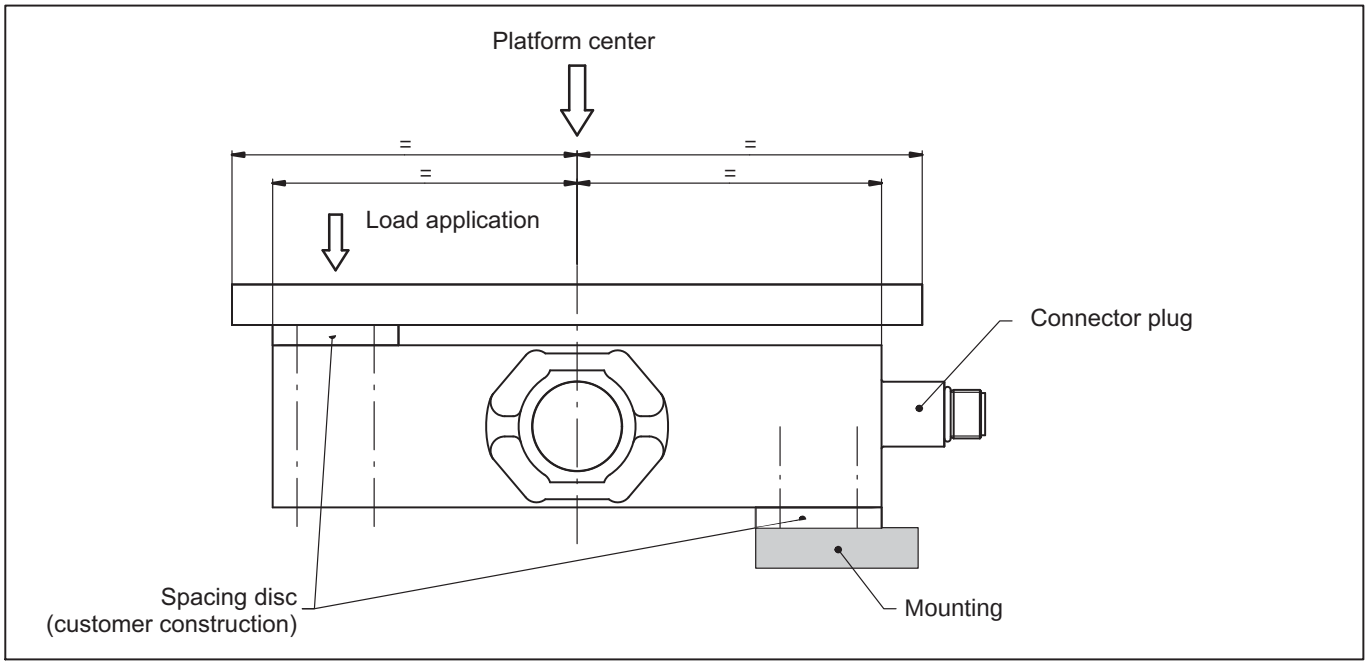
7) As per EN 10088−1.

Type			PW15PH (C6 MR)			
Accuracy class[1]			C6 MR (Multi Range)			
Max. number of load cell interval	n_{LC}		6,000			
Maximum capacity[2]	E_{max}	kg	10	20	50	100
Minimum load cell verification interval	v_{min}	g	0.5	1	2	5
Ration of minimum verification interval	Y		20,000		25,000	20,000
Temperature coefficient of the zero signal	TC_0	% of C_n / 10 K	±0.0070		±0.0056	±0.0070
Temperature coefficient of the sensitivity[3] Temperature range +20 ... +40 °C -10 ... +20 °C	TC_s	% of C_n / 10 K	±0.0087 ±0.0058			
Hysteresis error[3]	d_{hy}	% of C_n	±0.0083			
Non-linearity[3]	d_{lin}	% of C_n	±0.0083			
Minimum dead load output return	MDLOR	% of C_n	±0.0083			
Off-center load error[4]		% of C_n	±0.0116			

Type			PW15PH (C3MI8)			
Accuracy class[1]			C3MI8			
Max. number of load cell interval	n_{LC}		3,000			
Maximum capacity[2]	E_{max}	kg	10	20	50	100
Minimum load cell verification interval	v_{min}	g	1	2	5	10
Ration of minimum verification interval	Y		10,000			
Temperature coefficient of the zero signal	TC_0	% of C_n / 10 K	±0.0140			
Maximum platform size		mm	500 x 400			
Sensitivity	C_n	mV/V	2.0 ±0.2			
Zero signal error		mV/V	0 ±0.1			
Temperature coefficient of the sensitivity[3] Temperature range +20 ... +40 °C -10 ... +20 °C	TC_s	% of C_n/ 10 K	±0.0175 ±0.0117			
Hysteresis error[3]	d_{hy}	% of C_n	±0.0062			
Non-linearity[3]	d_{lin}	% of C_n	±0.0062			
Minimum dead load output return	MDLOR	% of C_n	±0.0062			
Off-center load error[4]		% of C_n	±0.0166			

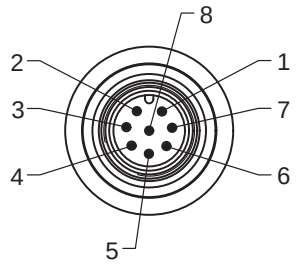
1) As per OIML R60, with P_{LC} = 0.7
2) Max. eccentric loading as per OIML R76
3) The sum of data for Non-linearity, Hysteresis and TC Span meets the requirements of OIML R60
4) As per OIML R76

Mounting instructions



Maximum capacities	Thread	Min. property class	Tightening torque
10 … 100 kg	M6	10.9	14 N·m

Connector pin assignment



Plug-in contact 1 = measurement signal (+)
Plug-in contact 2 = vacant
Plug-in contact 3 = sense lead (+)
Plug-in contact 4 = vacant
Plug-in contact 5 = sense lead (-)
Plug-in contact 6 = excitation voltage (-)
Plug-in contact 7 = excitation voltage (+)
Plug-in contact 8 = measurement signal (-)

Product numbers (overview)

PW15PH… (stainless steel, hermetically sealed)

Type	PW15PH	PW15PHY	PW15PH C3 MI8	PW15PH 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)
Comments	Plug connection			
Capacity	**Order number**			
10 kg	1-PW15PHC3/10KG-1	1-PW15PHY/10KG-1		
20 kg	1-PW15PHC3/20KG-1	1-PW15PHY/20KG-1		
50 kg	1-PW15PHC3/50KG-1	1-PW15PHY/50KG-1		
100 kg	1-PW15PHC3/100KG-1	1-PW15PHY/100KG-1		
10 kg	1-PW15PHC6/10KG-1	1-PW15PHMI/10KG-1		
20 kg	1-PW15PHC6/20KG-1	1-PW15PHMI/20KG-1		
50 kg	1-PW15PHC6/50KG-1	1-PW15PHMI/50KG-1		
100 kg	1-PW15PHC6/100KG-1	1-PW15PHMI/100KG-1		

Accessories

Connection cable	
Connection cable with M12 F connector, 8-pin, TPU IP67, PUR cable sheath, 5 m long	1-KAB168-5
Connection cable with M12 F connector, 8-pin, TPU IP67, PUR cable sheath, 20 m long	1-KAB168-20
Connection cable with M12 F connector, 8-pin, stainless steel IP68/IP69K, hygiene design, 3 m long	1-KAB175-3-1
Connection cable with M12 F connector, 8-pin, stainless steel IP68/IP69K, hygiene design, 6 m long	1-KAB175-6-1

For connection cable specifications, see separate data sheet B3643.

Pin assignment 1-KAB168

Color code	Connection
White	Measurement signal (+)
Red	Measurement signal (-)
Blue	Excitation voltage (+)
Pink	Excitation voltage (-)
Green	Sense lead (+)
Gray	Sense lead (-)
Yellow	Not in use
Brown	Not in use

Pin assignment 1-KAB175

Color code	Connection
White	Measurement signal (+)
Red	Measurement signal (-)
Blue	Excitation voltage (+)
Black	Excitation voltage (-)
Green	Sense lead (+)
Gray	Sense lead (-)

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measure and predict with confidence

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