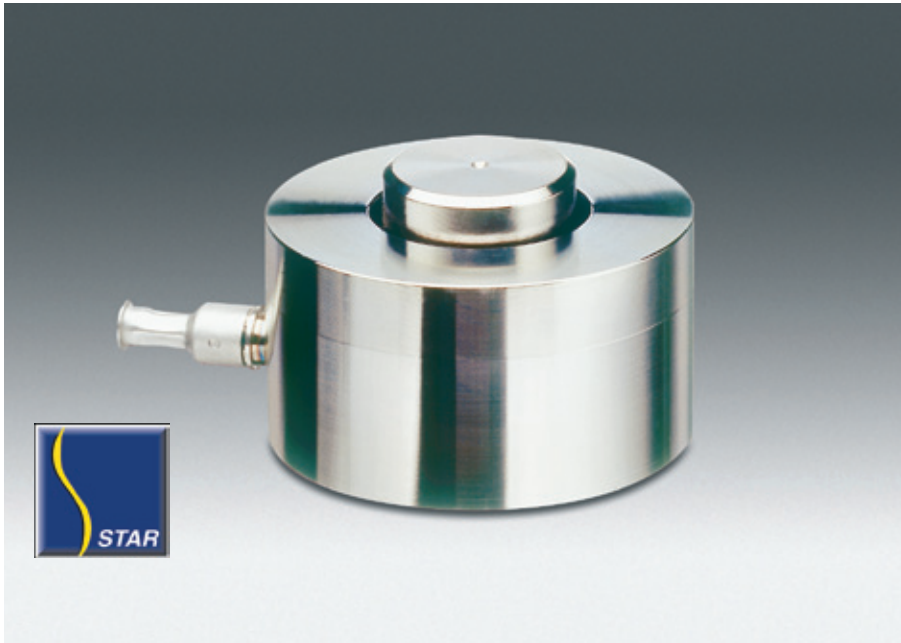


# PR 6211

## Compact Compression Load Cell



**30 kg... 10 t Type D1**  
**500 kg... 5 t Type LT**

- Easy to install in limited space
- Easy corner adjustment by matched D1 load cell outputs
- Full stainless steel construction
- Wide temperature range
- Resistant against vibration
- Hermetically sealed, IP68 (depth of 1.5 m for 10,000 hrs.), IP69K
- Ex-version available (500 kg... 10 t)
- W&M approval (acc. OIML R 60)
- Integrated overload protection for up to 300 kg capacity

### Product Profile

The PR 6211 range of load cells is specially designed for weighing silos, tanks and process vessels.

The unique design principle facilitates a particularly compact construction and, as a result, the unit can be used even in restricted space conditions. The FlexLock installation kits counterbalance movements arising from mechanical or thermal expansion or contraction of the vessel or its supporting construction.

A particular design characteristic of some models is the thin-film or "sputter" technology. This enables an operating temperature of up to 180°C to be reached. In addition, the small construction has integrated overload protection of 500 kg.

At the same time, this range distinguishes itself above all for its unmatched reliability, robustness and stability, which enable trouble-free operation without adjustment, year after year.

The hermetically sealed enclosure and special TPE cable allow the unit to be used even under extreme operating conditions in harsh production environments.

The entire measurement chain can be calibrated without the use of a reference weight.

Due to "matched output" technology, a damaged load cell can be exchanged without the need for re-calibration. This saves a tremendous amount of time during commissioning. An explosion-proof (Ex) version of this range of load cells is also available, as an option, for use in intrinsically safe environments.

**Load cell construction**

Hermetically sealed, welded stainless steel construction, filled with polyurethane and inert gas.

**Material**

1.4542 (DIN EN 10088-3) acc. to S604, S622 (B.S.)

On request also available in high corrosion-resistant steel 1.4462.

**Protection**

IP68, IEC 529 (equivalent to NEMA 6).

The load cell can be submerged in water to a depth of 1.5 m for 10,000 hours, IP69K

**Cable**

Robust, flexible, screened  
TPE thermoplastic Elastomere

Sheath: grey

PR 6211/..D1E, Colour: blue

PR 6211 LT: PFA Thermoplastic, Colour: red

Diameter: 5 mm, wires 4 × 0,35 mm<sup>2</sup>

PR 6211/30... 300 kg: 3 mm, 4 × 0,13 mm<sup>2</sup>

Length : 5 m

PR 6211/30... 300 kg: 3 m

**Bending radius**

Fixed installation ≥ 50 mm

Flexible installation ≥ 150 mm

**Certificate of conformity**

Valid for:

PR 6211/... D1E (500 kg... 10 t)

Feature:

II 1G EEx ia IIC T6, II 1D IP65 85 °C

Registration number:

PTB 02 ATEX 2059, TÜV 03 ATEX 2301x

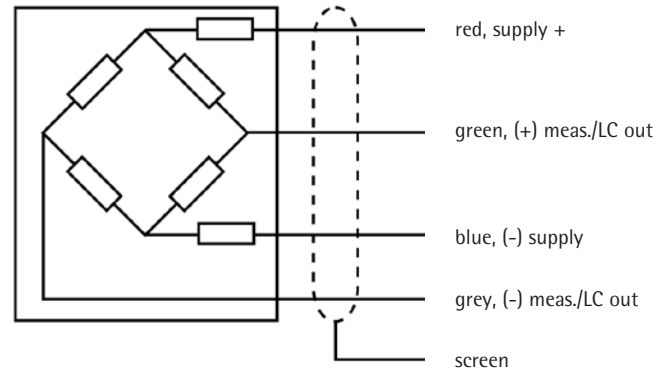
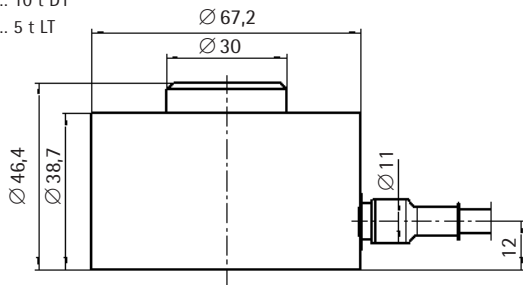
**Technical Data**

			LT 500 kg... 5 t	D1 30... 300 kg	D1 500 kg... 10 t	
Accuracy class			0.25	0.05	0.04	% E <sub>max</sub>
Minimum dead load	lowest limit of specified measuring range	E <sub>min</sub>	0	0	0	% E <sub>max</sub>
Maximum capacity	highest limit of specified measuring range	E <sub>max</sub>	s. Tabelle	s. Tabelle	s. Tabelle	
Max. usable load	upper limit for measurements	E <sub>u</sub>	150	150	150	% E <sub>max</sub>
Max. load without damage	highest limit without irreversible effects	E <sub>l</sub>	-	500	-	kg
Destructive load	danger of mechanical destruction	E <sub>d</sub>	> 300	-	> 300	% E <sub>max</sub>
Min. LC verification interval	minimum load cell verification interval, v <sub>min</sub> = E <sub>max</sub> /Y E <sub>max</sub> = 30 kg	Y	-	3,333	5,000	
		Y	-	2,500	-	
Rated output	relative output at nominal load	C <sub>n</sub>	2.0	2.0	2.0	mV/V
Tolerance on rated output	permissible deviation from rated output	d <sub>c</sub>	< 0.25	< 0.25	< 0.25	% C <sub>n</sub>
Zero output signal	load cell output signal under unloaded condition	S <sub>min</sub>	0... 2	0... 2	0... 2	% C <sub>n</sub>
Repeatability error	max. change in load cell output for repeated loading	ε <sub>R</sub>	< 0.1	< 0.01	< 0.01	% C <sub>n</sub>
Creep, during 30 min.	max. change in load cell output under nominal load	d <sub>cr</sub>	< 0.1	< 0.03	< 0.035	% C <sub>n</sub>
Non-Linearity	max. deviation from best straight line through zero	d <sub>lin</sub>	< 0.25	< 0.05	< 0.03	% C <sub>n</sub>
Hysteresis	max. difference in load cell output when loading from zero to nominal load and unloading back to zero	d <sub>hy</sub>	< 0.25	< 0.05	< 0.04	% C <sub>n</sub>
Temperature	max. change of S <sub>min</sub> /10 K DT over B <sub>T</sub> referred to C <sub>n</sub> effect S <sub>min</sub>	TK <sub>Smin</sub>	< 0.1	< 0.042	< 0.028	% C <sub>n</sub> /10 K
Temperature effect C	max. change of C/10 K DT over B <sub>T</sub> referred to C <sub>n</sub>	TK <sub>c</sub>	< 0.07	< 0.03	< 0.03	% C <sub>n</sub> /10 K
Input impedance	between supply terminals	R <sub>ic</sub>	1,200 ± 200	1,300 ± 12	650 ± 6	Ω
Output impedance	between measuring terminals	R <sub>o</sub>	1,200 ± 6	1,200 ± 2	610 ± 1	Ω
Insulation impedance	between measuring circuit and housing	R <sub>is</sub>	> 5,000	> 5,000	> 5,000	> 5,000 × 10 <sup>6</sup> Ω
Insulation voltage	between circuit and housing, special for PR 6211/..D1E	-	-	-	500	V
Recommended supply voltage	to hold the specified performance	B <sub>u</sub>	4... 24	4... 24	4... 24	V
Max. supply voltage	permissible for continuous operation without damage	U <sub>max</sub>	25	25	25	V
Nominal ambient temp. range	to hold the specified performance	B <sub>T</sub>	-10... +155	-10... +85	-10... +55	°C
Usable ambient temp. range	permissible for continuous operation without damage	B <sub>Tu</sub>	-30... +180	-30... +95	-30... +95	°C
Storage temperature range	Transportation and storage	B <sub>Tl</sub>	-40... +180	-40... +95	-40... +95	°C
Permissible eccentricity	permissible displacement from nominal load line	S <sub>ex</sub>	3	3	3	mm
Vibration resistance	resistance against oscillation (IEC 68-2-6 Fc)	-	20 g, 100 h, 10... 150 Hz	20 g, 100 h, 10... 150 Hz	20 g, 100 h, 10... 150 Hz	
Air pressure effects	influence of ambient air pressure on S <sub>min</sub>	PK <sub>Smin</sub>	≤ 70	≤ 12	≤ 60	g/kPa
Nominal deflection	max. elastic deformation under nominal load	S <sub>nom</sub>	up to 10 t < 0.2	up to 300 kg < 0.1/	up to 10 t < 0.2	mm

Definitions acc. to VDI/VDE 2637

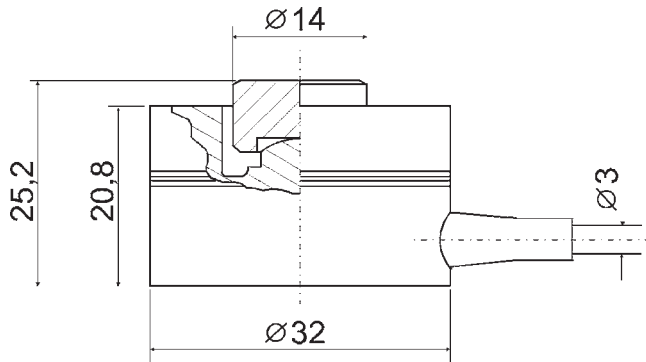
The technical data given here serve only as a product description and must not be interpreted as guaranteed characteristics in the legal sense.

Compact compression Load cell  
 500 kg... 10 t D1  
 500 kg... 5 t LT

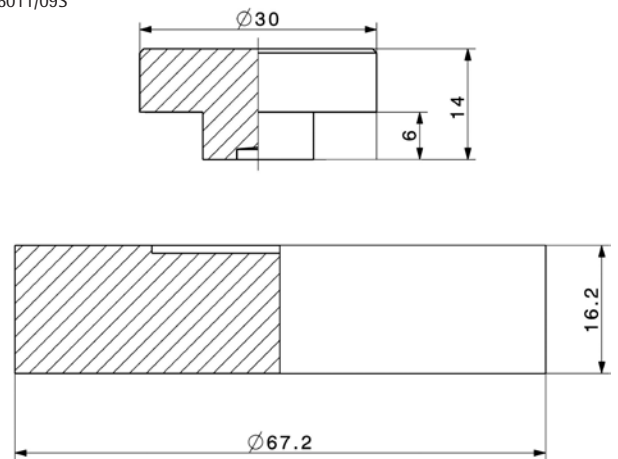


Dimensions in mm

Compact compression Load cell 30 kg... 300 kg



PR 6011/09S



Dimensions in mm

**Order information**

Type	Nominal Load $E_{max}$ (2mV/V)	Version	Packing	Weight gross   net
PR 6211/31..	30 kg	/..D1	240 × 175 × 80 mm	0.31 kg   0.14 kg
PR 6211/51..	50 kg	/..D1	240 × 175 × 80 mm	0.31 kg   0.14 kg
PR 6211/12..	100 kg	/..D1	240 × 175 × 80 mm	0.31 kg   0.14 kg
PR 6211/22..	200 kg	/..D1	240 × 175 × 80 mm	0.31 kg   0.14 kg
PR 6211/32..	300 kg	/..D1	240 × 175 × 80 mm	0.31 kg   0.14 kg
PR 6211/52	500 kg	../..LT /..D1/..D1E	250 × 230 × 60 mm	1.3 kg   1.0 kg
PR 6211/13..	1 t	/..LT/..D1/..D1E	250 × 230 × 60 mm	1.3 kg   1.0 kg
PR 6211/23..	2 t	/..LT/..D1/..D1E	250 × 230 × 60 mm	1.3 kg   1.0 kg
PR 6211/33..	3 t	/..LT/..D1/..D1E	250 × 230 × 60 mm	1.3 kg   1.0 kg
PR 6211/53..	5 t	/..LT/..D1/..D1E	250 × 230 × 60 mm	1.3 kg   1.0 kg
PR 6211/14..	10 t	/..D1/..D1E	250 × 230 × 60 mm	1.3 kg   1.0 kg

Type	Description		Dimensions	Order number
PR 6130/08	Plastic cable junction box	for all industrial applications, max. 8 load cells	200 × 120 × 75 mm	9405 361 30081
PR 6130/04N	Cable junction box	Aluminium, grey painted, IP67, for all industrial applications, max. 4 load cells	175 × 80 × 57 mm	9405 361 30041
PR 6130/64Sa	Stainless steel cable junction box	material stainless steel 1.4301, IP68, IP69K, for all industrial, intrinsically safe and W&M applications, max. 4 load cells	190 × 160 × 60 mm	9405 361 30642
PR 6130/65S	Stainless steel cable junction box	material stainless steel 1.4301, IP68, IP69K, for all cable junction box industrial applications, intrinsically safe and W&M applications, max. 4 load cells	172 × 105 × 55 mm	9405 361 30652
PR 6130/68S	Stainless steel cable junction box	material stainless steel 1.4404, IP68, IP69K, for all cable junction box industrial applications, intrinsically safe and W&M applications, max. 8 load cells	240 × 170 × 70 mm	9405 361 30682
PR 6135	Extension cable	for all applications	D = 9 mm	9405 361 35..2
PR 6135/..A	Extension cable, armoured	for all applications, grey	D = 13 mm	9405 361 35..9
PR 6136	Extension cable	for intrinsically safe applications, blue	D = 11 mm	9405 361 36..2
PR 6136/..A	Extension cable, armoured	for intrinsically safe applications, blue	D = 13 mm	9405 361 36..9
PR 6011/10N	Mounting kit	steel plates to mount all PR 6211/500 kg... 10 t nominal load		9405 360 11101
PR 6011/10S	Stainless steel mounting kit	stainless steel version of PR 6011/10N		9405 360 11102
PR 6011/30N	MiniFlexlock	mounting kit for PR 6211 500 kg... 10 t with built in constrainer up to 5 kN horizontal forces		9405 360 11301
PR 6011/30S	Stainless steel MiniFlexlock	stainless steel version of PR 6011/30N		9405 360 11302
PR 6011/40N	SeismoFlex	mounting kit for 6211 500 kg... 10 t with built in constrainer up to 20 kN side forces and lift-off-protection		9405 360 11401
PR 6011/40S	Stainless steel SeismoFlex	stainless steel version of PR 6011/40N		9405 360 11402
PR 6011/11N	Mounting kit	mounting plate for all load cells PR 6211/500 kg to 10 t nominal load, Material 1.4301		9405 360 11111
PR 6011/11S	Mounting kit Stainless steel	mounting plate for all load cells PR 6211/500 kg to 10 t nominal load, material 1.4301		9405 360 11112
PR 6011/00N	Mounting kit	steel plate kit to mount PR 6211 30 kg... 300 kg		9405 360 11001
PR 6011/00S	Stainless steel mounting kit	stainless steel version of PR 6011/00N		9405 360 11002
PR 6011/03	Rubber mounting kit	vibration absorbent rubber with steel plates for mounting on PR 6011/00N and PR 6011/20N		9405 360 11031
PR 6011/20N	MiniFlexlock	mounting kit for PR 6211 30 kg... 300 kg with build in constrainer up to 450 N horizontal forces		9405 360 11201
PR 6011/20S	Stainless steel MiniFlexlock	stainless steel version of PR 6011/20N		9405 360 11202
PR 6011/09S	Mounting adapter	For use with mounting kits PR 6011/10, PR 6011/11, PR 6011/30, PR 6011/40		9405 360 11092
PR 6012/00S	Mounting plate kit Stainless steel	Mounting kit with integrated lift-off-protection, "Jack-up"- and Dummy-function for PR 6211	Load cell (30 kg... 300 kg)	9405 360 12002
PR 6012/20S	MaxiFLEXLOCK Stainless steel	Mounting kit with horizontal constrainer, integrated lift-off-protection, "Jack-up"- and Dummy-function for PR 6211	Load cell (30 kg... 300 kg)	9405 360 12202
PR 6012/10S	Mounting plate kit Stainless steel	Mounting kit with integrated lift-off-protection, "Jack-up"- and Dummy-function for PR 6211	Load cell (500 kg... 10 t)	9405 360 12102
PR 6012/30S	MaxiFLEXLOCK Stainless steel	Mounting kit with horizontal constrainer, integrated lift-off-protection, "Jack-up"- and Dummy-function for PR 6211	Load cell (500 kg... 10 t)	9405 360 12302
PR 6012/11S	Mounting plate kit Stainless steel	Strengthened mounting kit for SeismoFLEX with integrated lift-off-protection, "Jack-up"- and Dummy-function for PR 6211	Load cell (500 kg... 10 t)	9405 360 12112
PR 6012/40S	SeismoFLEX Stainless steel	Strengthened mounting kit with horizontal constrainer, integrated lift-off-protection, "Jack-up"- and Dummy-function for PR 6211	Load cell (500 kg... 10 t)	9405 360 12402

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