Minebea intec
The true measure

Weighing module Novego®, Converter Connexx®

Hygienic all-in-one solution for reliable weighing of vessels



DAT
Digital Assistance Technology

GERMAN QUALITY
German Quality

Your benefits

- Hygienic weighing module ensures efficient cleaning
- High degree of process reliability and precision thanks to the innovative side-force-resistant system
- Quick and easy commissioning due to smart add-on parts
- Durable, reliable weighing solution with excellent corrosion resistance

The weighing module Novego® was specifically developed to meet the increasingly stringent requirements of the food industry. This hygienic all-in-one solution boasts a range of innovative properties to ensure simple, error-free installation and maximum resistance to lateral forces.

Unique on the market: reliable measurement accuracy – even with high side forces

- Minimum **sensitivity to side forces:** the weighing module Novego® reliably absorbs lateral forces. The six strain gauges ensure maximum measurement accuracy and prevent incorrect quantities, even when using mixers.
- The **optimal accessibility** of all components enables quick, easy and efficient cleaning, and prevents soiling.
- The **built-in height adjuster and innovative tilt correction** for sloped surfaces ensure intuitive installation of the Novego®, meaning it is ready for operation immediately.
- The high **product quality and corrosion resistance** of the Novego® reduce set-up costs and machine downtime.

Novego®: one weighing module, a world of advantages

Novego® ensures process reliability, measurement accuracy and rapid cleaning. The exceptional corrosion resistance of the stainless steel and the product design in accordance with EHEDG guidelines make the weighing module resistant to dirt, water and even aggressive cleaning products.

Hygienic Design

The weighing module Novego® was developed in line with the stringent design standards of the European Hygienic Engineering and Design Group (EHEDG).

Technological advancement is the sum of many small details



Built-in height adjustment of up to 8 cm

Low surface roughness (R_a max. 0.8 µm) provides minimal surface area for dirt to adhere to

Measurement accuracy ensured, even with side forces of up to 20% of the load

Innovative strain gauges for high measurement accuracy (C3 in accordance with OIML R60)

Laser marking to ensure long-term traceability

FDA-compliant silicone approved for use in the food industry

Extremely corrosion-resistant stainless steel 1.4418, new to weighing technology

Reduced horizontal surface area facilitates water run-off and ensures rapid drying after cleaning

Overhead installation of load cell prevents soiling and corrosion

Built-in mounting kit consisting of a 360° constrainer, lift-off protector and anti wobbling mechanism

360° constrainer eliminates the need for time-consuming constrainer alignment

Built-in tilt correction for sloped surfaces with a gradient of up to 3°

Technical Data

OIML R60

Regional metrological certificates available

weighing module Novego® / PR 6261 (125kg – 2t)

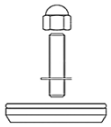
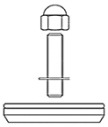
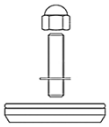
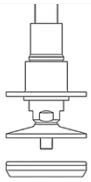
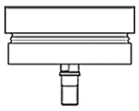
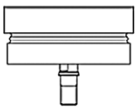
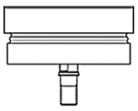
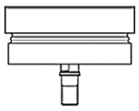
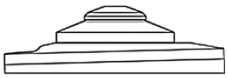
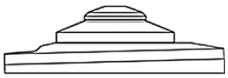
Parameter	Description	Abbr.	C3*	Unit
Accuracy class			0.015	% E_{max}
Minimum dead load	Lowest limit of specified measuring range	E_{min}	0	% E_{max}
Maximum capacity	Highest limit of specified measuring range	E_{max}	125, 250, 500, 1,000, 2,000	kg
Safe load limit	Maximum load without irreversible damage	E_{lim}	150	% E_{max}
Destructive load	Danger of mechanical destruction	E_d	>300	% E_{max}
Max. permissible lifting force	To still hold the specified performance afterwards		100	% E_{max}
Destructive lifting force	Danger of mechanical destruction (by lifting)		>300 but max. 3 t	% E_{max}
(Nominal) side force range	Range of side force to hold the specified performance	QK_n	<20	% load
Side force limit	Maximum side force without irreversible damage	E_{lq}	For 125 kg: 200 For 250/500 kg: 150 For 1t, 2t: 100 (max. 1t)	% E_{max}
Minimum LC verification	Minimum load cell verification interval $v_{min} = E_{max}/Y$	Y	14,000	
Deadload output return	Factor for dead load output return after load (DR=½*E_{max}/Z)	Z	3,000	
Rated output	Relative output at maximum capacity	C_n	2	mV/V
Tolerance on rated output	Permissible deviation from rated output	d_c	<0.07	% C_n
Zero output signal	Load cell output signal under unloaded condition	S_{min}	0 to 1.5	% C_n
Repeatability error	Max. change in load cell output for repeated loading	ε_R	<0.005	% C_n
Creep, during 30 min	max.change in load cell output under E_{max}	d_{cr}	<0.016	% C_n
Non-linearity	Max. deviation from best straight line through zero	d_{Lin}	<0.01	% C_n
Hysteresis	Max. difference in LC output between loading and unloading	d_{hy}	<0.016	% C_n
Temperature effect (TK) on S_{min}	Max. change of S_{min} over B_T	TK_{Smin}	<0.01	% C_n/10K
Temperature effect on C[1)]	Max. change of C over B_T	TK_C	<0.01	% C_n/10K
Input impedance	Between supply terminals	R_{LC}	1,080±10	Ω
Output impedance	Between measuring terminals	R_O	1,010±1	Ω
Insulation impedance	Between measuring circuit and housing at 100 V_{DC}	R_{IS}	>5,000	MΩ
Insulation voltage	Between circuit and housing (Novego® ..E only)		500	V_{DC}
Recommended supply voltage	To hold the specified performance	B_u	4 to 20	V
Max. supply voltage	Permissible for continuous operation without damage	U_{max}	24	V
Nominal ambient temp. range	To hold the specified performance	B_T	-10 to +40	°C
Usable ambient temp. range	Permissible for continuous operation without damage	B_{Tu}	-40 to +95	°C
Storage temperature range	Transportation and storage	B_{Ti}	-40 to +95	°C
Permissible eccentricity	Permissible displacement from nominal load line	S_{ex}	±2.5	mm
Vibration resistance	Resistance against oscillations (IEC 68-2-6 Fc)		20 g, 100 h, 10 to 150 Hz	
Air pressure effect	Influence of ambient air pressure on S_{min}	PK_{Smin}	<17	g/kPa
Nominal deflection	Max. elastic deformation under nominal load For $E_{max} \leq 500$ kg For $E_{max} \geq 1$	S_{nom}	Max. 0.1 Max. 0.2	mm
Material (sensor)			1.4418 (DIN EN 10088-3)	
Material (pendulum base)			1.4301 and 1.4418 (DIN EN 10088-3)	
Protection class			according IEC 529 – Novego®: IP68*/IP69 – ConnexxR: IP65 / IP 68**	
Cables			TPE, colour: grey, ø 5 mm, 4 x 0.35 mm² Novego® ..E TPE, colour: blue, ø 5 mm, 4 x 0.35 mm²	
Cable bending radius			≥25 mm in case of fixed installation ≥75 mm in case of flexible installation	

* 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.
[1)] 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.

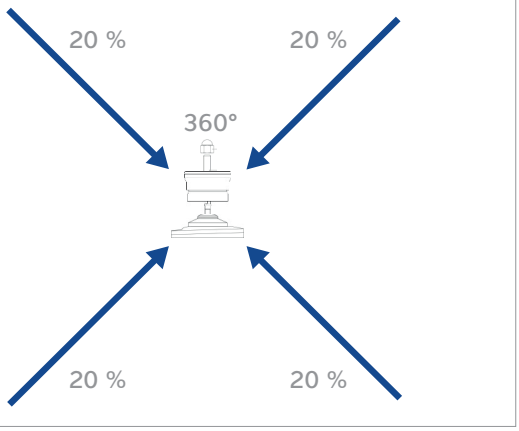
Everything you need for easy installation, built-in: mounting kit with height adjuster and tilt correction

Novego® offers innovative features for the food industry that ensure simple, error-free installation. By choosing this weighing module, you are opting for rapid, precise, hygienic assembly, and save yourself additional, time-consuming constrainer alignment.

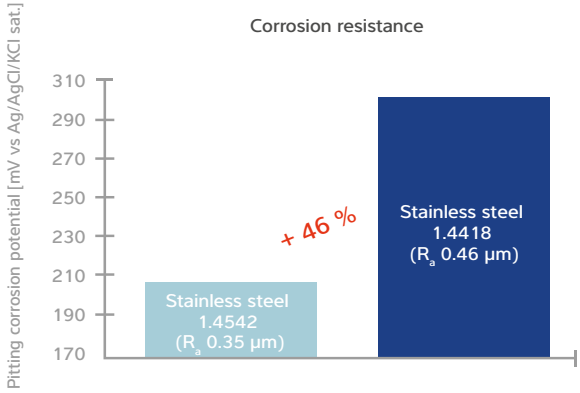
Weighing module Novego® product configuration

Adapter plate				
	Novego®/00S	Novego®/00S	Novego®/00S	Novego®/01S
Load cell				
	Novego® 125 ... 2.000 kg C3	Novego® 125 ... 2.000 kg C3	Novego® 125 ... 2.000 kg C3	Novego® 125 ... 2.000 kg C3
Pendulum base				
	Novego®/02S rack-mounted	Novego®/03S floor-mounted	Novego®/04S tilt correction for floor mounting	Novego®/04S tilt correction for floor mounting

Error-free installation and exceptional corrosion resistance



Simple installation without time-consuming constrainer alignment: the built-in 360° constrainer makes incorrect assembly impossible. In addition, reliable compensation for side forces of up to 20% of the load ensures consistent, precise measurement results.



The stainless steel 1.4418 used to make the Novego® has a maximum roughness (R_a) of 0.8 µm, thereby meeting EHEDG requirements. It is especially corrosion-resistant and durable, as proven by the pitting corrosion potential of stainless steel 1.4542 as used in conventional load cells as compared to the stainless steel 1.4418 used for the Novego®.

Protection class and country-specific explosion protection certificates

Protection classes IP68 and IP69, in accordance with DIN EN 60529. The load cell can be submerged in water to a depth of 1.5 m for 10,000 hours, and is spray-proof. The weighing module is suitable for explosion sub-group IIC.

Designation of the load cell for potentially explosive atmospheres

Zone	Designation	Certificate no.	For
0 and 1	II1G Ex ia IIC T6 Ga Ex ia IIC T6 Ga 0Ex ia IIC T6 (")	BVS 16 ATEX E 005 IECEx BVS 16.0005	Only PR 6261/..E (Novego® ..E)
20 and 21	II 1D Ex ta IIICT160°C Da Ex ta IIIC T160 °C Da Ex ta IIIC T160 °C X (")	TÜV 03 ATEX 2301 X IECEx TUN 17.0025X	all PR 6261 (Novego®)
2	II 3G Ex nA IIC T6 Gc 2Ex nA IICT6X (")	Manufacturer's declaration	All PR 6261 (Novego®)
22	II 3D Ex tc IIIC T85 °C Dc Ex tc IIIC T85 °C X (")	Manufacturer's declaration	All PR 6261 (Novego®)
	Ambient temperature in Ex-Area -30... +55 °C		
	(") only with approval TP TC 012 (TRCU 012) -52...+55 °C		
FMus	IS CL I, II, II, DIV 1, GP A, B, C, D, E, F, G Entity - 4012 101 5688 NI CL I, II, II, DIV 2, GP A, B, C, D, E, F, G NIFW - 4012 101 5688 T4A Ta= -40 °C bis 70 °C; T5 Ta= -40 °C bis 55 °C	FM17US0276	All PR 6261 (Novego®)
FMca	IS CL I, II, II, DIV 1, GP A, B, C, D, E, F, G Entity - 4012 101 5688 NI CL I, II, II, DIV 2, GP A, B, C, D, E, F, G NIFW - 4012 101 5688 T4A Ta= -40 °C bis 70 °C; T5 Ta= -40 °C bis 55 °C	FM17CA0138	All PR 6261 (Novego®)

Explosion protection

Converter Connexx®



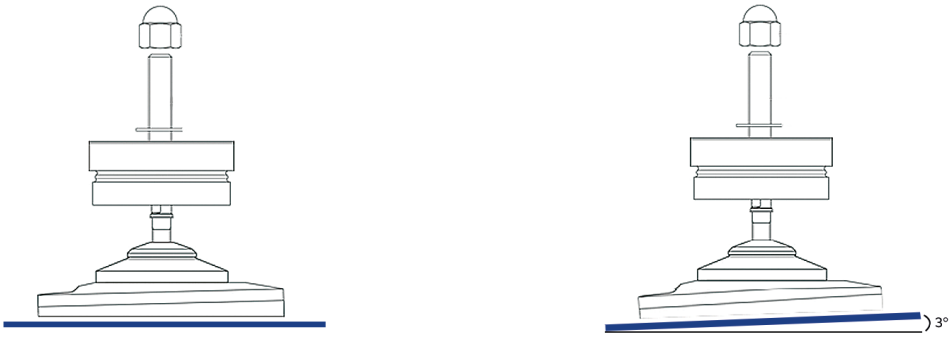
Fitted with the converter Connexx®, the load cell Novego® offers a whole host of possibilities:

- 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.

Parameter	Description	Abbr.	C3*	Unit
Nominal ambient temp. range	To hold the specified performance	B_T	-10…+40	°C
Usable temperature range	Permissible for continuous operation without damage	B_{Tu}	-30…+60	°C
Storage temperature range	Without electrical and mechanical stress	B_{Tl}	-30…+70	°C

Technical drawing

Built-in tilt correction and height adjuster



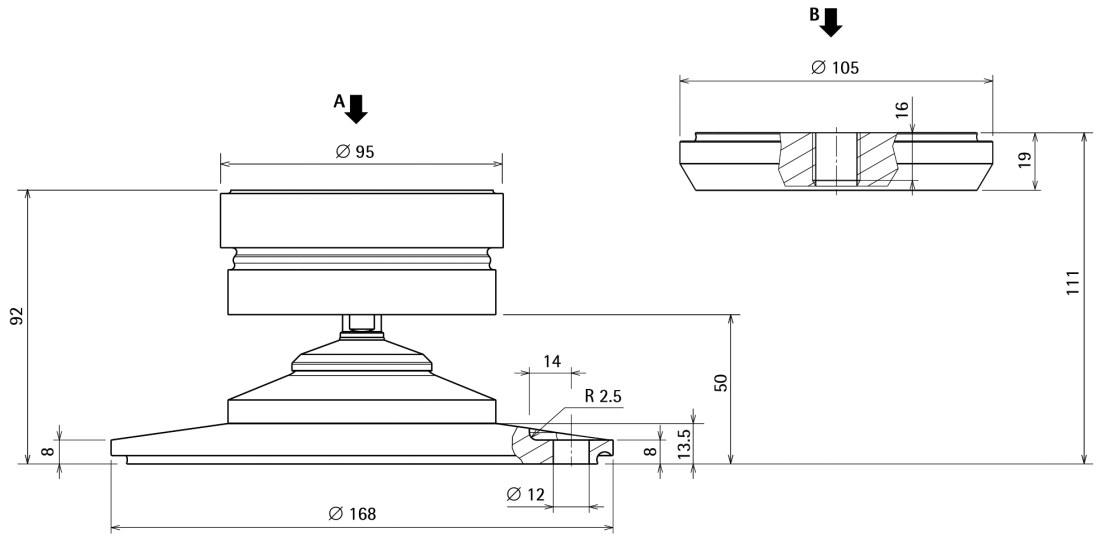
Built-in tilt correction for sloped surfaces with a gradient of up to 3°



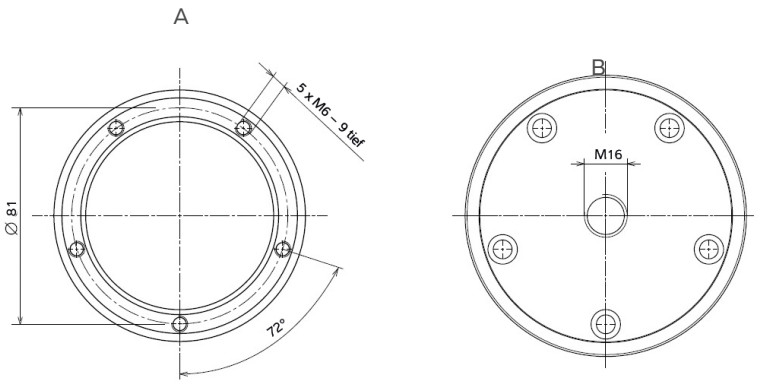
Built-in height adjuster to balance out vessel feet

All dimensiones in mm

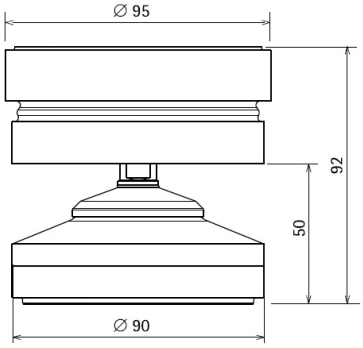
Dimensions of individual components



Dimensions of the load cell Novego®, pendulum base for floor mounting Novego®/03S and adapter plate Novego®/00S



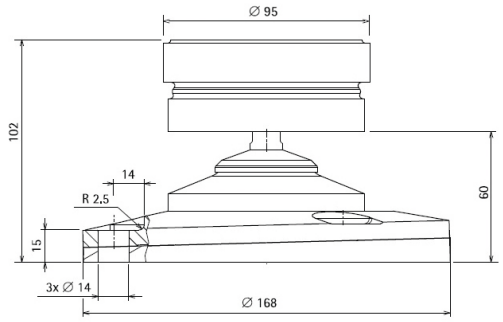
Drilling pattern for load cell Novego® and adapter plate Novego®/00S



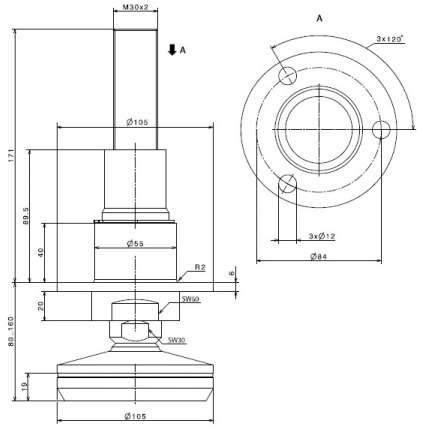
Dimensions of the load cell Novego® and pendulum base for rack mounting Novego®/02S

All dimensiones in mm

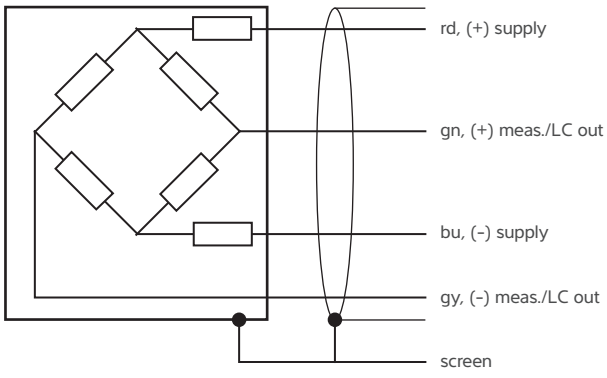
Dimensions of individual components



Dimensions of the load cell Novego® and pendulum base with tilt correction for floor mounting Novego®/04S



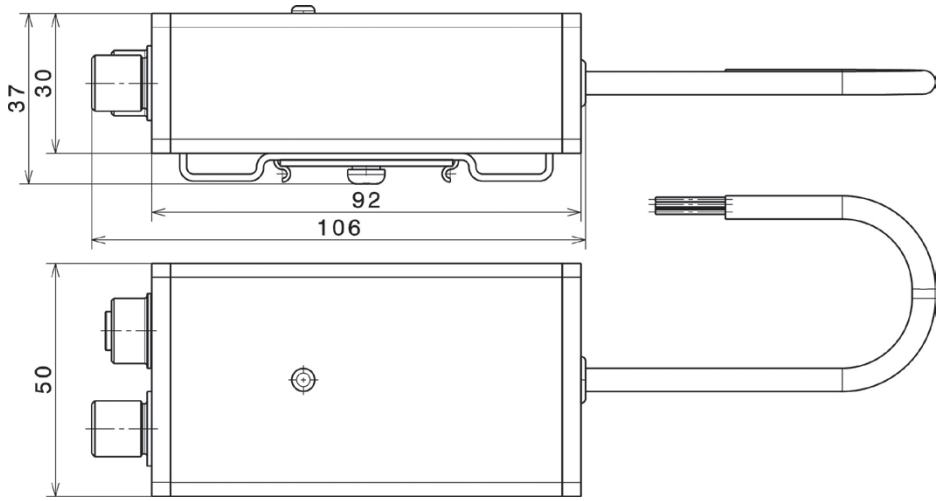
Dimensions and drilling pattern for height adjuster Novego®/01S



Connection diagram

All dimensiones in mm

Converter Connexx®



Converter Connexx®



All dimensiones in mm

Mounting parts weighing module Novego®

	Type	Description	Packaging (mm)	Weight gross/net (kg)	Order number
Pendulum	PR 6061/02S	Pendulum base for rack mounting	ca. 255×255×65	ca. 1,8/1,3	940536061022
	PR 6061/03S	Pendulum base for floor mounting	ca. 255×255×65	ca. 2,9/2,5	940536061032
	PR 6061/04S	Pendulum base for floor mounting with built-in tilt correction	ca. 255×255×65	ca. 4,8/4,2	940536061042
Adapter plate	PR 6061/00S	Adapter plate with threaded bolts	ca. 147×125×50	ca. 1,2/1,1	940536061002
	PR 6061/01S	Adapter plate with built-in height adjuster	ca. 425×105×100	ca. 3,7/3,3	940536061012
	PR 6061/05S	Shim set	ca. 200×130×40	ca. 1,6/1,4	940536061052
	PR 6061/06S	Transport and assembling Kit	ca. 190×140×40	ca. 0,3/0,2	940536061062
	PR 6061/07S	Pivot	ca. 290×210×120	ca. 2,6/2,2	940536061072

Weighing module Novego® as ex-version

Type	Packaging (mm)	Weight gross/net (kg)	Order number
PR 6261/125 kg C3E	ca. 290×210×120	ca. 1,7/ca. 1,4	940566103112
PR 6261/250 kg C3E	ca. 290×210×120	ca. 1,7/ca. 1,4	940566103125
PR 6261/500 kg C3E	ca. 290×210×120	ca. 1,7/ca. 1,4	940566103150
PR 6261/1t C3E	ca. 290×210×120	ca. 1,7/ca. 1,4	940566103210
PR 6261/2t C3E	ca. 290×210×120	ca. 1,7/ca. 1,4	940566103220

Accessoires weighing module Novego®

Type	Description		Abmessung	Gewicht Brutto/ Netto (kg)
PR 6130/64Sa	Cable junction box for use in potentially explosive atmospheres	Material: stainless steel 1.4301, IP68, IP69 for all industrial, intrinsically safe and verifiable applications, for up to 4 load cells	190×160×60 mm	ca. 1,4/ca. 1,2
PR 6130/65S	Cable junction box for use in potentially explosive atmospheres	Material: rust-proof stainless steel 1.4301, IP68, IP69 for all industrial, intrinsically safe and verifiable applications, for up to 4 load cells	172×105×55 mm	ca. 1,0/ca. 0,75
PR 6130/34Sa	Cable junction box	Material: rust-proof stainless steel 1.4301, IP68, IP69 for all industrial, verifiable applications, for up to 4 load cells	190×160×60 mm	ca. 1,3/ca. 1,0
PR 6130/35S	Cable junction box	Material: rust-proof stainless steel 1.4301, IP68, IP69 for all industrial, verifiable applications, for up to 4 load cells	172×105×55 mm	ca. 0,8/ca. 0,6
PR 6135	Installation cable	For all applications, grey	D = 9 mm	
PR 6135/A	Installation cable, reinforced	For all applications, grey	D = 13 mm	
PR 6136	Installation cable	For all intrinsically safe applications, blue	D = 11 mm	
PR 6136/A	Installation cable, reinforced	For all intrinsically safe applications, blue	D = 13 mm	

Ordering information

Weighing module Novego®

Type	Packaging (mm)	Weight gross/net (kg)	Order number	Converter Connexx® Option*
PR 6261/125 kg C3	ca. 290×210×120	ca. 1,7/ca. 1,4	940526103112	•
PR 6261/250 kg C3	ca. 290×210×120	ca. 1,7/ca. 1,4	940526103125	•
PR 6261/500 kg C3	ca. 290×210×120	ca. 1,7/ca. 1,4	940526103150	•
PR 6261/1t C3	ca. 290×210×120	ca. 1,7/ca. 1,4	940526103210	•
PR 6261/2t C3	ca. 290×210×120	ca. 1,7/ca. 1,4	940526103220	•

Converter Connexx®

Type	Description	Order number
PR 6261/DIGITAL KIT	The converter Connexx® can only be ordered with the above-mentioned load cells from the PR 6261 series. When ordering, both order numbers need to be given.	940516100000

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).

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

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

* In combination with the Connexx® Converter, the weighing module is also available in a digital version.

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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