

# PR 6207

## Beam Type Load Cell

global weighing technologies



### PR 6207

#### 10 kg...200 kg

#### Type D1/C3

- Standard mounting dimensions
- Easy to install
- Full stainless steel construction
- Hermetically sealed, IP 67
- Wide temperature range
- Resistant against vibration
- Weights and Measures

#### Application

The PR 6207 C3 series of load cells fulfills the requirements of W&M systems and have a test report in accordance with OIML R 60 issued by PTB. The PR 6207 D1 series of load cells was especially developed for industrial weighing applications. Due to their utmost reliability, compactness and hermetically sealed construction, both series are widely installed in platforms, hoppers, tanks and in all branches of industry.

In addition to their use in weighing systems, PR 6207 load cells are also suitable for mechanical force measurement applications.

#### Construction and operation

Based on the well-proven strain gauge measuring principle in a full bridge circuit, the highly developed "state-of-the-art" design of the PR 6207 coupled with meticulous production and computer analysed quality testing procedures contribute to outstanding reliability.

The calibrated output signal allows easy interconnection of a number of load cells in a system and makes replacement of individual cells – if necessary – a simple matter. The load cells are designed to meet the requirements of industrial installation.

Vibration up to 10g – within the specified temperature range – and overloading up to 150 % of nominal load does not damage the load cells.

Type	Nominal Load	Order Number	Order Number	Packing Size	Weight	
	$L_n$	D1	C3	mm	net	shipping
PR 6207 / 11	10 kg	9405 262 07112	9405 262 07118	280 x 160 x 90	0,5 kg	0,9 kg
PR 6207 / 21	20 kg	9405 262 07212	9405 262 07218	280 x 160 x 90	0,5 kg	0,9 kg
PR 6207 / 51	50 kg	9405 262 07512	9405 262 07518	280 x 160 x 90	0,5 kg	0,9 kg
PR 6207 / 12	100 kg	9405 262 07122	9405 262 07128	280 x 160 x 90	0,5 kg	0,9 kg
PR 6207 / 22	200 kg	9405 262 07222	9405 262 07228	280 x 160 x 90	0,5 kg	0,9 kg

Technical Data		D1	C3
Accuracy class	lowest limit of specified measuring range	0.05 %	0.017 %
Minimum pre load	highest limit of specified measuring range	0 % $L_n$	0 % $L_n$
Nominal load	highest limit of measurement	see table	see table
Max. usable load	highest limit without damage	150 % $L_n$	150 % $L_n$
Max. load without damage	highest limit without electrical damage	150 % $L_n$	150 % $L_n$
Max. side load (x)	highest limit of static load in x-direction	200 % $L_n$	200 % $L_n$
Max. side load (z)	highest limit of static load in z-direction	200 % $L_n$	200 % $L_n$
Destructive load	mechanical strength danger limit	>300 % $L_n$	>300 % $L_n$
Rated output	relative at nominal load	2 mV/V	2 mV/V
Tolerance on rated output	permissible deviation from rated output	<(±1.0-0.1) %	<0.1 %
Tolerance on zero output	permissible deviation from zero output	<±1.0 %*	<1.0 %*
Repeatability	max. change in load cell output for repeated loadings	<0.03 %*	<0.1 %*
Creep, after 30 min	max. change in load cell output under nominal load	<0.05 %*	<0.017 %*
Non-Linearity	max. deviation from best straight line through zero	<0.05 %*	<0.018 %*
Hysteresis	max. difference in load cell output when loading from zero to nominal load and unloading back to zero	<0.05 %*	<0.017 %*
Temperature effect	on zero	$TK_0$ <0.05 % / 10 K*	<0.013 % / 10 K*
Temperature effect	on span	$TK_c$ <0.05 % / 10 K*	<0.008 % / 10 K*
Rate of temperature change	to hold the data specified $TK_0$ and $TK_c$	$\Delta T/t$ ≤5 K/h	≤5 K/h
Input resistance	between supply terminals	$R_c$ 350...480 Ω	350...480 Ω
Output resistance	between measuring terminals	$R_s$ 356 Ω ± 0,2 Ω	356 Ω ± 0,12 Ω
Insulation resistance	between measuring circuit and housing 100 V <sub>DC</sub>	$R_{is}$ >5000 x 10 <sup>6</sup> Ω	>5000 x 10 <sup>6</sup> Ω
Recommended supply voltage	for specified performance	$B_{su}$ 4...12 V	4...12 V
Max. supply voltage	permissible for continuous operation without damage	$U_{smax}$ 18 V	18 V
Compensated temp. range	to hold the specified data	$B_{tn}$ -10...+70 °C	-10...+40 °C
Operating temp. range	permissible for continuous operation without damage	$t_{min}^t, t_{max}^t$ -30...+70 °C	-30...+70 °C
Storage temp. range	transportation and storage	$B_{ts}$ -50...+85 °C	-50...+85 °C
Vibration	max. permissible acceleration	-	10 g
Deflection	max. elastic deformation under nominal load	$h_n$ <0.3-0.4 mm	<0.3-0.4 mm

Definitions to VDI/VDE 2637

\*) bezogen auf den Nennwert  $C_n$

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

## Load cell construction

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

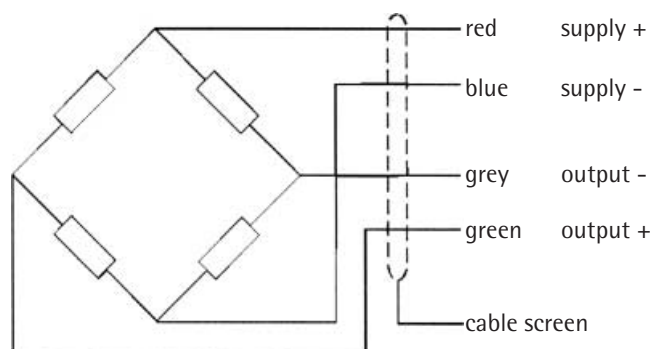
Material Body 1.4122 (DIN 17440)  
 Bellows 1.4541 (DIN 17440)  
 321S12 (B.S.)

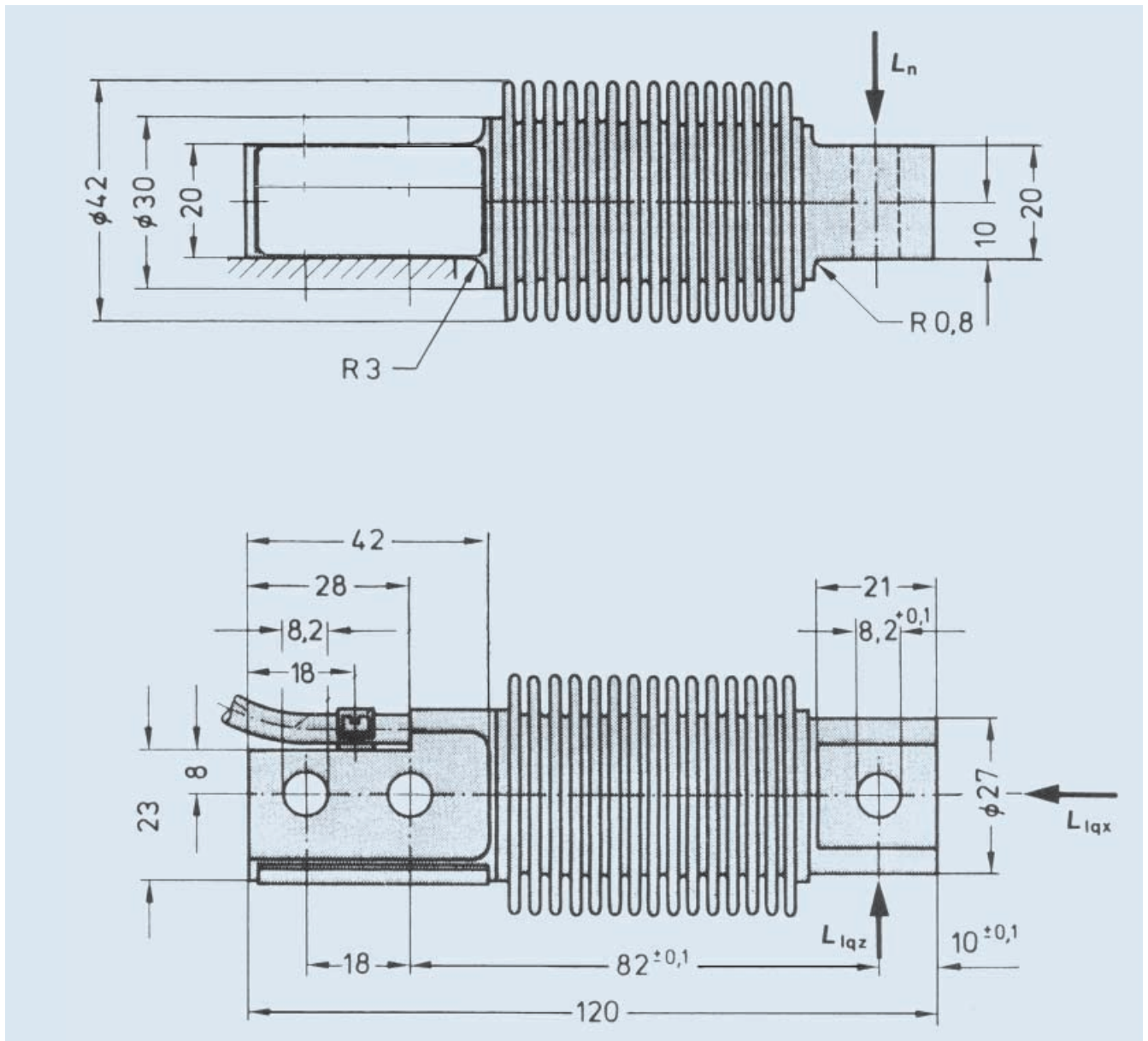
## Protection

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

## Cable

robust, flexible, screened sheath: 4 x 0.34 mm<sup>2</sup>  
 diameter: D=5.4 mm  
 length: 3 m  
 bending radius:  
 fixed installation r=60 mm  
 with repeated bending r=150 mm

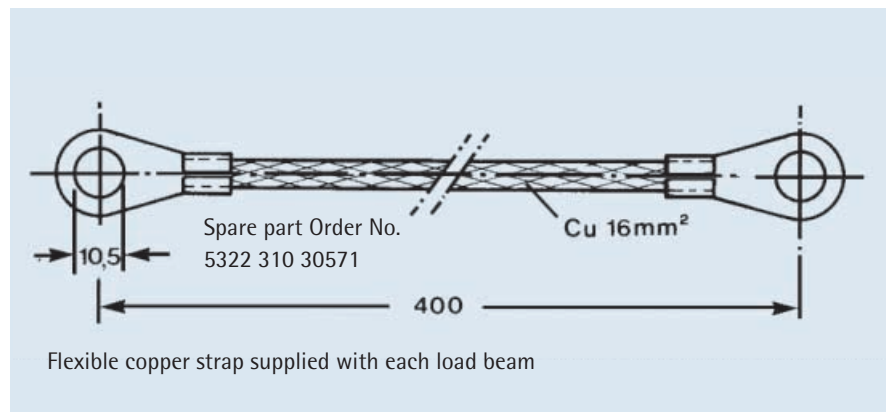




Dimensions in mm  
PR 6207/10...200 kg

Welding or lightning stroke current passing the load cell can damage it. To avoid possible damages resulting from overvoltages and dangerous currents, immediately during installation link the carrier construction with the weighing object as close as possible to each load cell.

A flexible copper strap is supplied with every load cell.



Flexible copper strap supplied with each load beam

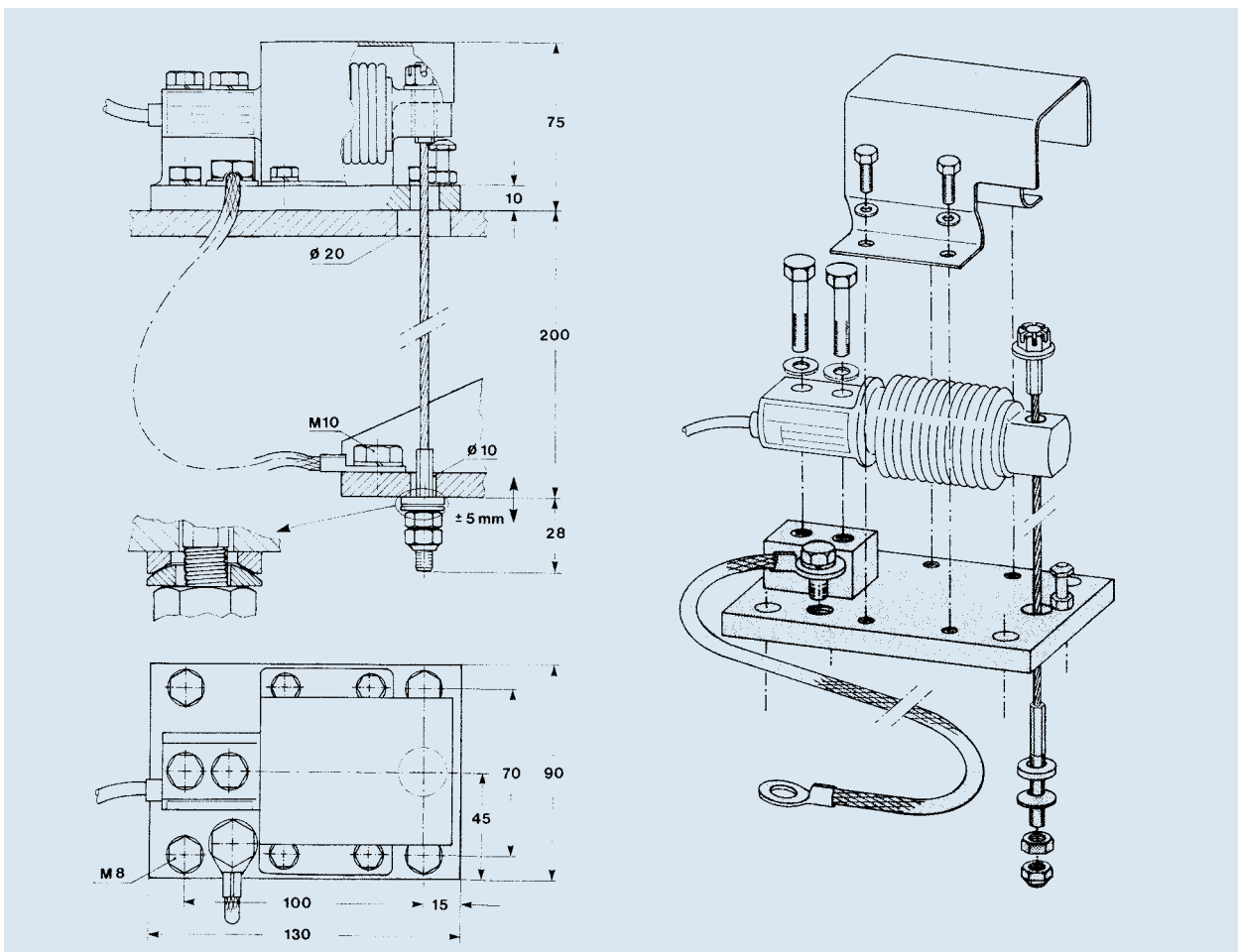
### Mounting recommendations

It is recommended to mount the load cell on a stable, horizontal and flat supporting construction as well as to protect it against overloading. The support for the load cell must horizontal as accurately as possible with a flat and clean surface to avoid parasitic forces.

The standard mounting kit PR 6007/00 ensures a simple and easily serviceable mounting. A steel rope and an adjustable

overload stop are also part of the mounting kit. It is indispensable to safeguard all bolts against unintentional loosening under normal operating conditions.

A suspended load may be applied to the load cell only if an additional safety device without force shunts is fitted.



Mounting kit PR 6007/00 with load cell PR6207. Same dimensions for nominal loads from 10 kg ... 200 kg. Destructive load (mechanical yield point) >8 kN

Mounting kit, type PR6007N. Order No. 9405 360 07001 in normal steel.

Surface protection: zinc plating and yellow chromated. Mounting kit, type PR 6007/00S. Order No. 9405 360 07002 in stainless steel 1.4301 (DIN 17440), 304S15 (B.S.) Suitable for PR 6207 load cells with nominal loads from 10 kg ... 200 kg.

Destructive load of steel rope (mechanical yield point) >8 kN weight net/shipping 1.7 kg / 2.1 kg

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