

DATA SHEET

# PW15PH... Single point load cell

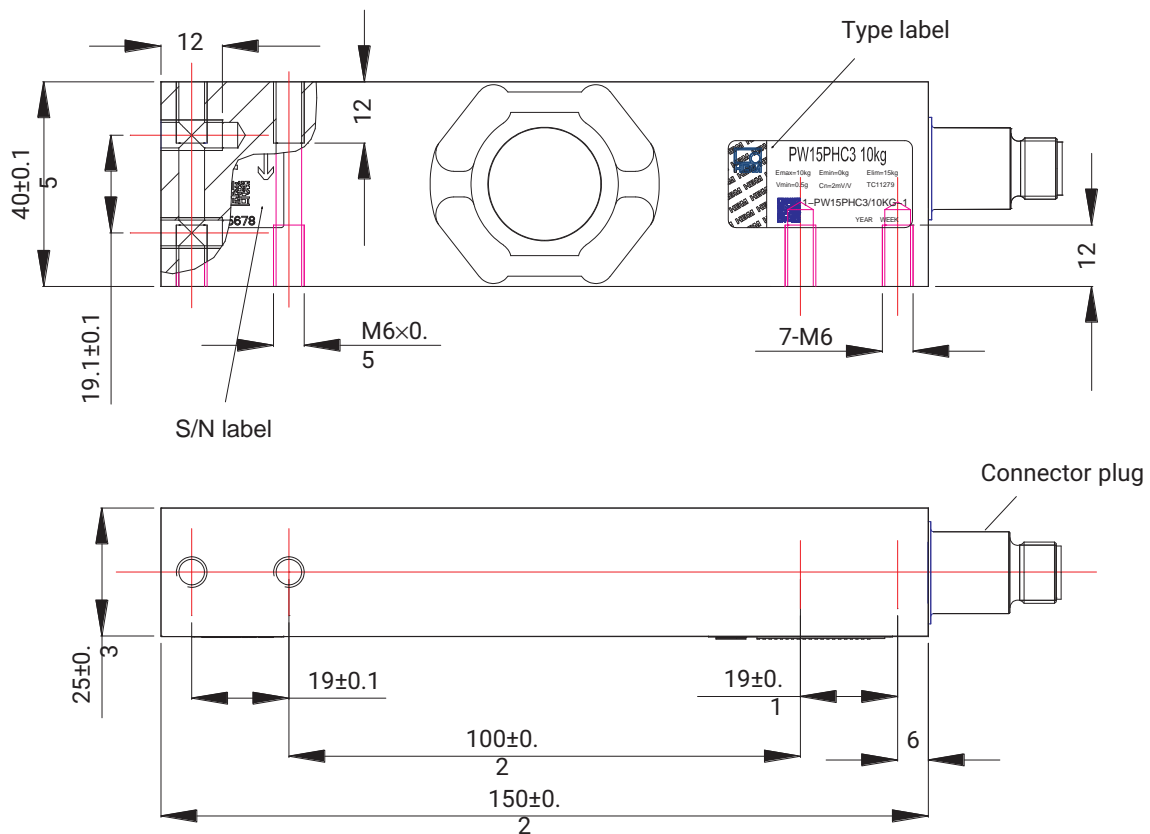
## SPECIAL FEATURES

- 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



## DIMENSIONS

Dimensions in mm; (1 mm = 0.03937 inches)



## SPECIFICATIONS

Type			PW15PH/PW15PHY (C3 MR)			
Accuracy class <sup>1)</sup>			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 <sup>2)</sup> in the temperature range +20 ... +40 °C -10 ... +20 °C	$TK_C$	% of $C_n$	±0.0175			
Non-linearity <sup>2)</sup>			$d_{lin}$	±0.0117		
Relative reversibility error <sup>2)</sup>	$d_{hy}$		±0.0166			
Minimum dead load output return	MDLOR		±0.0166			
Off-center load error <sup>3)</sup>			±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 <sub>DC</sub>	$R_{is}$	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 <sup>4)</sup>	$s_{nom}$	mm	<0.5			
Weight, approx.	m	kg	0.9			
Degree of protection <sup>6)</sup>			IP68 (test conditions 1 m water column / 100 h); IP69K (water at high pressure, steam cleaner) <sup>5)</sup>			
Measuring body material			Stainless steel 1.4545 <sup>7)</sup>			

<sup>1)</sup> As per OIML R60, with  $P_{LC} = 0.7$ .

<sup>2)</sup> 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.

<sup>3)</sup> As per OIML R76.

<sup>4)</sup> Loading with  $E_{max}$  and center of gravity in center of load cell.

<sup>5)</sup> Based on DIN 40050, Part 9 specifications, for road vehicles.

<sup>6)</sup> As per EN 60529 (IEC 529)

<sup>7)</sup> As per EN 10088-1.

Type			PW15PH (C6 MR)			
Accuracy class <sup>8)</sup>			C6 MR (Multi Range)			
Max. number of load cell interval	$n_{LC}$		6,000			
Maximum capacity <sup>9)</sup>	$E_{max}$	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	$TC_0$		±0.0070		±0.0056	±0.0070
Temperature coefficient of the sensitivity <sup>10)</sup>	$TC_s$	% of $C_n / 10 K$	±0.0087 ±0.0058			
Temperature range						
Hysteresis error <sup>10)</sup>	$d_{hy}$	% of $C_n$	±0.0083			
Non-linearity <sup>10)</sup>	$d_{lin}$		±0.0083			
Minimum dead load output return	MDLOR		±0.0083			
Off-center load error <sup>11)</sup>			±0.0116			

Type			PW15PH (C3MI8)			
Accuracy class <sup>8)</sup>			C3MI8			
Max. number of load cell interval	$n_{LC}$		3,000			
Maximum capacity <sup>9)</sup>	$E_{max}$	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 <sup>10)</sup>	$TC_s$	% of $C_n / 10 K$	±0.0175 ±0.0117			
Temperature range						
Hysteresis error <sup>10)</sup>	$d_{hy}$	% of $C_n$	±0.0062			
Non-linearity <sup>10)</sup>	$d_{lin}$		±0.0062			
Minimum dead load output return	MDLOR		±0.0062			
Off-center load error <sup>11)</sup>			±0.0166			

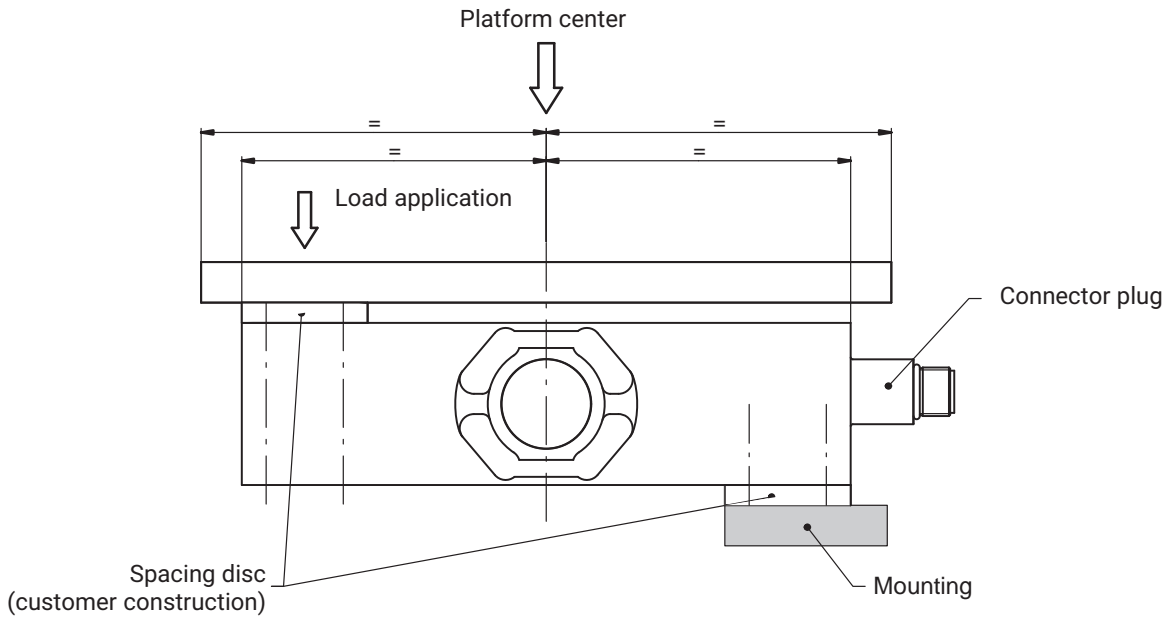
8) As per OIML R60, with  $P_{LC} = 0.7$

9) Max. eccentric loading as per OIML R76

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

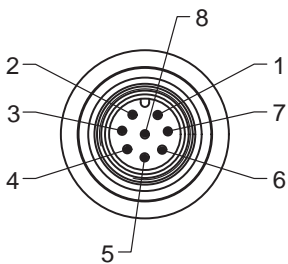
11) As per OIML R76

## 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
<b>Accuracy class</b>	C3-MR (OIML) (Multi Range)	C3-MR (OIML) (Multi Range, high Y value)	C3 MI8 (OIML)	C6-MR (OIML) (Multi Range)
<b>Comments</b>	Plug connection			
<b>Capacity</b>	<b>Order number</b>			
10 kg	1-PW15PHC3/10KG-1	1-PW15PHY/10KG-1	1-PW15PHMI/10KG-1	1-PW15PHC6/10KG-1
20 kg	1-PW15PHC3/20KG-1	1-PW15PHY/20KG-1	1-PW15PHMI/20KG-1	1-PW15PHC6/20KG-1
50 kg	1-PW15PHC3/50KG-1	1-PW15PHY/50KG-1	1-PW15PHMI/50KG-1	1-PW15PHC6/50KG-1
100 kg	1-PW15PHC3/100KG-1	1-PW15PHY/100KG-1	1-PW15PHMI/100KG-1	1-PW15PHC6/100KG-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
Connection cable with M12 F connector, 8-pin, stainless steel IP68/IP69K, hygiene design, 12 m long	1-KAB175-12-1

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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