

Kontrols & Industrial Weighing

PR 6207

Beam Type Load Cell



sartorius
mechatronics



10kg... 200kg Type D1/C3

- Easy to install
- Full stainless steel construction
- Wide temperature range
- Resistant against vibration
- Hermetically sealed, IP 67
- Compatible with other sources

Product Profile

The load cell PR6207 is specially designed for tank and hopper weighing and for the use in platform scales or belt weighers.

The design principle of the mounting kit PR6007 will counterbalance movements arising from mechanical and thermal expansion or contraction of its supporting structure.

A particular design characteristic is that the sensor is manufactured out of stainless steel (1.4122) and the membrane is made out of 1.4541.

Therefore the line is distinguished with high measurement accuracy and high repeatability as well as stability and reliability. This is the sound basis for maintenance free work and years without any further adjustments.

The hermetically sealed sensor allows to use the device even under extreme operation conditions.

The entire measurement chain can be calibrated without using a reference weight. Due to "matched output" technology, a damaged load cell can be exchanged without the need of re-calibration. This saves a tremendous amount of time during commissioning and in case of necessary replacement.

Load cell construction

Double bending beam, all stainless steel, hermetically sealed, welded, filled with inert gas.

Protection

IP 67, DIN 40 050. The load cell can be submerged in water to a depth of 1.5m for 100hrs.

Bending radius

fixed installation $r \geq 60\text{mm}$
with repeated bending $r \geq 150\text{mm}$

Material Body

Body 1.4122 (DIN 17440)
Bellow 1.4541 (DIN 17440)

Cable

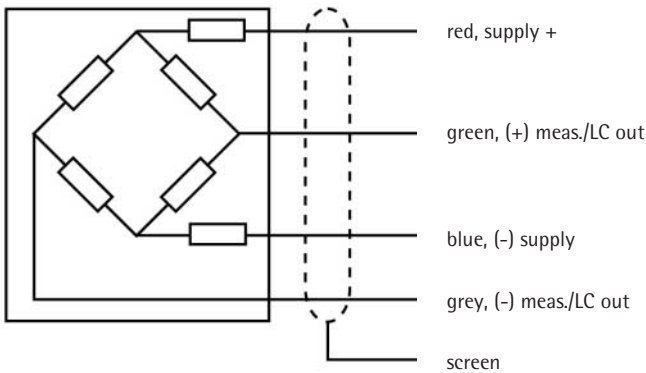
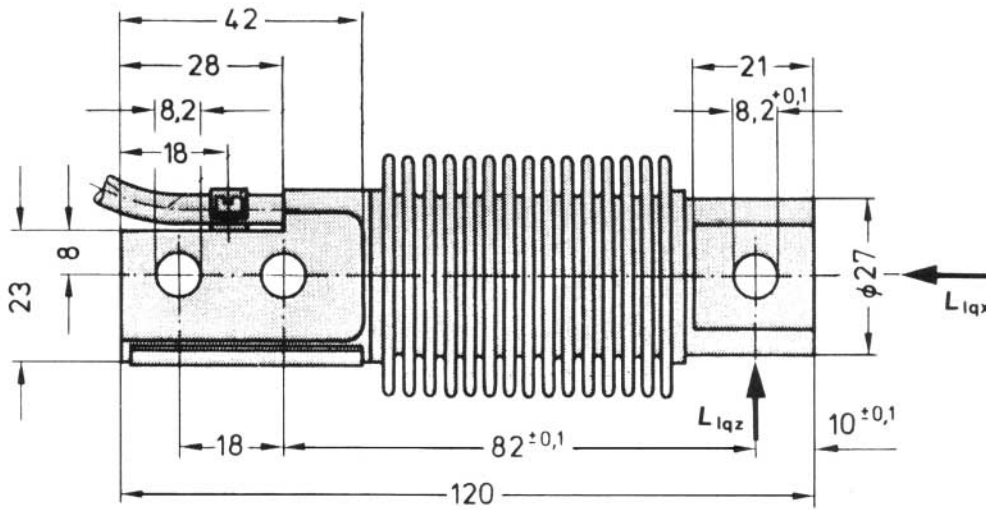
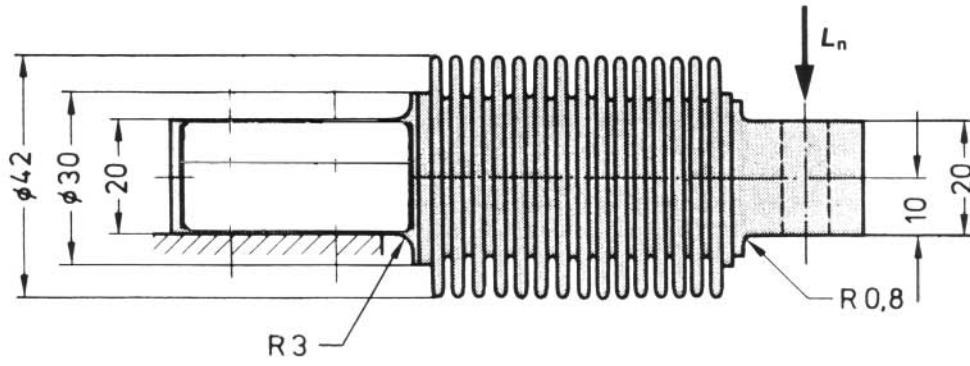
robust, flexible, screened $4 \times 0.34\text{mm}^2$
sheath: grey, PVC
diameter: $D = 5.4\text{mm}$
length: 3m

Technical Data

| | | | D1 | C3 | |
|----------------------------------|--|------------------|---------------------------|---------------------------|--------------------|
| Accuracy class | | | 0.05 | 0.017 | % E_{\max} |
| Minimum dead load | lowest limit of specified measuring range | E_{\min} | 0 | 0 | % E_{\max} |
| Maximum capacity | highest limit of specified measuring range | E_{\max} | s. table | s. table | |
| Max. side load (x) | highest limit of static load in x-direction | $L_{\text{q}x}$ | 200 | 200 | % E_{\max} |
| Max. side load (z) | highest limit of static load in z-direction | $L_{\text{q}z}$ | 200 | 200 | % E_{\max} |
| Min. LC verification interval | minimum load cell verification interval, $v_{\min} = E_{\max} / Y$ | Y | 2.778 | 11.111 | |
| Rated output | relative output at nominal load | C_n | 2 | 2 | mV/V |
| Tolerance on rated output | permissible deviation from rated output | d_c | < (+1.0 - 0.1) | < 0.1 | % C_n |
| Zero output signal | load cell output signal under unloaded condition | S_{\min} | < 1.0 | < 1.0 | % C_n |
| Repeatability error | max. change in load cell output for repeated loading | ϵ_R | < 0.03 | < 0.01 | % C_n |
| Creep, during 30min. | max. change in load cell output under nominal load | d_{cr} | < 0.05 | < 0.017 | % C_n |
| Non-Linearity | max. deviation from best straight line through zero | d_{lin} | < 0.05 | < 0.017 | % C_n |
| Hysteresis | max. difference in load cell output when loading from | d_{hy} | < 0.05 | < 0.018 | % C_n |
| Temperature effect on S_{\min} | max. change of $S_{\min}/10\text{K}$ over B_T | $TK_{S_{\min}}$ | < 0.05 | < 0.013 | % $C_n/10\text{K}$ |
| Temperature effect on C | max. change of $C/10\text{K}$ over B_T | TK_c | < 0.05 | < 0.008 | % $C_n/10\text{K}$ |
| Input impedance | between supply terminals | R_{tC} | 350... 480 | 350... 480 | Ω |
| Output impedance | between measuring terminals | R_o | 356 ± 0.2 | 356 ± 0.12 | Ω |
| Insulation impedance | between measuring circuit and housing at $100V_{\text{DC}}$ | R_{IS} | $> 5.000 \times 10^6$ | $> 5.000 \times 10^6$ | Ω |
| Recommended supply voltage | to hold the specified performance | B_u | 4... 12 | 4... 12 | V |
| Max. supply voltage | permissible for continuous operation without damage | U_{\max} | 18 | 18 | V |
| Nominal ambient temp. range | to hold the specified performance | B_T | -10... +70 | -10... +70 | $^{\circ}\text{C}$ |
| Usable ambient temp. range | permissible for continuous operation without damage | B_{tu} | -30... +70 | -30... +70 | $^{\circ}\text{C}$ |
| Storage temperature range | Transportation and storage | B_{t1} | -50... +85 | -50... +85 | $^{\circ}\text{C}$ |
| Vibration resistance | resistance against oscillation (IEC 68-2-6 Fc) | | 10g, 100h, 10... 150Hz | 10g, 100h, 10... 150Hz | |
| Nominal deflection | max. elastic deformation under nominal load | S_{nom} | 0.3 - 0.4 | 0.3 - 0.4 | 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.



Order information

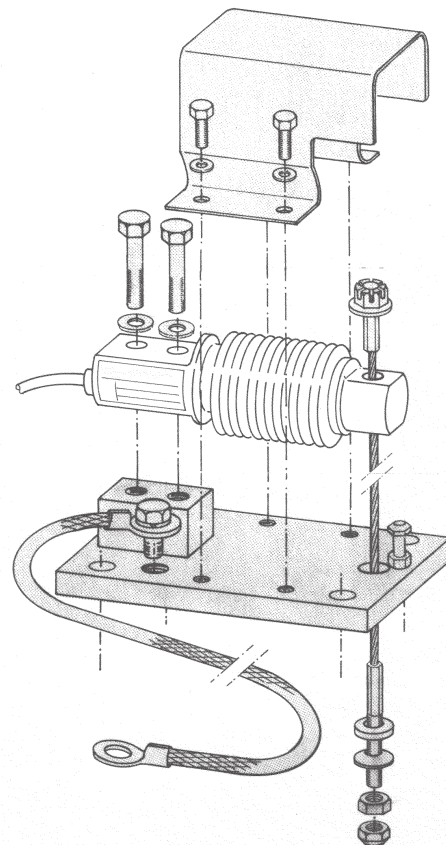
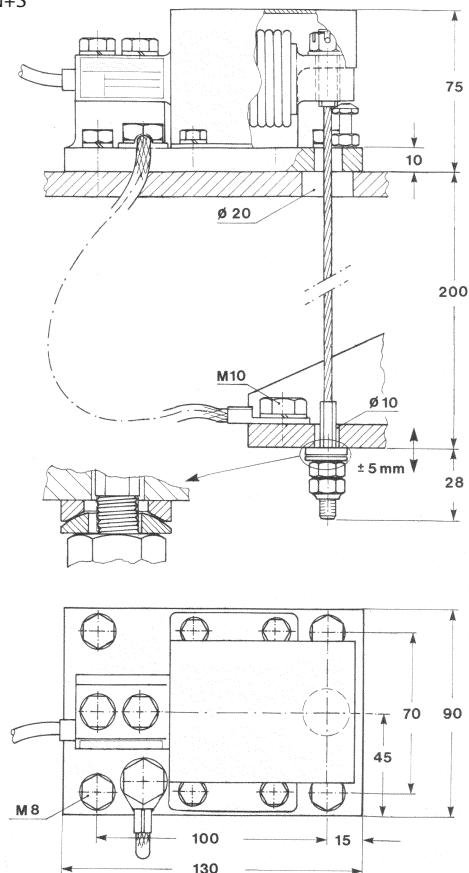
| Type | Nominal Load E_{max} | Version | Max. usable load (in % of E_{max}) | Destructive load (in % of E_{max}) | Packing | Weight gross/net |
|-----------|---------------------------|---------|--|--|------------------|---------------------|
| PR6207/11 | 10kg | D1/C3 | 150 | > 300 | 280 x 160 x 90mm | 0,9kg/0,5kg |
| PR6207/21 | 20kg | D1/C3 | 150 | > 300 | 280 x 160 x 90mm | 0,9kg/0,5kg |
| PR6207/51 | 50kg | D1/C3 | 150 | > 300 | 280 x 160 x 90mm | 0,9kg/0,5kg |
| PR6207/12 | 100kg | D1/C3 | 150 | > 300 | 280 x 160 x 90mm | 0,9kg/0,5kg |
| PR6207/22 | 200kg | D1/C3 | 150 | > 300 | 280 x 160 x 90mm | 0,9kg/0,5kg |

Further options

| 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, grey | 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 |

| Type | Description | | Dimensions | Order number |
|------------|--------------|--|------------|----------------|
| PR6007/00N | Mounting kit | material St37, zinc plated, yellow chromated | | 9405 360 07001 |
| PR6007/00S | Mounting kit | material 1.4301 | | 9405 360 07002 |

PR6007/00N+S



Dimensions in mm

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