

# Compact compression load cell PR 6211, Converter Connexx<sup>®</sup> and mounting kits PR 6011/PR 6012

Compact design for a low system height



The compact compression load cells of the PR 6211 series are specially designed for weighing vessels. Their design principle is based on a compact design which in combination with the space-saving mounting kits PR 6011 and PR 6012, enables them to be used in confined spaces.

The right solution for all of these uses:



Weighing



Filling and dosing



Fill quantity  
control

# Technical specifications

## Compact compression load cell PR 6211

Parameter	Description	Abbr.	D1 30 to 300 kg	Unit
Accuracy class			0.05	%E <sub>max</sub>
Minimum dead load	Lowest limit of specified measuring range	E <sub>min</sub>	0	%E <sub>max</sub>
Maximum capacity	Highest limit of specified measuring range	E <sub>max</sub>	See Ordering information table	kg
Safe load limit	Maximum load without irreversible damage	E <sub>lim</sub>	500	kg
Destructive load	Danger of mechanical destruction	E <sub>d</sub>	1,000	kg
Minimum LC verification	Minimum load cell verification interval, $v_{min} = E_{max}/Y$ – E <sub>max</sub> = 50 to 300 kg – E <sub>max</sub> = 30 kg	Y Y	3,333 2,500	
Rated output	Relative output at maximum capacity	C <sub>n</sub>	2	mV/V
Tolerance on rated output	Permissible deviation from rated output	d <sub>c</sub>	<0.25	%C <sub>n</sub>
Zero output signal	Load cell output signal under unloaded condition	S <sub>min</sub>	0 to 2	%C <sub>n</sub>
Reproducibility	Max. change in load cell output for repeated loading	e <sub>R</sub>	<0.01	%C <sub>n</sub>
Creep	Max. change of output signal under E <sub>max</sub> during 30 min.	d <sub>cr</sub>	<0.03	%C <sub>n</sub>
Non-linearity <sup>1)</sup>	Max. deviation from best straight line through zero	d <sub>Lin</sub>	<0.05	%C <sub>n</sub>
Hysteresis <sup>1)</sup>	Max. difference in LC output between loading and unloading	d <sub>hy</sub>	<0.05	%C <sub>n</sub>
Temperature effect on S <sub>min</sub>	Max. change of S <sub>min</sub> in B <sub>T</sub>	TKS <sub>min</sub>	<0.042	%C <sub>n</sub> /10 K
Temperature effect on C <sup>1)</sup>	Max. change of C in B <sub>T</sub>	TK <sub>c</sub>	<0.03	%C <sub>n</sub> /10 K
Input impedance	Between supply terminals	R <sub>LC</sub>	1,300 ± 12	Ω
Output impedance	Between measuring terminals	R <sub>O</sub>	1,200 ± 2	Ω
Insulation impedance	Between measuring circuit and housing at 100 V <sub>DC</sub>	R <sub>IS</sub>	>5,000x10 <sup>6</sup>	Ω
Recommended supply voltage	To hold the specified performance	B <sub>u</sub>	4 to 24	V
Max. supply voltage	Permissible for continuous operation without damage	U <sub>max</sub>	32	V
Nominal ambient temp. range	To hold the specified performance	B <sub>T</sub>	-10 to +85	°C
Usable ambient temp. range	Permissible for continuous operation without damage	B <sub>TU</sub>	-30 to +95	°C
Storage temperature range	Without electrical and mechanical stress	B <sub>TI</sub>	-40 to +95	°C
Permissible eccentricity	Permissible displacement from nominal load line	S <sub>ex</sub>	3	mm
Vibration resistance	Resistance against oscillations (IEC 68-2-6 Fc)		20 g, 100 h, 10 to 150Hz	
Barometric pressure influence	Influence of barometric pressure on output	PK <sub>Smin</sub>	≤12	g/kPa
Nominal deflection	Max. elastic deformation under nominal load	S <sub>nom</sub>	<0.1	mm
Material (sensor)	Stainless steel 1.4542			
Protection class	IP68			
Cable	nach IEC 529 – PR 6211: IP68*/IP69 – Connexx®: IP65 / IP 68** Length: 3 m Diameter: 3 mm Cross section: 4 × 0.087 mm <sup>2</sup> Material cable sheath: TPE			
Bending radius	≥ 15.5 mm at fixed installation ≥ 46.5 mm at flexible installation			

Connexx®				
Nominal ambient temp. range	To hold the specified performance	B <sub>T</sub>	-10...+40	°C
Usable temperature range	Permissible for continuous operation without damage	B <sub>TU</sub>	-30...+60	°C
Storage temperature range	Without electrical and mechanical stress	B <sub>TI</sub>	-30...+70	°C

\* The load cell can be submerged in water at a depth of 1.5 m for 10,000 hours.

\*\* The module can be submerged in water at a depth of 1.5 m for 100 hours.

<sup>1)</sup> The data for Non-linearity, hysteresis and TKC are typical values. For OIML R60 or NTEP approved load cells the sum of these values is within the permissible cumulative error limits

## Mounting kits PR 6011 and PR 6012

Maximum capacity of load cell PR 6211	Mounting kit/accessories	Material	Description/comments	Mounting screws	Installation height (mm)	Max. permissible horizontal force (kN)	Max. permissible lift-off force [kN]	Max. permissible eccentricity	Max. permissible vertical load without load cell
30 kg – 300 kg	PR 6011/00S	Stainless steel 1.4301 (AISI 304)	Plate mounting kit	M6	32.3	/	/	/	/
	PR 6011/20S		MiniFLEXLOCK	M6		0.45	/	/	/
	PR 6011/03	Natural rubber	Elastomeric bearing	/	37	/	/	/	/
	PR 6012/00S	Stainless steel 1.4301 (AISI 304)	Plate mounting kit	M6	42.2	/	4	/	300 kg
	PR 6012/20S		MiniFLEXLOCK	M6		0.45	4	/	300 kg

## Converter Connexx®

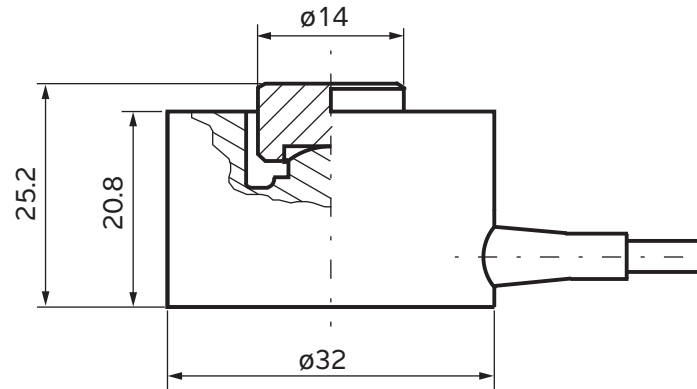


Fitted with the converter Connexx®, the load cell PR 6211 offers a whole host of possibilities:

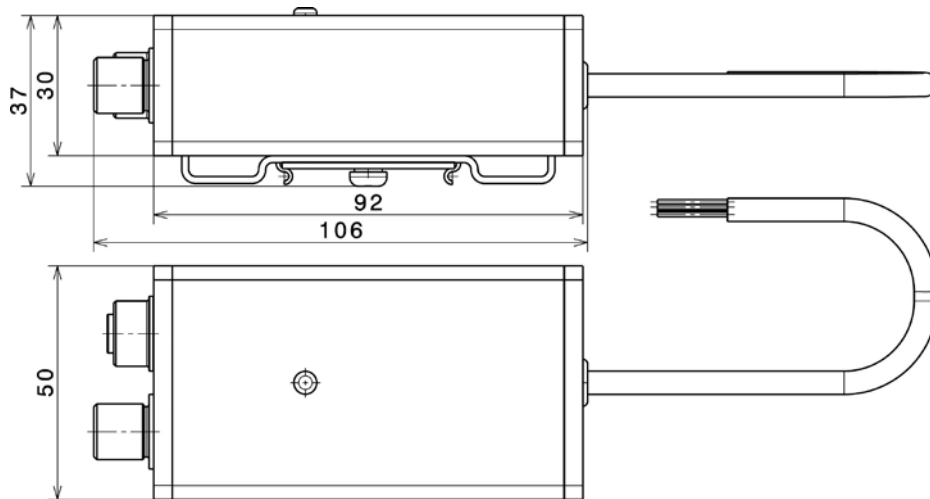
- The digital version guarantees fast signalling times for reliable dosing processes.
- Thanks to the use of field bus communication, the cable junction box is no longer needed.
- The standard interface CANopen ensures straightforward installation and calibration.
- CANopen allows for extra-long communication paths of up to 200 m.
- Weight values can also be generated individually – per load cell – meaning that defective load cells can be identified more easily.

## Technical diagrams

Load cell PR 6211 (30 kg to 300 kg)

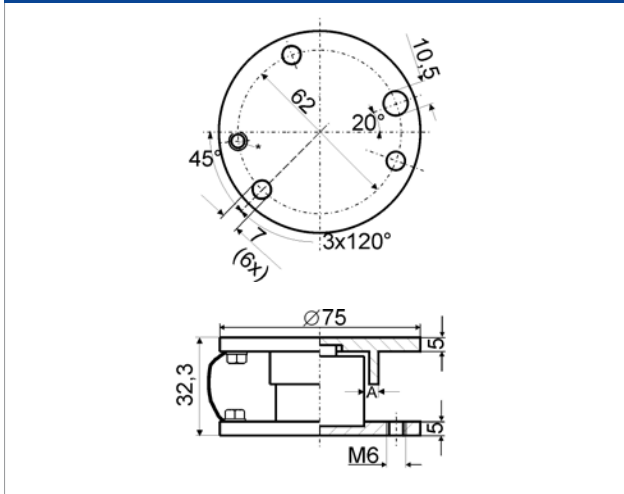


Converter Connex<sup>®</sup>

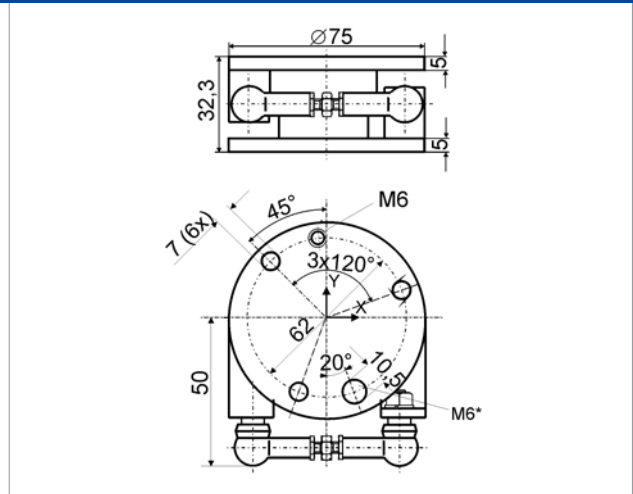


Converter Connex<sup>®</sup>

Plate mounting kit and MiniFLEXLOCK for PR 6211 (30 kg to 300 kg)

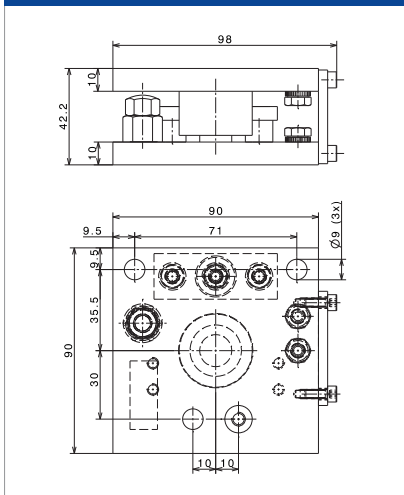


PR 6011/00S

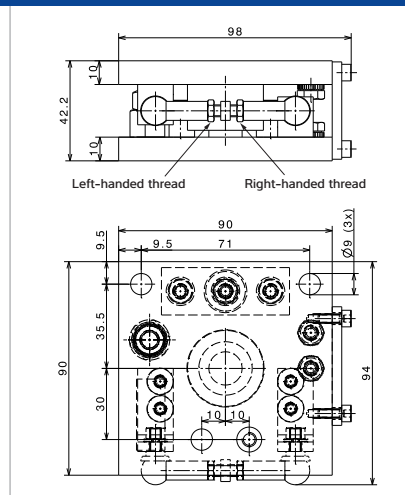


PR 6011/20

Plate mounting kit and MiniFLEXLOCK for PR 6211 (30 kg to 300 kg)

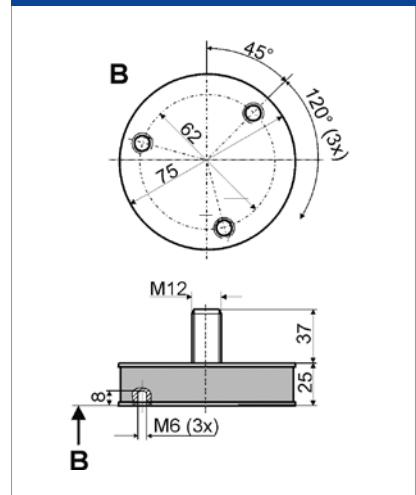


PR 6012/00S



PR 6012/20S

Elastomeric bearing for PR 6211 (30 kg to 300 kg)



6011/03N

All dimensions in mm

# Ex approval

## Scope of validity:

PR 6211/... D1 (30 kg to 300 kg)



Explosion protection

Ex certificates			
Zone	Labelling	Certificate number	For
2	II 3G Ex nA IIC T6 Gc	Manufacturer's declaration	all PR 6241 without /..E
22	II 3D Ex tc IIIC T85 °C Dc	Manufacturer's declaration	all PR 6241 without /..E
FMus	IS CL I, II, III, DIV 1, GP A, B, C, D, E, F, G Entity – 4012 101 5688 NI CL I, II, III, DIV 2, GP A, B, C, D, E, F, G NIFW – 4012 101 5688 T4A Ta= -30 °C to 70 °C; T5 Ta= -30 °C to 55 °C	FM17USO276	all PR 6241 without /..E
FMca	IS CL I, II, III, DIV 1, GP A, B, C, D, E, F, G Entity – 4012 101 5688 NI CL I, II, III, DIV 2, GP A, B, C, D, E, F, G NIFW – 4012 101 5688 T4A Ta= -30 °C to 70 °C; T5 Ta= -30 °C to 55 °C	FM17CA0138	all PR 6241 without /..E

## Ordering information

The accuracy class of the compact compression load cell PR 6211 is classified and checked in accordance with OIML R60.



### Compact compression load cell PR 6211, accuracy class D1=0.05%

Type	Load stage	Order number
PR 6211/31D1	30 kg	940526211311
PR 6211/51D1	50 kg	940526211511
PR 6211/12D1	100 kg	940526211121
PR 6211/22D1	200 kg	940526211221
PR 6211/32D1	300 kg	940526211321

### Compact compression load cell PR 6211, Converter Connexx®

Type	Description	Order number
PR 6211/DIGITAL KIT	The converter Connexx® can only be ordered with the above-mentioned load cells from the PR 6211 series. When ordering, both order numbers need to be given.	940511100000

#### Additional information:

The converters Connexx® can be used with the Indicator X3.

To do this, the indicator X3 must be equipped with a CANopen interface card PR 5510/05 (940535510051).

### Compact compression load cell PR 6211, Converter Connexx® – application sets

Type	Description	Order number
PR 6154/03	Application set for 3 load cells. Includes: 2 × PR 6155/05, 1 × PR 6152/25, 1 × PR 6153/99	940536154031
PR 6154/04	Application set for 4 load cells. Includes: 3 × PR 6155/05, 1 × PR 6152/25, 1 × PR 6153/99	940536154041

### Compact compression load cell PR 6211, Converter Connexx® – load cell accessories

Type	Description	Order number
PR 6152/10	Connection cable between Connexx® and X3 (10 m)	940536152101
PR 6152/25	Connection cable between Connexx® and X3 (25 m)	940536152251
PR 6152/40	Connection cable between Connexx® and X3 (40 m)	940536152401
PR 6153/98	Divided cable gland	940536153981
PR 6153/99	Terminal resistor for Connexx®, M12	940536153991
PR 6155/05	Connection cable between Connexx® and Connexx® (5 m)	940536155051
PR 6155/10	Connection cable between Connexx® and Connexx® (10 m)	940536155101

## Mounting kits for PR 6211 (30 kg - 300 kg)

Type	Description	Order number
PR 6011/00S	Mounting kit	940596011002
PR 6011/20S	Mounting kit with integrated constrainer	940596011202
PR 6012/00S	Mounting kit with additional functions	940536012002
PR 6012/20S	Mounting kit with additional functions and integrated constrainer	940536012202
PR 6011/03N	Elastomeric bearing	940536011031
PR 6011/09S	Mounting adapter for installation in mounting kit with large design	940536011092

The products and solutions presented in this data sheet make major contributions in the following sectors:



Food and beverages



Pharmaceutical



Chemistry



Cosmetics



Machinery (OEM)

The technical data given serves as a product description only and should not be understood as guaranteed properties in the legal sense.

Specifications subject to change without notice.  
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