

# PR 6201

## Precision Compression Load Cell

100 t, 200 t, 300 t Typ L/LA/N/NE

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

### Technical Data

|                                 |                                                                    |
|---------------------------------|--------------------------------------------------------------------|
| Accuracy class                  |                                                                    |
| Minimum dead load               | lowest limit of specified measuring range                          |
| Maximum capacity                | highest limit of specified measuring range                         |
| Rated output                    | relative output at nominal load                                    |
| Tolerance on rated output       | permissible deviation from rated output                            |
| Zero output signal              | load cell output signal under unloaded condition                   |
| Repeatability error             | max. change in load cell output for repeated loading               |
| Creep, during 30 min.           | max. change in load cell output under nominal load                 |
| Non - Linearity                 | max. deviation from best straight line through zero                |
| Hysteresis                      | max. difference in load cell output when loading from              |
| Temperature effect on $S_{min}$ | max. change of $S_{min}/10K \Delta T$ over $B_T$ referred to $C_n$ |
| Temperature effect on C         | max. change of $C/10K \Delta T$ over $B_T$ referred to $C_n$       |
| Input impedance                 | between supply terminals                                           |
| Output impedance                | between measuring terminals                                        |
| Insulation impedance            | between measuring circuit and housing at 100 V <sub>DC</sub>       |
| Insulation voltage              | between circuit and housing, PR 6201/..EX only                     |
| Recommended supply voltage      | to hold the specified performance                                  |
| Max. supply voltage             | permissible for continuous operation without damage                |
| Nominal ambient temp. range     | to hold the specified performance                                  |
| Usable ambient temp. range      | permissible for continuous operation without damage                |
| Storage temperature range       | Transportation and storage                                         |
| Permissible eccentricity        | permissible displacement from nominal load line                    |
| Vibration resistance            | resistance against oscillation (IEC 68-2-6 Fc)                     |
| Air pressure effect             | influence of ambient air pressure on $S_{min}$                     |
| Nominal deflection              | max. elastic deformation under nominal load                        |

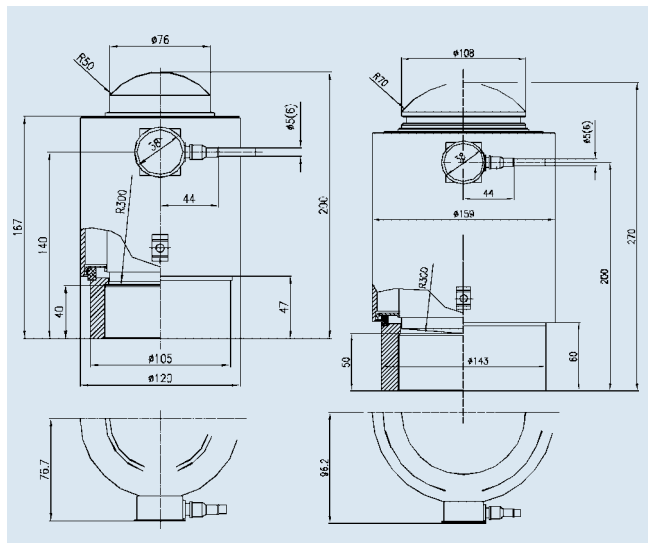
Definitions acc. to VDI / VDE 2637

\* 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.

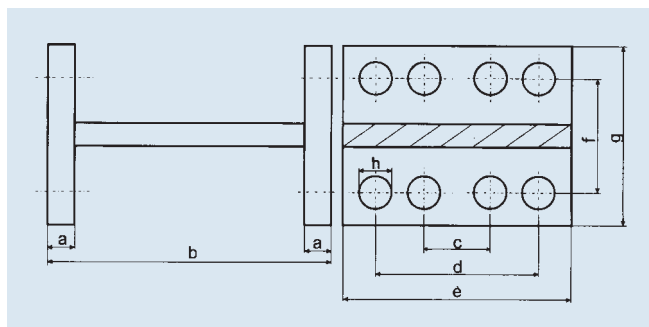
|              | LA                                  | L                          | N/NE             |             |
|--------------|-------------------------------------|----------------------------|------------------|-------------|
| $E_{min}$    | 0,5                                 | 0,5                        | 0,06             | % $E_{max}$ |
| $E_{max}$    |                                     | 0                          |                  | % $E_{max}$ |
| $C_n$        | 16 mA                               | 1,0                        | 1,0 (300 t: 1,5) | mV/V        |
| $d_c$        | <1,0                                | <1,0                       | <0,25            | % $C_n$     |
| $S_{min}$    | 4 mA                                | <2,0                       | <1,0             | % $C_n$     |
| $\epsilon_R$ | <0,02                               | <0,02                      | <0,01            | % $C_n$     |
| $d_{cr}$     | <0,05                               | <0,05                      | <0,03            | % $C_n$     |
| $d_{lin}$    | <0,3                                | <0,3                       | <0,05            | % $C_n$     |
| $d_{hy}$     | <0,25                               | <0,25                      | <0,06            | % $C_n$     |
|              |                                     |                            | (100 t: <0,04)   |             |
| $TK_{Smin}$  | <0,2                                | <0,2                       | <0,06            | % $C_n/10K$ |
| $TK_c$       | <0,1                                | <0,1                       | <0,03            | % $C_n/10K$ |
| $R_{LC}$     | -                                   | 650 ± 50                   | 650 ± 6          | Ω           |
| $R_0$        | -                                   | 610 ± 3                    | 610 ± 1          | Ω           |
| $R_{IS}$     | -                                   | >5000 × 10 <sup>6</sup>    |                  | Ω           |
| -            |                                     |                            | 500              | V           |
| $B_u$        | 20 ... 28                           | 4 ... 24                   |                  | V           |
| $U_{max}$    | 28                                  | 32                         |                  | V           |
| $B_T$        |                                     | -10 ... +55                |                  | °C          |
| $B_{Tu}$     | -30 ... +55                         | -30 ... +95                |                  | °C          |
| $B_{Ti}$     | -40 ... +70                         | -40 ... +95                |                  | °C          |
| $S_{ex}$     |                                     | 10                         |                  | mm          |
| -            |                                     | 20 g, 100 h, 10 ... 150 Hz |                  |             |
| $PK_{Smin}$  |                                     | 250                        |                  | g/kPa       |
| $S_{nom}$    | 100 t < 1,0/200 t < 1,6/300 t < 2,4 |                            |                  | mm          |



| Nominal Load<br>$E_{max}$ | Order code<br>Type | Version  | Max. usable load<br>[ in % von $E_{max}$ ] | Destructive load<br>[ in % von $E_{max}$ ] | Packing size<br>mm | Weight<br>net | Weight<br>shipping |
|---------------------------|--------------------|----------|--------------------------------------------|--------------------------------------------|--------------------|---------------|--------------------|
| 100 t                     | PR 6201/15         | L, N, NE | 200 (LA: 120)                              | >500                                       | 280 x 280 x 350    | 11,2 kg       | 12,9 kg            |
| 200 t                     | PR 6201/25         | N, NE    | 200 (LA: 120)                              | >500                                       | 340 x 350 x 470    | 26,0 kg       | 29,0 kg            |
| 300 t                     | PR 6201/35         | N, NE    | 135                                        | >350                                       | 340 x 350 x 470    | 26,0 kg       | 29,0 kg            |



| Type       | dimensions in mm |     |     |     |     |     |     |         |
|------------|------------------|-----|-----|-----|-----|-----|-----|---------|
|            | a                | b   | c   | d   | e   | f   | g   | h       |
| PR 6101/15 | 30               | 290 | 49  | 145 | 300 | 95  | 130 | 18 (8x) |
| PR 6101/25 | 40               | 385 | 185 | 375 | 450 | 135 | 180 | 24 (8x) |



PR 6101/... Pivots

### 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)

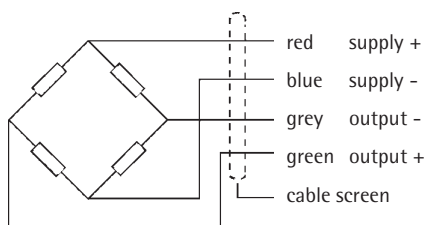
diameter: 5 mm, wires 4x0,35 mm<sup>2</sup>

length : 12 m

bending radius:

fixed installation ≥ 50 mm

flexible installation ≥ 150 mm



### Further options

|                                           |                                                                                | Dimensions WxHxD  | Type        | Order code      |
|-------------------------------------------|--------------------------------------------------------------------------------|-------------------|-------------|-----------------|
| Stainless steel cable junction box        | material 1.4404, for all industrial, intrinsically safe and W & M applications | (200x160x 100) mm | PR 6131/60S | 9405 361 30602  |
| Cable junction box                        | for all industrial, intrinsically safe and W & M applications                  | (200x160x100) mm  | PR 6130/60N | 9405 361 30604  |
| Plastic Cable junction box                | for all industrial applications, max. eight load cells                         | (200x120x 75) mm  | PR 6130/08  | 9405 361 30081  |
| Extension cable                           | for all applications                                                           | D= 11 mm          | PR 6135     | 9405 361 35 . 2 |
| Extension cable                           | for all Ex applications                                                        | D= 11 mm          | PR 6136     | 9405 361 36 . 1 |
| Universal vessel foot                     | for 100t-load cells                                                            |                   | PR 6001/02N | 9405 360 01021  |
| Universal vessel foot                     | for 200 t- and 300t-load cells                                                 |                   | PR 6001/03N | 9405 360 01031  |
| Horizontal constrainers                   | withstands horizontal forces up to 200 kN                                      |                   | PR6152/02   | 9405 361 52021  |
| Table for the possible pivots             | up to 100t nominal load                                                        |                   | PR 6101/15N | 9405 561 01151  |
| to use together with<br>PR 6201 load cell | up to 300t nominal load                                                        |                   | PR 6101/25N | 9405 561 01251  |