

# PR 6201 Precision Compression Load Cell

500 kg ... 50 t

Type LA/L/D1/C3

global weighing technologies



- Easy to install
- Full stainless steel housing
- Wide temperature range
- High overload capacity
- Resistant against vibrations
- Hermetically sealed to IP 68, equ. NEMA 6 (can be submerged in water to a depth of 1.5 m for 10,000 hrs.)
- Easy corner adjustment by matched load cell outputs
- 4 to 20 mA output signal as option (LA version)
- Ex-version available (PR 6201/..E)
- W&M approval (OIML R60, NTEP)
- Well-proven rocker prin design
- Best overvoltage protection



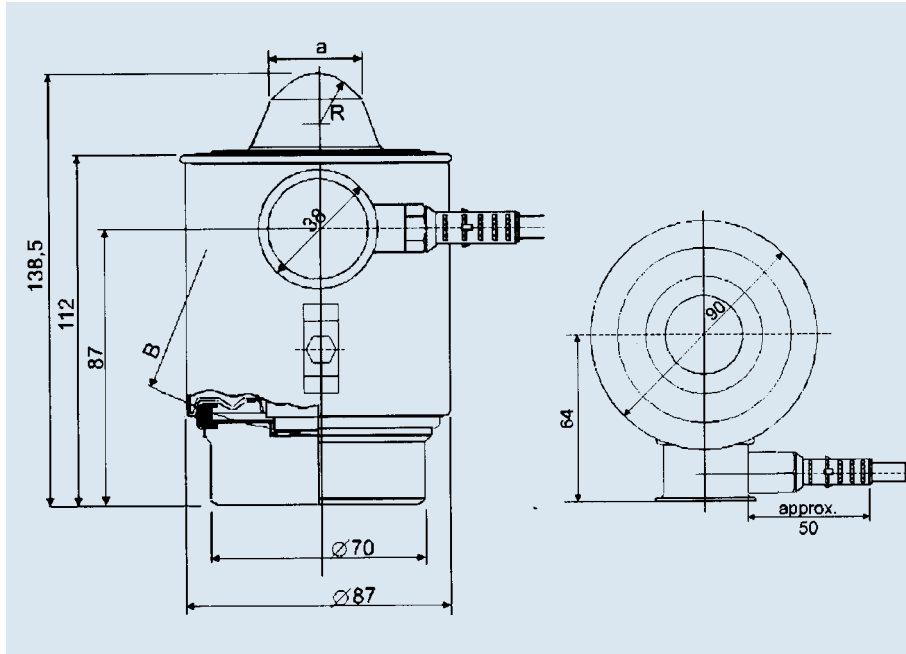
Nominal Load $E_{max}$	Order code Type	Version	Max. usable load [ in % of $E_{max}$ ]	Destructive load [ in % of $E_{max}$ ]	Packing size mm	Weight net shipping	
500 kg	PR 6201/52	LA/L/D1/D1E	(LA:120) 200	>500	240 x 240 x 155	1.9 kg	2.8 kg
1 t	PR 6201/13	LA/L/D1/D1E	(LA:120) 200	>500	240 x 240 x 155	1.9 kg	2.8 kg
2 t	PR 6201/23	LA/L/D1/C3/D1E/C3E	(LA:120) 200	>500	240 x 240 x 155	1.9 kg	2.8 kg
3 t	PR 6201/33	LA/L/D1/C3/D1E/C3E	(LA:120) 200	>500	240 x 240 x 155	2.0 kg	2.9 kg
5 t	PR 6201/53	LA/L/D1/C3/D1E/C3E	(LA:120) 200	>500	240 x 240 x 155	2.0 kg	2.9 kg
10 t	PR 6201/14	LA/L/D1/C3/D1E/C3E	(LA:120) 200	>500	240 x 240 x 155	2.5 kg	3.4 kg
20 t	PR 6201/24	LA/L/D1/C3/D1E/C3E	(LA:120) 200	>500	240 x 240 x 155	4.2 kg	5.1 kg
30 t	PR 6201/34	LA/D1/C3/D1E/C3E	(LA:120) 200	>500	240 x 240 x 155	4.6 kg	5.5 kg
50 t	PR 6201/54	LA/L/D1/C3/D1E/C3E	(LA:120) 150	>300	240 x 240 x 155	4.2 kg	5.1 kg

### Technical Data

			LA	L	D1	C3	
Accuracy class			0.25	0.25	0.04	0.015	% $E_{max}$
Minimum dead load	lowest limit of specified measuring range	$E_{min}$	2	0	0	0	% $E_{max}$
Maximum capacity	highest limit of specified measuring range	$E_{max}$			s. table		
Minimum LC verification interval	minimum load cell verification interval, $v_{min} = E_{max}/Y$ for $E_{max} = 1000$ kg for $E_{max} = 500$ kg	Y			5000 4000 2000	14000	
Rated output	relative output at nominal load for $E_{max} = 50$ t	$C_n$	16 mA	1.0 2.0	1.0 2.0	1.0 2.0	mV/V mV/V
Tolerance on rated output	permissible deviation from rated output	$d_c$	< 1.0	< 1.0	< 0.25	< 0.07	% $C_n$
Zero output signal	load cell output signal under unloaded condition	$S_{min}$	4 mA	< 2.0	< 1.0	< 1.0	% $C_n$
Repeatability error	max. change in load cell output for repeated loading	$\epsilon_R$	< 0.02	< 0.02	< 0.01	< 0.005	% $C_n$
Creep, during 30 min.	max. change in load cell output under nominal load	$d_{cr}$	< 0.05	< 0.05	< 0.03	< 0.015	% $C_n$
Non - Linearity	max. deviation from best straight line through zero	$d_{lin}$	< 0.25	< 0.25	< 0.03	< 0.01	% $C_n$
Hysteresis	max. difference in load cell output when loading from	$d_{hy}$	< 0.25	< 0.25	< 0.04	< 0.015	% $C_n$
Temperature effect on $S_{min}$	max. change of $S_{min}/10K \Delta T$ over $B_T$ referred to $C_n$	$TK_{Smin}$	< 0.15	< 0.15	< 0.028	< 0.01	% $C_n/10K$
Temperature effect on C	max. change of C /10K $\Delta T$ over $B_T$ referred to $C_n$	$TK_c$	< 0.1	< 0.1	< 0.03	< 0.01	% $C_n/10K$
Input impedance	between supply terminals	$R_{LC}$	-	650 + 50	650 ± 6		$\Omega$
Output impedance	between measuring terminals	$R_O$	-	610 ± 3	610 ± 1	610 ± 0.5	$\Omega$
Insulation impedance	between measuring circuit and housing at 100V <sub>DC</sub>	$R_{IS}$	-		>5000 x 10 <sup>6</sup>		$\Omega$
Insulation voltage	between circuit and housing, PR 6201/..E only	-			500		V
Recommended supply voltage	to hold the specified performance	$B_u$	20 ... 28		4 ... 24		V
Max. supply voltage	permissible for continuous operation without damage	$U_{max}$	28		32		V
Nominal ambient temp. range	to hold the specified performance	$B_T$			-10 ... +55		°C
Usable ambient temp. range	permissible for continuous operation without damage	$B_{Tu}$	-30...+55		-30 ... +95		°C
Storage temperature range	Transportation and storage	$B_{Ti}$	-40...+70		-40 ... +95		°C
Permissible eccentricity	permissible displacement from nominal load line	$S_{ex}$			10		mm
Vibration resistance	resistance against oscillation (IEC 68-2-6 Fc)	-			20 g, 100 h, 10 ... 150 Hz		
Air pressure effect	influence of ambient air pressure on $S_{min}$	$PK_{Smin}$			250		g/kPa
Nominal deflection	max. elastic deformation under nominal load	$S_{nom}$			up to 30 t < 0.3 / 50 t < 0.4		mm

Definitions acc. to VDI / VDE 2637

\* Data for LA version are typical values. The technical data given here serve only as a product description and must not be interpreted as guaranteed characteristics in the legal sense.



all dimensions in mm

PR 6201/52.../23	a = 24	R = 15	B = 150
PR 6201/33.../14	a = 34	R = 15	B = 150
PR 6201/24L	a = 34	R = 15	B = 150
PR 6201/24D1, C3	a = 56	R = 35	B = 220
PR 6201/34,54	a = 56	R = 35	B = 220

## Product description

The PR 6201 type load cells are designed for typical hopper scale applications. The proven rocker-pin principle guarantees in combination with our mounting kits- specially designed for this application- not only easy installation but also high accuracy and reliability.

## Restoring force

For each mm of displacement, that the top of the load cell is shifted from the vertical axis, a horizontal restoring force of 0.5 % of the applied load is generated.

## Load cell housing

Full stainless steel housing, membrane and measuring element hermetically sealed, welded, filled with inert gas.

Material-No:1.4301 (DIN 17440), equivalent to 304 S15 (B.S.)

## Ingress Protection

IP68, IEC529 (equivalent to NEMA 6). The load cell can be submerged in water to a depth of 1.5 m for 10,000 hours.

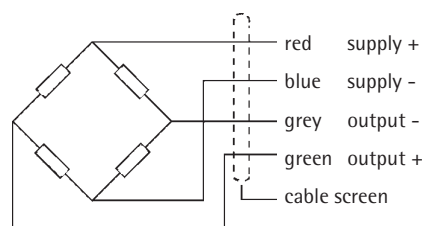
## Certificate of conformity

Valid for	: PR 6201/..E
Feature	: EEx ib IIC T6 / CE 0102 II 1 G EEx ia IIC T6
Registration number	: PTB Nr. Ex-92.C.2137 / PTB 02 ATEX 2059

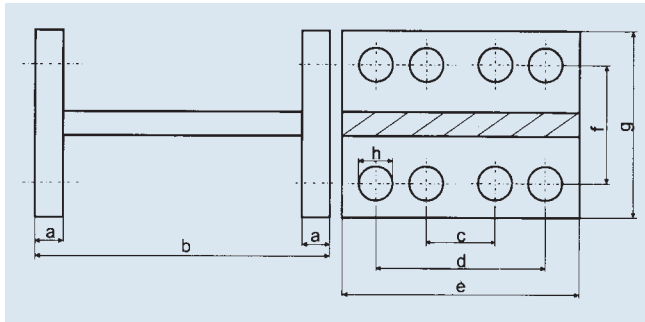
## Cable

robust, flexible, screened  
sheath: TPE Thermopl. Elastomer, grey  
(for PR 6201/..E: blue)

diameter:	5 mm, wires 4x0,35 mm <sup>2</sup>
length:	5 m (500 kg - 10 t), 12 m (20 t - 50 t)
bending radius:	
fixed installation	≥50 mm
flexible installation	≥150 mm



20...28 V	
GND	
GND	Supply
2...10 mA	4...20 mA
For LA version only	



Type	dimensions in mm							
	a	b	c	d	e	f	g	h
PR 6101/53	15	190,5	-	115	150	65	100	14 (4x)
PR 6101/24	15	190,5	-	115	150	65	100	14 (4x)
PR 6101/54	15	190,5	115	195	250	65	100	14 (8x)

PR 6101/... Pivots

For professional applications further options and a high number of additional mounting kits are available.

Description		Weight		Table PR 6001	Order Number
		tare	net		
Universal vessel support	500 kg ... 10 t	10.1 kg	10.4 kg	PR 6001/00N	9405 360 01001
Universal vessel support, stainless steel	500 kg ... 10 t	10.9 kg	11.2 kg	PR 6001/00S	9405 360 01002
Universal vessel support	20 t ... 50 t	10.1 kg	10.4 kg	PR 6001/01N	9405 360 01011
Universal vessel support, stainless steel	20 t ... 50 t	10.9 kg	11.2 kg	PR 6001/01S	9405 360 01012
25 kN MaxiFLEXLOCK	500 kg ... 10 t	15.9 kg	16.5 kg	PR 6001/10N	9405 360 01101
25 kN MaxiFLEXLOCK, stainless steel	500 kg ... 10 t	16.7 kg	17.3 kg	PR 6001/10S	9405 360 01102
25 kN MaxiFLEXLOCK	20 t ... 50 t	15.9 kg	16.5 kg	PR 6001/11N	9405 360 01111
25 kN MaxiFLEXLOCK, stainless steel	20 t ... 50 t	16.7 kg	17.3 kg	PR 6001/11S	9405 360 01112
50 kN MaxiFLEXLOCK	500 kg ... 10 t	25.0 kg	25.6 kg	PR 6001/20N	9405 360 01201
50 kN MaxiFLEXLOCK, stainless steel	500 kg ... 10 t	25.8 kg	26.4 kg	PR 6001/20S	9405 360 01202
50 kN MaxiFLEXLOCK	20 t ... 50 t	25.0 kg	25.6 kg	PR 6001/21N	9405 360 01211
50 kN MaxiFLEXLOCK, stainless steel	20 t ... 50 t	25.8 kg	26.4 kg	PR 6001/21S	9405 360 01212
200 kN MaxiFLEXLOCK	500 kg ... 10 t	138 kg	143 kg	PR 6001/30N	9405 360 01301
200 kN MaxiFLEXLOCK	20 t ... 50 t	138 kg	143 kg	PR 6001/31N	9405 360 01311

Further options		Dimensions WxHxD	Type	Order Number
Stainless steel cable junction box	material 1.4404, for all industrial, intrinsically safe and W & M applications	(260x180x 70)mm	PR 6130/60S	9405 361 30602
Cable junction box	for all industrial, intrinsically safe and W & M applications	(260x180x 70)mm	PR 6130/60N	9405 361 30604
Plastic Cable junction box	for all industrial applications, max. eight load cells	(250x180x 90) mm	PR 6130/08	9405 361 30081
Extension cable	for all applications	D=11mm	PR 6135	9405 361 35. . 2
Extension cable, armoured	for all applications	D=11mm	PR 6135/...A	9405 361 35. . 9
Extension cable	for all Ex applications	D=11mm	PR 6136	9405 361 36. . 1
Extension cable, armoured	for all Ex applications	D=11mm	PR 6136/...A	9405 361 36. . 9
Loaddisk	normal version for 0.5 up to 50t		PR 6143/50N	9405 361 43501
Stainless steel Loaddisk	material 1.4542 (DIN 17440) for 0.5 up to ,50 t		PR 6143/50S	9405 361 43502
Stainless steel Bottomdisk	material 1.4542 (DIN 17440) for PR 6201 up to 20 t L nominal load		PR 6143/24S	9405 361 43242
Stainless steel Bottomdisk	material 1.4542 (DIN 17440) for PR 6201 20 t D1, 20 t C3, 30 t or 50 t nominal load		PR 6143/54S	9405 361 43542
Mounting kit	steel plates to mount all PR 6201 up to 50t nominal load		PR 6145/00N	9405 361 45001
Stainless steel Mounting kit	material 1.4301, for 20t D1, 20t C3, 30t or 50t nominal load order PR 6143/54S separately		PR 6145/00S	9405 361 45002
Mini Flexlock	mounting plate kit with built in constrainer up to 25 kN horizontal forces		PR 6143/00N	9405 361 43001
Stainless steel Mini Flexlock	material 1.4301, up to 20 t nominal load and up to 25 kN horizontal forces		PR 6143/00S	9405 361 43002
Flexlock	stronger version with built in constrainer up to 50 kN horizontal forces		PR 6143/10N	9405 361 43101
Stainless steel Mini Flexlock	material 1.4301, up to 50 t nominal load and up to 50 kN horizontal forces		PR 6143/10S	9405 361 43102
Horizontal constrainers	withstands horizontal forces up to 200 kN		PR 6152/02	9405 361 52021
Table for the possible pivots to use together with PR 6201 load cell:	up to 5 t nominal load	normal steel	PR 6101/53N	9405 561 01531
		stainless steel	PR 6101/53S	9405 561 01532
	up to 20 t nominal load	normal steel	PR 6101/24N	9405 561 01241
		stainless steel	PR 6101/24S	9405 561 01242
	up to 50 t nominal load	normal steel	PR 6101/54N	9405 561 01541
		stainless steel	PR 6101/54S	9405 561 01542

