



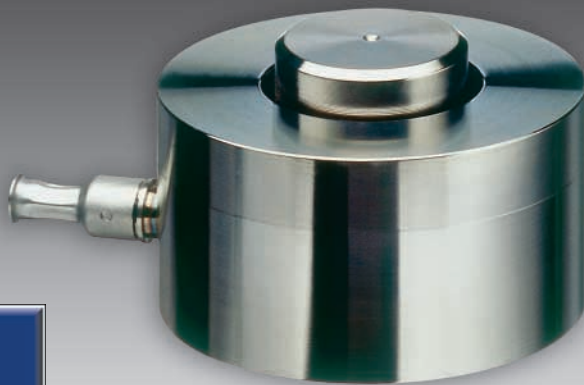
Kontrols & Industrial Weighing

PR 6211

Compact Compression Load Cell



sartorius
mechatronics



30kg... 10t Type D1
500kg... 5t 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, IP 68 (depth of 1.5m for 10,000 hrs.), IP 69K
- Ex-version available (500kg... 10t)
- W&M approval (acc. OIML R 60)
- Integrated overload protection for up to 300kg 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 "splutter" technology. This enables an operating temperature of up to 180°C to be reached. In addition, the small construction has integrated overload protection of 500kg.

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 17440) acc. to S604, S622 (B.S.)

Protection

IP 68, IEC 529 (equivalent to NEMA 6).

The load cell can be submerged in water to a depth of 1.5m for 10,000 hours, IP 69K

Cable

Robust, flexible, screened
TPE thermoplastic Elastomere
Sheath: grey
PR 6211/..D1E, Colour: blue
PR 6211 LT: PFA Thermoplastic, Colour: red
Diameter: 5mm, wires 4 x 0,35mm²
PR6211/30... 300kg: 3mm, 4 x 0,13mm²
Length : 5m
PR6211/30... 300kg: 3m

Bending radius

Fixed installation ≥ 50mm
Flexible installation ≥ 150mm

Certificate of conformity

Valid for:
PR 6211/... D1E (500kg... 10t)
Feature:
II 1G EEx ia IIC T6, II 1D IP65 85°C
Registration number:
PTB 02 ATEX 2059, TÜV 03 ATEX 2301x

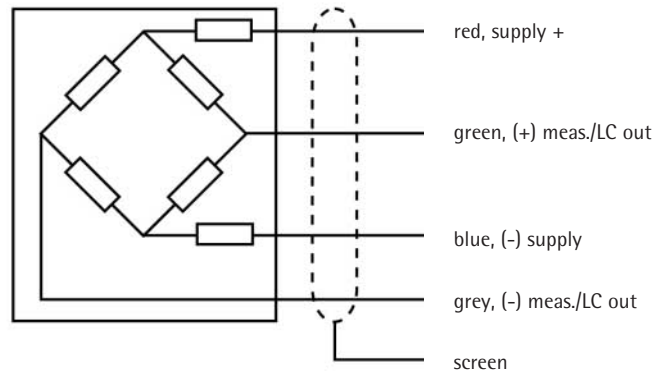
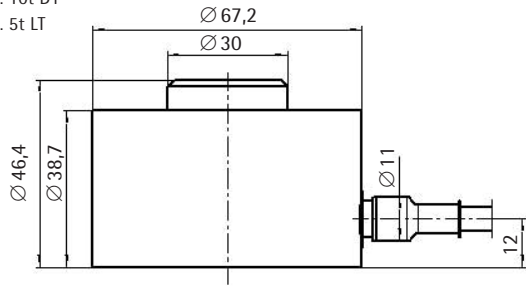
Technical Data

| | | | LT 500kg... 5t | D1 30... 300kg | D1 500kg... 10t | |
|-------------------------------|---|--------------------|---------------------------|---------------------------|---------------------------|-----------------------|
| Accuracy class | | | 0,25 | 0,05 | 0,04 | % E _{max} |
| Minimum dead load | lowest limit of specified measuring range | E _{min} | 0 | 0 | 0 | % E _{max} |
| Maximum capacity | highest limit of specified measuring range | E _{max} | s. Tabelle | s. Tabelle | s. Tabelle | |
| Max. usable load | upper limit for measurements | E _u | 150 | 150 | 150 | % E _{max} |
| Max. load without damage | highest limit without irreversible effects | E _L | - | 500 | - | kg |
| Destructive load | danger of mechanical destruction | E _d | > 300 | - | > 300 | % E _{max} |
| Max. side load | highest limit of static load in the horizontal direction | E _{lq} | 5 | 2 | 5 | kN |
| Min. LC verification interval | minimum load cell verification interval, v _{min} = E _{max} /Y E _{max} = 30kg | Y | - | 3,333 | 5,000 | |
| | | Y | - | 2,500 | - | |
| Rated output | relative output at nominal load | C _n | 2.0 | 2.0 | 2.0 | mV/V |
| Tolerance on rated output | permissible deviation from rated output | d _c | < 0.25 | < 0.25 | < 0.25 | % C _n |
| Zero output signal | load cell output signal under unloaded condition | S _{min} | < 0... 2 | < 0... 2 | < 0... 2 | % C _n |
| Repeatability error | max. change in load cell output for repeated loading | ε _R | < 0.1 | < 0.01 | < 0.01 | % C _n |
| Creep, during 30 min. | max. change in load cell output under nominal load | d _{cr} | < 0.1 | < 0.03 | < 0.035 | % C _n |
| Non-Linearity | max. deviation from best straight line through zero | d _{lin} | < 0.25 | < 0.05 | < 0.03 | % C _n |
| Hysteresis | max. difference in load cell output when loading from zero to nominal load and unloading back to zero | d _{hy} | < 0.25 | < 0.05 | < 0.04 | % C _n |
| Temperature | max. change of S _{min} /10K DT over B _T referred to C _n effect S _{min} | TK _{Smin} | < 0.1 | < 0.042 | < 0.028 | % C _n /10K |
| Temperature effect C | max. change of C/10K DT over B _T referred to C _n | TK _C | < 0.07 | < 0.03 | < 0.03 | % C _n /10K |
| Input impedance | between supply terminals | R _{LC} | 1,200 ± 200 | 1,300 ± 12 | 650 ± 6 | Ω |
| Output impedance | between measuring terminals | R ₀ | 1,200 ± 6 | 1,200 ± 2 | 610 ± 1 | Ω |
| Insulation impedance | between measuring circuit and housing | R _{IS} | > 5,000 | > 5,000 | > 5,000 | Ω |
| Insulation voltage | between circuit and housing, special for PR 6211/..D1E | - | - | - | 500 | V |
| Recommended supply voltage | to hold the specified performance | B _u | 4... 24 | 4... 24 | 4... 24 | V |
| Max. supply voltage | permissible for continuous operation without damage | U _{max} | 25 | 25 | 25 | V |
| Nominal ambient temp. range | to hold the specified performance | B _T | -10... +155 | -10... +85 | -10... +55 | ° C |
| Usable ambient temp. range | permissible for continuous operation without damage | B _{Tu} | -40... +180 | -40... +95 | -40... +95 | ° C |
| Storage temperature range | Transportation and storage | B _{Tl} | -40... +180 | -40... +95 | -40... +95 | ° C |
| Permissible eccentricity | permissible displacement from nominal load line | S _{ex} | 3 | 3 | 3 | mm |
| Vibration resistance | resistance against oscillation (IEC 68-2-6 Fc) | - | 20g, 100h, 10... 150Hz | 20g, 100h, 10... 150Hz | 20g, 100h, 10... 150Hz | |
| Air pressure effects | influence of ambient air pressure on S _{min} | PK _{Smin} | ≤ 70 | ≤ 12 | ≤ 60 | g/kPa |
| Nominal deflection | max. elastic deformation under nominal load | S _{nom} | up to 10t < 0.2 | up to 300kg < 0.1/ | up to 10t < 0.2 | mm |

Definitions acc. to VDI / VDE 2637

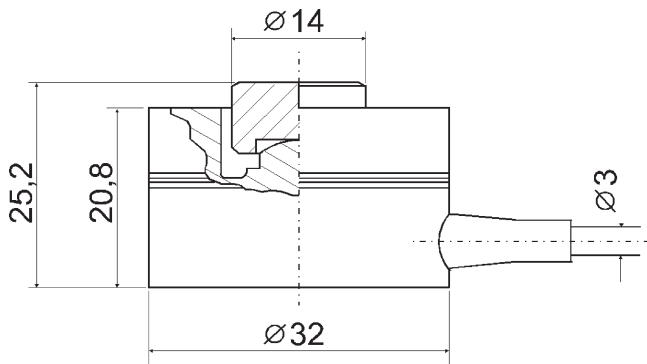
The technical data given here serve only as a product description and must not be interpreted as guaranteed characteristics in the legal sense.

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



Dimensions in mm

Compact compression Load cell 30kg... 300kg



Dimensions in mm

Order information

| Type | Nominal Load E_{max} (2mV/V) | Version | Packing | Weight gross/net |
|-------------|-----------------------------------|---------------------|------------------|------------------|
| PR6211/31.. | 30kg | /..D1 | 240 x 175 x 80mm | 0,31kg/0,14kg |
| PR6211/51.. | 50kg | /..D1 | 240 x 175 x 80mm | 0,31kg/0,14kg |
| PR6211/12.. | 100kg | /..D1 | 240 x 175 x 80mm | 0,31kg/0,14kg |
| PR6211/22.. | 200kg | /..D1 | 240 x 175 x 80mm | 0,31kg/0,14kg |
| PR6211/32.. | 300kg | /..D1 | 240 x 175 x 80mm | 0,31kg/0,14kg |
| PR6211/52 | 500kg | ../..LT /..D1/..D1E | 250 x 230 x 60mm | 1,3kg/1,0kg |
| PR6211/13.. | 1t | /..LT/..D1/..D1E | 250 x 230 x 60mm | 1,3kg/1,0kg |
| PR6211/23.. | 2t | /..LT/..D1/..D1E | 250 x 230 x 60mm | 1,3kg/1,0kg |
| PR6211/33.. | 3t | /..LT/..D1/..D1E | 250 x 230 x 60mm | 1,3kg/1,0kg |
| PR6211/53.. | 5t | /..LT/..D1/..D1E | 250 x 230 x 60mm | 1,3kg/1,0kg |
| PR6211/14.. | 10t | /..D1/..D1E | 250 x 230 x 60mm | 1,3kg/1,0kg |

| Type | Description | | Dimensions | Order number |
|------------|------------------------------------|--|------------------|------------------|
| PR6130/08 | Plastic cable junction box | for all industrial applications, max. 8 load cells | 250 x 180 x 90mm | 9405 361 30081 |
| PR6130/04 | Cable junction box | Aluminium, grey painted, IP 68, for all industrial applications, max. 4 load cells | 175 x 80 x 57mm | 9405 361 30041 |
| PR6130/64 | Stainless steel cable junction box | material stainless steel 1.4301, IP 68, IP 69K, for all industrial, intrinsically safe and W&M applications, max. 4 load cells | 195 x 114 x 59mm | 9405 361 30642 |
| PR6130/68 | Stainless steel cable junction box | material stainless steel 1.4404, IP 68, for all industrial, applications, max. 8 load cells | 200 x 160 x 60mm | 9405 361 21682 |
| PR6135 | Extension cable | for all applications | D = 9mm | 9405 361 35. . 2 |
| PR6135/.A | Extension cable, armoured | for all applications, grey | D = 13mm | 9405 361 35. . 9 |
| PR6136 | Extension cable | for intrinsically safe applications, blue | D = 11mm | 9405 361 36. . 2 |
| PR6136/.A | Extension cable, armoured | for intrinsically safe applications, blue | D = 13mm | 9405 361 36. . 9 |
| PR6011/10N | Mounting kit | steel plates to mount all PR 6211 / 500kg... 10t nominal load | | 9405 360 11101 |
| PR6011/10S | Stainless steel mounting kit | stainless steel version of PR 6011/10N | | 9405 360 11102 |
| PR6011/30N | MiniFlexlock | mounting kit for PR 6211 500kg... 10t with built in constrainer up to 5kN horizontal forces | | 9405 360 11301 |
| PR6011/30S | Stainless steel MiniFlexlock | stainless steel version of PR 6011/30N | | 9405 360 11302 |
| PR6011/40N | SeismoFlex | mounting kit for 6211 500kg... 10t with built in constrainer up to 20 kN side forces and lift-off-protection | | 9405 360 11401 |
| PR6011/40S | Stainless steel SeismoFlex | stainless steel version of PR 6011/40N | | 9405 360 11402 |
| PR6011/11N | Mounting kit | mounting plate for all load cells PR6211/500kg to 10t nominal load, Material 1.4301 | | 9405 360 11111 |
| PR6011/11S | Mounting kit Stainless steel | mounting plate for all load cells PR6211/500kg to 10t nominal load, material 1.4301 | | 9405 360 11112 |
| PR6011/00N | Mounting kit | steel plate kit to mount PR 6211 30kg... 300kg | | 9405 360 11001 |
| PR6011/00S | Stainless steel mounting kit | stainless steel version of PR 6011/00N | | 9405 360 11002 |
| PR6011/03 | Rubber mounting kit | vibration absorbent rubber with steel plates for mounting on PR 6011/00N and PR 6011/20N | | 9405 360 11031 |
| PR6011/20N | MiniFlexlock | mounting kit for PR 6211 30 kg... 300kg with build in constrainer up to 450N horizontal forces | | 9405 360 11201 |
| PR6011/20S | Stainless steel MiniFlexlock | stainless steel version of PR 6011/20N | | 9405 360 11202 |

Please feel free to contact one of our sales consultants for further information

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