Minebea intec
The true measure

Installation Manual

Compression load cell Inteco® PR 6203

Translation of the Original Installation Manual 9499 053 20300 Edition 1.11.0 09/29/2022

Minebea Intec GmbH, Meiendorfer Str. 205 A, 22145 Hamburg, Germany
Phone: +49.40.67960.303 Fax: +49.40.67960.383

Foreword

Must be followed!

Any information in this document is subject to change without notice and does not represent a commitment on the part of Minebea Intec unless legally prescribed. This product should only be operated/installed by trained and qualified personnel. In correspondence concerning this product, the type, name, and release number/serial number as well as all license numbers relating to the product have to be cited.

Note

Table of contents

1 Introduction

1.1 Read the manual

- Please read this manual carefully and completely before using the product.
- This manual is part of the product. Keep it in a safe and easily accessible location.

1.2 This is what operating instructions look like

1. - n. are placed before steps that must be done in sequence.

▶ is placed before a step.

▷ describes the result of a step.

1.3 This is what lists look like

- indicates an item in a list.

1.4 This is what menu items and softkeys look like

[ ] frame menu items and softkeys.

Example:

[Start]- [Applications]- [Excel]

1.5 This is what the safety instructions look like

Signal words indicate the severity of the danger involved when measures for preventing hazards are not followed.

⚠ DANGER

Warning of personal injury

DANGER indicates death or severe, irreversible personal injury which will occur if the corresponding safety measures are not observed.

▶ Take the corresponding safety precautions.

⚠ WARNING

Warning of hazardous area and/or personal injury

WARNING indicates that death or severe, irreversible injury may occur if appropriate safety measures are not observed.

▶ Take the corresponding safety precautions.

⚠ CAUTION

Warning of personal injury.

CAUTION indicates that minor, reversible injury may occur if appropriate safety measures are not observed.

▶ Take the corresponding safety precautions.

NOTICE

Warning of damage to property and/or the environment.

NOTICE indicates that damage to property and/or the environment may occur if appropriate safety measures are not observed.

▶ Take the corresponding safety precautions.

Note:

User tips, useful information, and notes.

1.6 Hotline

Phone: +49.40.67960.444

Fax: +49.40.67960.474

eMail: help@minebea-intec.com

2 Safety instructions

2.1 General notes

NOTICE

Warning of damage to property and/or the environment.

The product was in perfect condition with regard to safety features when it left the factory.

- To maintain this condition and to ensure safe operation, the user must follow the instructions and observe the warnings in this manual.

2.2 Intended use

The load cell Inteco® has been designed especially for weighing silos, tanks, and process vessels.

The load cell Inteco® may only be used as intended for weighing tasks.

In intrinsically safe circuits, only load cells Inteco®/..E may be used.

The dimensions of all mounting and structural components must be calculated so that sufficient overload capacity is ensured for all loads which may occur while taking the relevant standards into account. In particular, upright weighing objects must be safeguarded against the weighing installation turning over or being shifted, thus eliminating danger to people, animals, or goods even in the case of a break in a load cell or mounting element.

Installation and repair work must only be carried out by expert/qualified personnel.

The load cell reflects the state of the art. The manufacturer does not accept any liability for damage caused by third-party system components or due to incorrect use of the product.

2.3 Initial inspection

Check the contents of the consignment for completeness. Check the contents visually to determine whether any damage has occurred during transport. If there are grounds for rejection of the goods, a claim must be filed with the carrier immediately. The Minebea Intec sales or service organization must also be notified.

2.4 Before operational startup

NOTICE

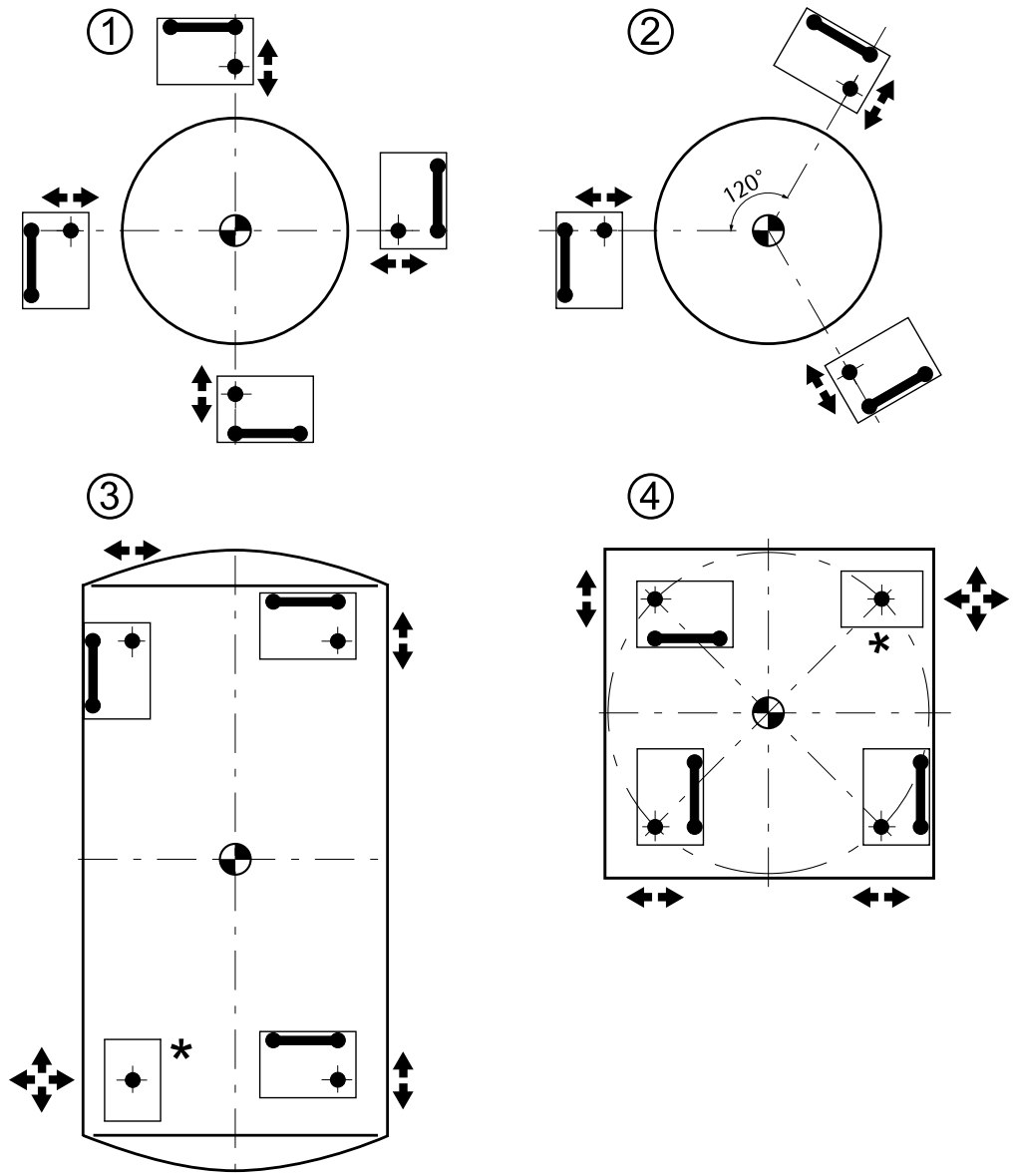
Perform visual inspection.

- Before operational startup as well as after storage or transport, inspect the load cell visually for signs of mechanical damage.

3 Recommendations for installation

3.1 Load cell and constrainer arrangement

Examples:



Key

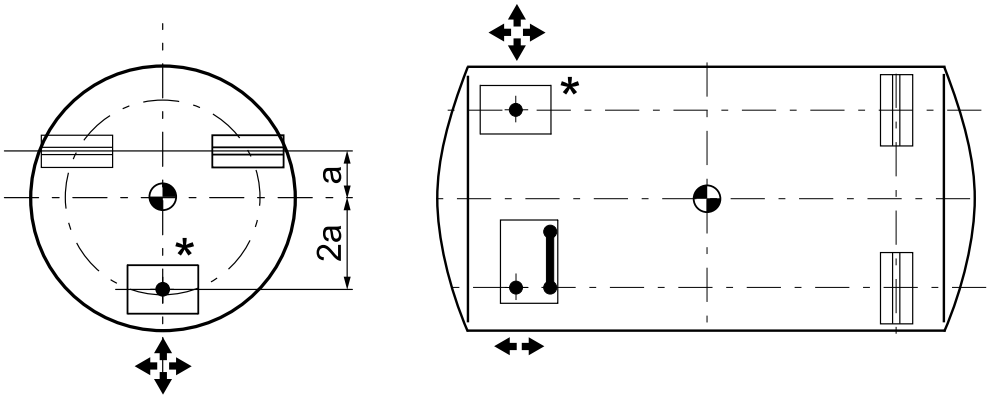
*	Do not constrain this position.
	Constrainer
	Load application
	Possible direction of movement

- The supporting structure of the scale (i.e. the load cell support) and the vessel must be stable enough to withstand the specified loads, be horizontal (water level!) and flat.
- Vessels should preferably be supported by 3 load cells, platforms by 4 or 6 load cells (see figure).
- Transverse and/or horizontal forces and torques exceeding the permissible limits are disturbances which can generate measuring errors and, in the worst case, may damage the load cell.
- If the object to be measured is constrained properly, damage and measuring errors can be prevented without affecting the required space for movement in the direction of the measurement.

  Consideration should be given to the fact that thermal expansion and contractions may constrict the required space for movement of the object to be weighed and could thereby lead to significant falsification of the measuring results.

  Therefore, special attention should be paid to the design, arrangement, and condition of the constrainers.

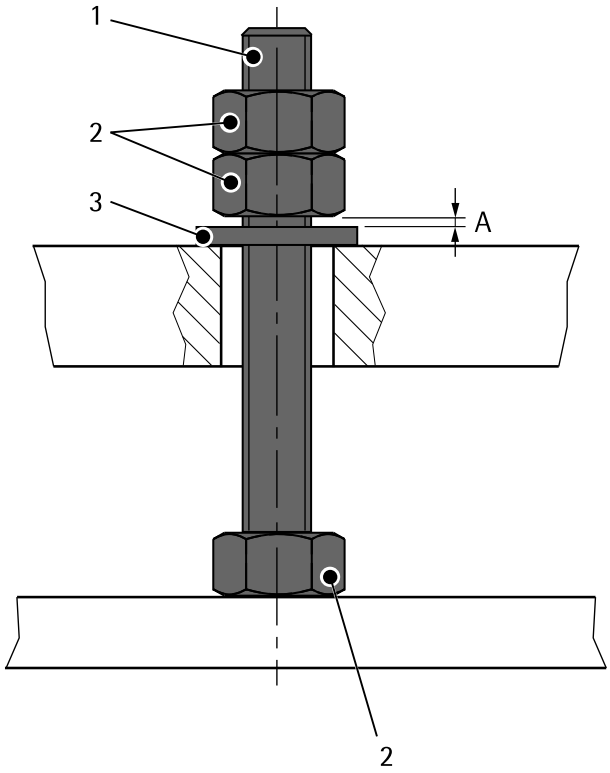
3.2 Location of load cells and pivots



Key

	Pivot PR 6101
*	Do not constrain this position.
	Constrainer
	Load application
	Possible direction of movement

3.3 Additional lift-off protection



For safety reasons, a lift-off protection has to be generally provided on vessels. This can be constructed separately or additionally installed in the mounting kit (see Chapter 11.2.1).

For this purpose, the simplest version requires the following components:

- 1× threaded bar (1)
- 3× nut (2)
- 1× washer (3)

Assembly:

- Mount the threaded bar (1) so that it has sufficient free moving space in the drill hole.
- Lock the nuts (2) so that there is a remaining distance A* from the washer (3).

  * A = 2 mm

  This distance is essential to avoid force shunts.

3.4 Selecting maximum capacity

Forces exceeding the safe load limit E_{lim} in the measuring direction may change the characteristics of the load cell or damage it.

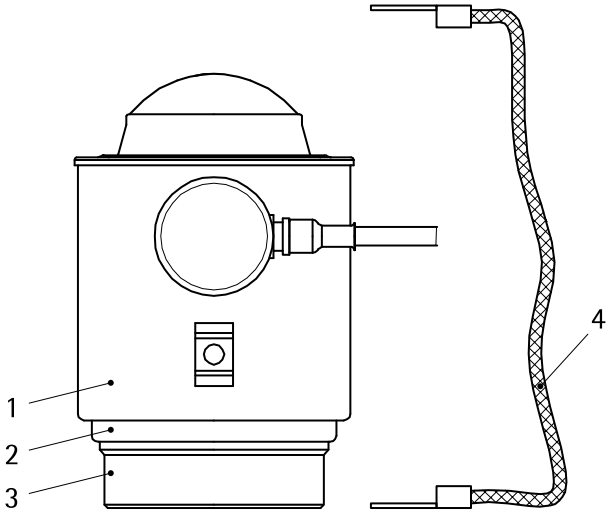
If the safe load limit E_{lim} of the load cell can be exceeded, e.g. by falling loads, then mechanical limiting in load direction is strongly recommended.

If the destructive load E_d of the load cell is exceeded, there is danger of mechanical destruction.

4 Specifications

4.1 Equipment supplied with the load cell

4.1.1 Load cells Inteco®/500 kg...75 t



No.	Description
1	Load cell
2	Supporting ring
3	Lower load disc
4	Flexible copper strap
Positions not shown:	
5	Quick guide
6	Calibration Certificate
7	Only with Ex-load cells: Safety information for Ex-load cells

4.2 General information

Restoring force	For each mm of displacement that the top of the load cell is shifted from the vertical axis, a horizontal restoring force is generated: E_{max} ≤10 t: 0.65 % of the load resting vertically on the load cell E_{max} ≥20 t: 1.55 % of the load resting vertically on the load cell
Material for load cell housing	Stainless steel 1.4301 acc. to DIN EN 10088-3 (corresponds to AISI 304, B.S. 304S11/S15)
Protection against environmental influences	Hermetically sealed by welding. Filled with inert gas.

Protection classes	in compliance with IEC 529 or DIN EN 60529 **IP66/IP68/IP69:** Dust-proof and leak-tight against water, with harmful effects when immersed, (1.5 m water depth, 10,000 h) and water jets (high pressure and temperature). **Explosion:** Suitable for explosion subgroup IIC and IIIC.
Protection type	Intrinsic safety for Inteco®/..E
Ambient temperature in the Ex area	see additional information “safety instructions for Ex load cells” only with approval RU C-DE.АЖ58.B.00915/20: -30...+55 °C
Cable diameter	5 mm
Cable gauge	4×0.35 mm^2
Cable bend radius	≥25 mm (fixed installation) ≥75 mm (flexible installation)
Cable sheath material	Thermoplastic elastomer (TPE)
Cable sheath color	Gray (standard version) Blue (Ex version)

4.3 Possible marking of the load cell for the Ex area

Zone	Marking	Certificate no.	for
0 and 1	II 1G Ex ia IIC T6 Ga Ex ia IIC T6 Ga 0Ex ia IIC T6 Ga	BVS 17 ATEX E 111X IECEx BVS 17.0092X RU C-DE.АЖ58.B.00915/20*	only Inteco®/..E
20 and 21	II 1D Ex ta IIIC T160 °C Da Ex ta IIIC T160 °C Da Ex ta IIIC T160 °C Da	TÜV 03 ATEX 2301X IECEx TUN 17.0025X RU C-DE.АЖ58.B.00915/20*	all Inteco® without /..E
2	II 3G Ex nA IIC T6 Gc 2Ex nA IIC T6 Gc	MIN16ATEX001X RU C-DE.АЖ58.B.00915/20*	all Inteco® without /..E
22	II 3D Ex tc IIIC T85 °C Dc Ex tc IIIC T85 °C Dc	MIN16ATEX001X RU C-DE.АЖ58.B.00915/20*	all Inteco® without /..E
		* Certification body: Центр «ПрофЭкс» (Accrediting code RA.RU.10АЖ58)	
	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 - 4012 101 5688; NIFW T4A Ta= -40°C to 70°C; T5 Ta= -40°C to 55°C	FM17US0276	all Inteco® without /..E

Zone	Marking	Certificate no.	for
	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 - 4012 101 5688; NIFW T4A Ta= -40°C to 70°C; T5 Ta= -40°C to 55°C	FM17CA0138	all Inteco® without /..E

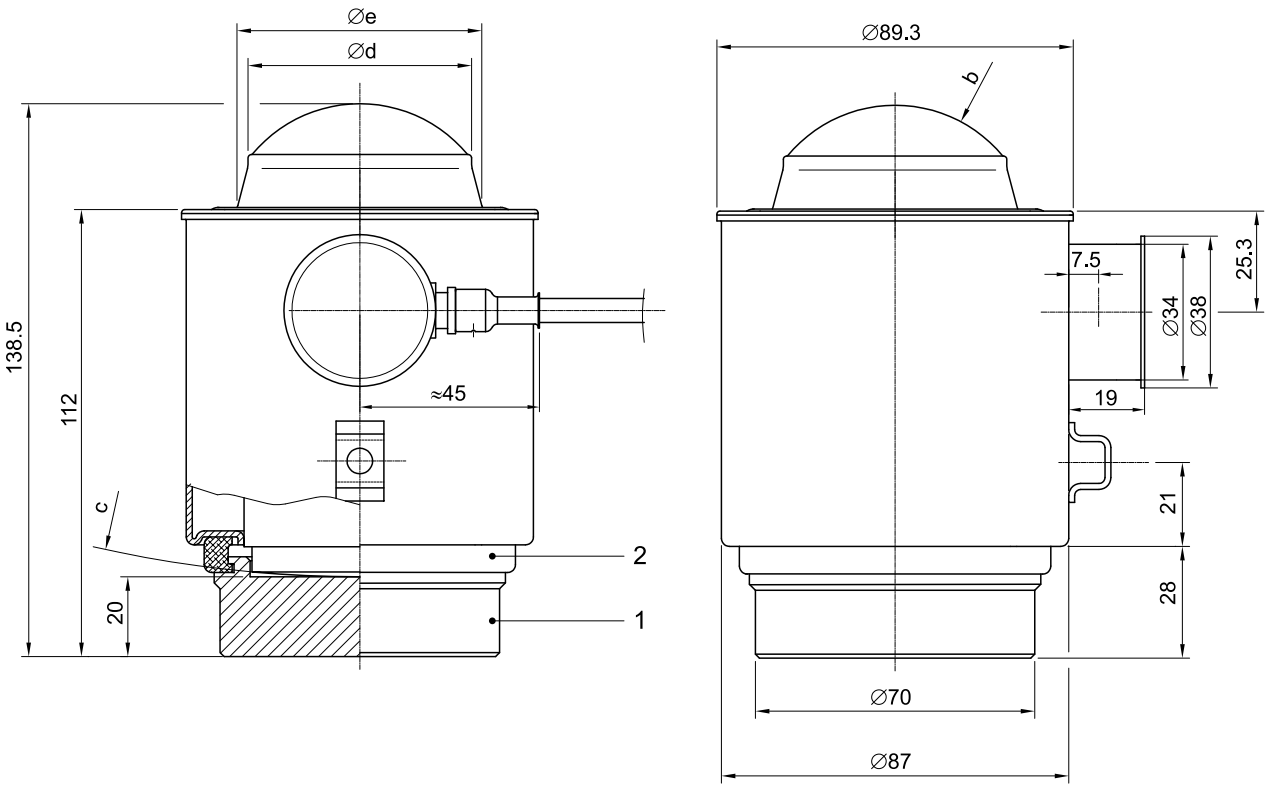
NOTICE

Installation in the Ex area

- For installations in the Ex area, it is imperative to observe the Ex safety instructions in the installation manuals.

4.4 Dimensions

4.4.1 Load cells Inteco®/500 kg...75 t



all dimensions in mm

No.	Description
1	Lower load disc
2	Supporting ring

Model	b [mm] spherical radius	c [mm] spherical radius	d [mm]	e [mm]
Inteco®/500 kg...3 t	15	150	24	32
Inteco®/5...10 t	15	150	34	44
Inteco®/20...75 t	35	220	56	62

4.5 Ordering information

4.5.1 Load cells Inteco®/500 kg...75 t

Model	Max. capacity E_{max}	Type
Inteco®/500 kg	500 kg	../D1/D1E
Inteco®/1 t	1 t	../D1/D1E
Inteco®/2 t	2 t	..D1/D1E/C3/C3E
Inteco®/3 t	3 t	..D1/D1E/C3/C3E/C6/C6E
Inteco®/5 t	5 t	..D1/D1E/C3/C3E/C6/C6E
Inteco®/10 t	10 t	..D1/D1E/C3/C3E/C6/C6E
Inteco®/20 t	20 t	..D1/D1E/C3/C3E/C6/C6E
Inteco®/30 t	30 t	..D1/D1E/C3/C3E/C6/C6E
Inteco®/50 t	50 t	..D1/D1E/C3/C3E/C6/C6E
Inteco®/60 t	60 t	..D1/D1E/C3/C3E/C6/C6E
Inteco®/75 t	75 t	..D1/D1E/C3/C3E/C6/C6E

4.6 Technical data

4.6.1 Load cells PR 6203/500 kg...75 t

Designation	Description	Abbr.	D1, D1E	C3, C3E	C6, C6E	Unit
Accuracy class			0.04	0.015	0.008	% 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}		See Chapter 4.5		
Safe load limit	maximum load without irreversible damage up to E_{max} = 50 t	E_{lim}		150		% E_{max}
	E_{max} = 60 t	E_{lim}		125		% E_{max}
	E_{max} = 75 t	E_{lim}		100		% E_{max}

Designation	Description	Abbr.	D1, D1E	C3, C3E	C6, C6E	Unit
Destructive load	danger of mechanical destruction up to E_{max} = 50 t	E_d		300		% E_{max}
	E_{max} = 60 t	E_d		250		% E_{max}
	E_{max} = 75 t	E_d		200		% E_{max}
Minimum LC verification	minimum load cell scale interval, $v_{min} = E_{max}/Y$	Y		see following tables		
	E_{max} = 500 kg	Y	2500	...	...	
	E_{max} = 1 t	Y	5000	...	...	
	E_{max} = 2 t	Y	5000	10000	...	
	E_{max} = 3...10 t	Y	5000	14000	14000	
	E_{max} = 20...75 t	Y	5000	14000	20000	
Minimum preload signal recurrence	recurrence of the minimum preload signal (DR = ½×E_{max}/Z)	Z	1000	3000	6000	
Rated output	relative output signal at maximum capacity	C_n		2		mV/V
Tolerance on rated output	permissible deviation from rated output C_n	d_c	<0.25	<0.07	<0.07	% C_n
Zero output signal	load cell output signal under unloaded condition	S_{min}		0 ±1.0		% C_n
Repeatability	max. change in load cell output for repeated loading	ε_R	<0.01	<0.005	<0.005	% C_n
Creep	max. change of output signal at E_{max} during 30 minutes	d_{cr}	<0.03	<0.015	<0.008	% C_n
Non-linearity[1)]	deviation from best straight line through zero	d_{Lin}	<0.03	<0.01	<0.01	% C_n
Hysteresis[1)]	max. difference in LC output between loading and unloading	d_{hy}	<0.04	<0.015	<0.008	% C_n
Temperature effect on Smin	max. change of S_{min} in B_T	TK_{Smin}	<0.028	<0.01	<0.007	% C_n/10 K
Temperature effect on C[1)]	max. change of C in B_T	TK_C	<0.03	<0.01	<0.005	% C_n/10 K
Input impedance	between supply terminals	R_{LC}		650 ±6		Ω

Designation	Description	Abbr.	D1, D1E	C3, C3E	C6, C6E	Unit
Output impedance	between measuring terminals up to E_{max} = 50 t	R_O	610 ±1	610 ±0.5	610 ±0.5	Ω
	E_{max} = 60 t	R_O	510 ±1	510 ±0.5	510 ±0.5	Ω
	E_{max} = 75 t	R_O	410 ±1	410 ±0.5	410 ±0.5	Ω
Insulation impedance	between measuring circuit and housing, U_{DC} = 100 V	R_{IS}		>5000		MΩ
Insulation voltage	between circuit and housing (../E versions only)			500		V
Recommended supply voltage	to hold the specified performance	B_u		4...24		V
Max. supply voltage	permissible for continuous operation without damage	U_{max}		32		V
	../E versions:	U_{max}		25		V
Nominal ambient temp. range	to hold the specified performance	B_T		-10...+40		°C
Usable ambient temp. range	permissible for continuous operation without damage	B_{Tu}		-40...+95		°C
Storage temperature range	without electrical and mechanical stress	B_{Ti}		-40...+95		°C
Permissible eccentricity	permissible displacement from nominal load line at the head of the load cell E_{max} ≤10 t	S_{ex}		10		mm
	E_{max} >10 t	S_{ex}		5		mm
Vibration resistance	resistance against oscillations (IEC 60068-2-6-Fc)			20 g, 100 h, 10...150 Hz		
Barometric pressure influence	influence of barometric pressure on output up to E_{max} = 3 t	PK_{Smin}		200		g/kPa
	E_{max} = 5...10 t	PK_{Smin}		330		g/kPa
	E_{max} = 20...75 t	PK_{Smin}		420		g/kPa
Nominal deflection	elastic deformation under maximum capacity up to E_{max} = 5 t	s_{nom}		≤0.3		mm
	E_{max} = 10...20 t	s_{nom}		≤0.5		mm
	E_{max} = 30...50 t	s_{nom}		≤0.8		mm

Designation	Description	Abbr.	D1, D1E	C3, C3E	C6, C6E	Unit
	E_{max} = 60...75 t	s_{nom}		≤1.2		mm

1) The data for non-linearity (d_{Lin}), hysteresis (d_{hy}) and and temperature effect on C (TK_C) are typical values.
For OIML R60 or NTEP approved load cells the sum of these values is within the permissible cumulative error limits.

Definitions acc. to OIML R60

The technical data given are intended solely as a product description and should not be interpreted as guaranteed properties in the legal sense.

Accuracy classes and min. scale interval of the load cells v_{min} for Inteco®/500 kg...Inteco®/10 t

	Type	Divisions n_{max}	500 kg	1 t	2 t	3 t	5 t	10 t	Unit
OIML R60	D1/D1E	1000	0.20	0.20	0.40	0.60	1.00	2.00	kg
	C3/C3E	3000	...	...	0.20	0.22	0.36	0.72	kg
	C6/C6E	6000	...	...	...	0.22	0.36	0.72	kg
NTEP class III multiple	D1/D1E	1000	0.20	0.20	0.40	0.60	1.00	2.00	kg
	C3/C3E	5000	...	...	0.20	0.22	0.36	0.72	kg
	C6/C6E	10000	...	...	...	0.22	0.36	0.72	kg
NTEP class III L multiple	D1/D1E	2000	...	...	0.20	0.20	0.34	0.67	kg
	C3/C3E	10000	...	...	0.20	0.20	0.20	0.24	kg
	C6/C6E	10000	...	...	...	0.20	0.20	0.24	kg

Accuracy classes and min. scale interval of the load cells v_{min} for Inteco®/20 t...Inteco®/75 t

	Type	Divisions n_{max}	20 t	30 t	50 t	60 t	75 t	Unit
OIML R60	D1/D1E	1000	4.00	6.00	10.00	12.00	15.00	kg
	C3/C3E	3000	1.43	2.15	3.58	4.29	5.36	kg
	C6/C6E	6000	1.00	1.50	2.50	3.00	3.75	kg
NTEP class III multiple	D1/D1E	1000	4.00	6.00	10.00	12.00	15.00	kg
	C3/C3E	5000	1.43	2.15	3.58	4.29	5.36	kg
	C6/C6E	10000	1.00	1.50	2.50	3.00	3.75	kg
NTEP class III L multiple	D1/D1E	2000	1.34	2.00	3.34	4.00	5.00	kg
	C3/C3E	10000	0.48	0.72	1.20	1.43	1.79	kg
	C6/C6E	10000	0.34	0.50	0.84	1.00	1.25	kg

5 Installation

5.1 Safety instructions

NOTICE

Welding or lightning strike current flowing through the cell can damage it.

All electrical welding on the weighing system must be finished before mounting the load cells.

▶ When installing the load cell, immediately bypass the load cell with the flexible copper strap provided for this purpose (included in the equipment supplied, see Chapter 4.1).

During any additional electrical welding work near the load cell:

- Disconnect the load cell cables.
- Bypass the load cell using the flexible copper strap.
- Make sure that the grounding clamp of the welding set is fitted as closely as possible to the welding joint.

The following must be observed during installation:

- Do not lift or transport the load cell by pulling on the cable.
- Avoid shock stress (falling down, hard shocks).
- The load cell must be installed vertically and centrally in the mounting kit.
- Load forces must act in the measuring direction of the load cell.
- The load disc must not be subjected to transverse forces.
- All contact points between load cell and load disc must be adequately greased.

  Load cell grease order no., see Chapter 11.1.

NOTICE

Changes of temperature >15 K/h may influence the measuring accuracy.

▶ Make sure to protect the load cells from direct heating or cooling effects (sun, wind, heat radiation, fan heaters), e.g., heat protection screens or heat protection housings are to be installed if necessary.

NOTICE

Force shunts may cause measuring errors.

▶ All incoming and outgoing lines (hoses, pipes, cables) must be coupled to the measured object as flexibly as possible.

5.2 Aligning the load cell

Load cells must be installed so that their axis is vertical when not in use.

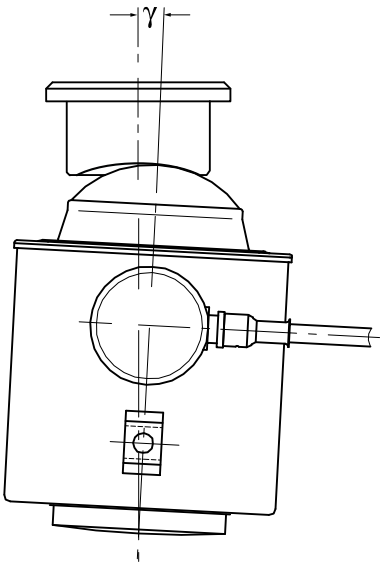
Even minor deviations can lead to unexpected effects.

When the PR 6001/.. mounting kit is used, the correct position of the adjustment notches ensures that it is positioned properly (vertical and not jammed or wedged).

If the load cell is installed on a slant accidentally, then this changes its characteristic value.

Under no circumstances can this be compensated for electrically (e.g. by resistances in the junction box). Instead, all load cells have to be carefully aligned: Refer to figure.

To make it easier to get an exact vertical alignment, the PR 6001/.. mounting kit is equipped with a mounting aid.



$\gamma \leq 1^{\circ}$

The maximum permissible inclination must be strictly observed so that measuring accuracy is not adversely overly affected (see figure).

Note:

The material properties and the shape of the load cells and load discs are perfectly matched to one another. Always use load discs from Minebea Intec, see also Chapter 11.2.2.

Procedure:

- Lift up weighing object approx. 5 mm using a jack-up or corresponding lifting device.
- Correct the position of the load cell using the supporting ring on the lower load disc.
- Set the weighing object back down on the mounting kit and make sure that the load cell is vertical and the load cell dome is positioned in the exact center of the load disc.
- Check to ensure that the adjustment notches are in the correct position.

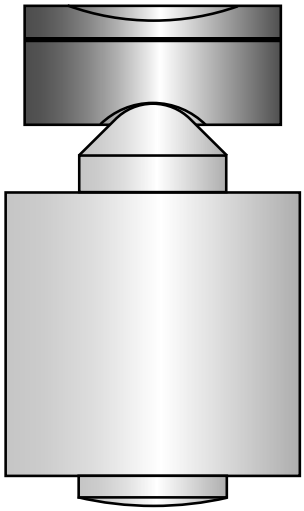
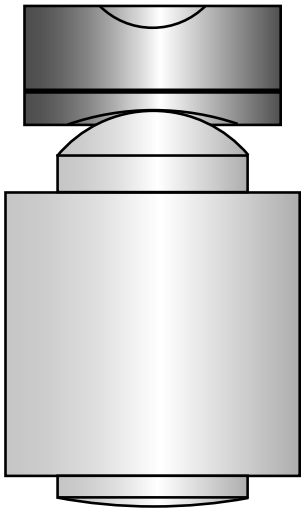
Note:

Further installation instructions can be found in the manuals of the respective mounting kits.

5.3 Installation of the upper load disc for max. capacity of 500 kg...75 t

Note:

The figures below shows a schematic of load cell and upper load disc.

Small load cell radius (15 mm)	Large load cell radius (35 mm)
E_{max} = 500 kg...10 t	E_{max} = 20...75 t
	

Note:

Load discs made of stainless steel are marked with a double groove.

Further installation instructions can be found in the manuals of the respective mounting kits.

6 Connection

6.1 General information

- Protect the cable ends against contamination. Moisture must not get into the open end of the cable.
- Do not shorten the load cell connecting cable. Connect the prepared cable end and roll up the remaining cable.
- The screen of the load cell cable and the screen of the connecting cable must not be connected inside the cable junction box if connection of both ends is not permissible according to the regulations for installation in the explosion-prone area.
- Keep the load cell cables away from power cables.
- The distance between measurement cables and power cables and/or components under high voltage should be at least 1 m (reference value).
- We recommend laying the load cell cables in separate cable trays or armored steel pipes.
- Power cables should be crossed at right angles while taking into account the minimum distance of 1 m (reference value).

Note:

If hum interference occurs, the cable screens should only be connected on one side.

Depending on the design of the cable junction box used, either the jumper J3 must be removed or the cable screens must be disconnected from the terminal contacts highlighted in yellow.

⚠ WARNING

When installing in potentially explosive atmospheres:

It is imperative that you follow the application-dependent installation instructions!

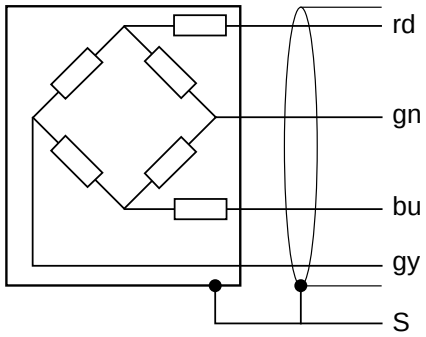
▶ Always check whether it is permissible to bilaterally connect the screens to the equipotential bonding.

6.2 Load cell

Color Code

rd	=	red
gn	=	green
bu	=	blue
gy	=	gray

Typ D1, D1E, C3, C3E, C6, C6E



rd =	+ supply/LC in	+ supply voltage/+ load cell input
gn =	+ meas./LC out	+ measuring voltage/+ load cell output
bu =	- supply/LC in	- supply voltage/+ load cell input
gy =	- meas./LC out	- measuring voltage/- load cell output
S =	screen	Screen

6.2.1 Load cell cable

The load cell cables are inseparably connected to the load cells in the factory and their individual resistance and temperature effect are equalized with the load cells.

Therefore, never shorten the cables, rather simply roll up the extra length and secure it.

The special sheathing material and the integrated strain relief with Kevlar thread ensure extremely long service life even under difficult operating conditions.

However, despite the robust nature of the materials used, the cable should be protected from excessive chemical and mechanical stresses. Preventing water from penetrating the end of the cable is also important "life insurance" for the system.

6.3 Cable connections

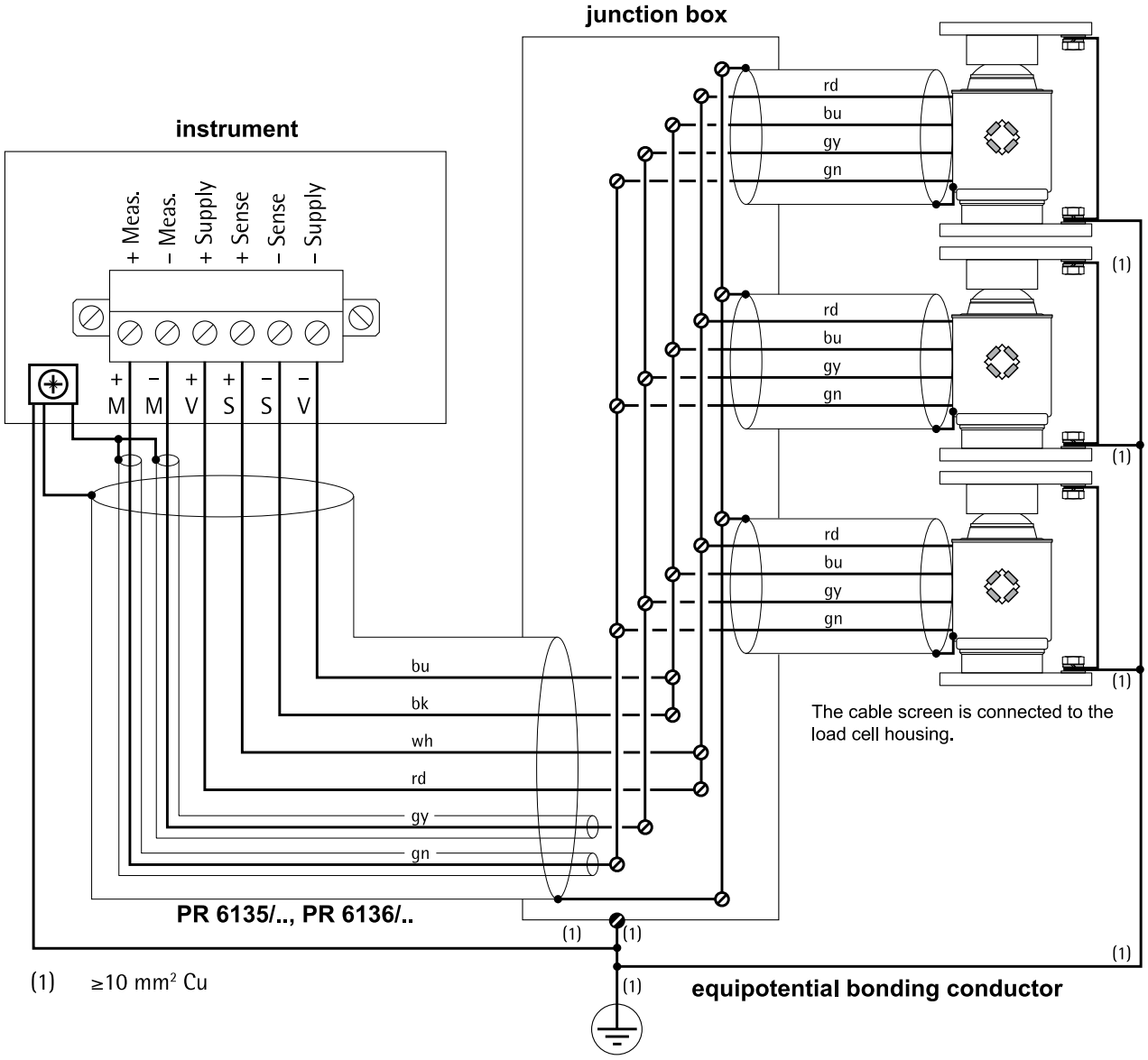
Note:

All components are only shown schematically.

Color code

bk	=	black
bu	=	blue
gn	=	green
gy	=	gray
rd	=	red
wh	=	white

Connection example



7 Preparing for calibration

7.1 General notes

Note:

For calibration of the measuring system, please refer to the manual of the corresponding indicator.

7.2 Smart Calibration

When using Minebea Intec devices, we recommend always running "Smart Calibration" first.

This allows all required values to be extracted from the Calibration Certificate supplied.

- The "Hysteresis correction values for Smart Calibration" listed on the Calibration Certificate are entered for [Correction A] and [Correction B] under [Hysteresis error] - [specified] in the indicator.

  If the values are not available on the Calibration Certificate, [Hysteresis error] - [not specified] must be selected.
- The value listed under "Output at max. capacity" on the Calibration Certificate is entered in the indicator under [LC output at max. capacity].
- The value listed under "Output impedance" on the Calibration Certificate is entered in the indicator under [LC output impedance].

By performing these steps, a logical and highly accurate reading (typically better than 0.1%) is generated before the scale is even loaded for the first time.

7.3 Mechanical height adaptation

To distribute the load over the load cells as evenly as possible, height adaptation is required in systems with more than 3 load cells prior to calibration.

Procedure:

1. Place the dead load (e.g. empty vessel) onto the load cells of the scale structure.
2. Energize the load cells in parallel with a stabilized voltage (e.g.: U_{DC} = 12 V).
3. Measure the output voltages of each individual load cell by means of a digital voltmeter and compare the individual values.
   ▷ Given deviation between the output voltages of the load cells, the load on the load cell with the lowest output voltage must be increased by putting shims between mounting plate and weighing construction.
4. Lift the weighing object immediately beside the affected load cell.
5. Place thin, deburred sheets of metal (0.5–2 mm thick) between the upper mounting plate and the scale structure.
6. Measure the output voltages of the load cells again and adjust the height of this load cell or of another one.

8 Troubleshooting

8.1 General Notes

The following hints will enable a technician to do an initial diagnostic or help in case of incorrect or non-reproducible weighing results after commissioning and calibration.

8.2 Visual inspection

Component	Possible errors
Weighing object	Are all pipes, hoses and cables free from shunt forces? Are the connections pliable and connected horizontally? Are elements with a solid connection to the scale in direct contact with the surroundings? Has friction developed between the weighing object and its surroundings (e.g. dusty openings, ...)?
Cable junction box	Has moisture intruded? Do all soldering and screw connections have secure contact?
Connecting cables	Is the sheath damaged? Has moisture intruded?
Mounting kit	Is the lift-off protection in contact with the scale? Are the constrainers stuck?
Load cell	Is the load cell vertical? Is the adjustment chamber cover damaged? Is the sheath of the load cell cable damaged? Has moisture penetrated into the load cell cable?

8.3 Metrological controls

8.3.1 Checking the zero output signal of the load cell

- Unload load cell.
- Disconnect the load cell measuring outputs.
- Check whether the output voltage without load is within the limits.

Type	Output voltage
D1, C3, C6	0 mV ±0.02 mV/V

8.3.2 Checking the strain gauge bridge of the load cell

- Do not exceed the test voltage.
- Check whether the values of the resistors are within the permissible limits.

Max. test voltage

- Standard version U_{DC} = 32 V
- Intrinsically safe version (Inteco®/..E) U_{DC} = 25 V

Type	Input impedance (red core, blue core)	Output impedance (green core, gray core)
D1	650 Ω ±6 Ω	up to E_{max} = 50 t: 610 Ω ±1 Ω E_{max} = 60 t: 510 Ω ±1 Ω E_{max} = 75 t: 410 Ω ±1 Ω
C3, C6	650 Ω ±6 Ω	up to E_{max} = 50 t: 610 Ω ±0,5 Ω E_{max} = 60 t: 510 Ω ±0,5 Ω E_{max} = 75 t: 410 Ω ±0,5 Ω

8.3.3 Checking the insulation impedance of the load cell

NOTICE

Possible destruction of load cell

- ▶ Never apply test voltage between two cores of the load cell cable.
- ▶ Insulate the load cell cores.

Max. test voltage

- Standard version U_{DC} = 100 V
- Intrinsically safe version (Inteco®/..E) U_{AC} = 500 V

Insulation impedance	Core – housing Core – screen Screen – housing	>5000 MΩ >5000 MΩ <0.2 Ω

8.3.4 Checking the insulation impedance of the connecting cable

- Disconnect connecting cable from measuring instrument and load cells.
- Insulate the cores of the connecting cable.

Insulation impedance	Core – core Core – screen	>120 MΩ × km >120 MΩ × km

9 Maintenance/repairs/cleaning

9.1 Maintenance

The load cell PR 6203 is maintenance-free.

Load cell grease must be applied to the contact surfaces between the load cell and load discs. Load cell grease order number, see Chapter 11.1.

The load cell can be extensively sprayed with off-shore all-weather protection spray in aggressive environments.

Load cell grease specification

- good water/media resistance
- good corrosion protection properties
- good oxidization and aging stability
- good temperature resistance
- and, where appropriate, good compatibility with foodstuffs

The requirements referred to apply when taking into account the specific operating/ usage conditions.

The grease also serves as protection against wear (low friction).

9.2 Repairs

The load cell PR 6203 is designed to be as robust as possible for the required measuring accuracy and is highly reliable.

Should an electrical or mechanical defect nevertheless occur, the load cell must be replaced.

Load cell repair is not possible.

9.3 Cleaning

Dirt on the load cell and movable parts of the scale must be cleaned as quickly as possible

- if it influences weighing, or
- if it is corrosive to the cell or cable material.

NOTICE

Some cleaning agents may not be compatible with the load cell material.

▶ When using cleaning agents, ensure that their compatibility with the load cell material has been tested and approved (see Chapter 4.2).

10 Disposal

Our products and their packaging should not be disposed of in municipal waste (e.g. garbage can for recyclable packaging, garbage can for paper packaging, etc.). They can either be recycled by the customer themselves, providing this complies with requirements set out by electrical or electronic waste or packaging waste laws, or sent back to Minebea Intec at a charge.

This option of returning the product is intended to provide proper recycling or reuse in a manner that is collected separately from municipal waste.

Before disposing of or scrapping the old products, any single-use or rechargeable batteries should be removed and taken to a suitable collection point. The type of battery used is specified in the technical data.

Please see our General Terms and Conditions for further information.

Service addresses for repair acceptance and collection points can be found on the product information enclosed with the product as well as on our website (www.minebea-intec.com).

Should you have any further questions, please contact your local service representative or our service center.

Minebea Intec GmbH

Repair center

Meiendorfer Strasse 205 A

22145 Hamburg, Germany

Phone: +49.40.67960.333

service.HH@minebea-intec.com

We reserve the right not to accept products that are contaminated with hazardous substances (ABC contamination).

11 Spare parts and accessories

11.1 Replacement parts

No.	Description	Max. capacity	Order no.
1	Flexible copper strap, 400 mm long		5312 321 28057
2	Lower load disc with supporting ring	500 kg...10 t	5322 693 91416
3	Lower load disc with supporting ring	20 t, 30 t, 50 t, 60 t, 75 t	5312 693 98148
4	Supporting ring, default	500 kg...75 t	5312 532 58017
5	Supporting ring, food-safe	500 kg...75 t	5322 532 70317
6	Load cell grease 4× 5 g		5312 390 12001
7	Fastening set incl. connector (Connexx modul)		5312 693 98162

11.2 Accessories

11.2.1 Mounting kits

To install the load cell, the following mounting kits / pivots are recommended:

No.	Description	Max. capacity	Order no.
1	Mounting kit PR 6001/00N	500 kg–10 t	9405 360 01001
2	Mounting kit PR 6001/00S	500 kg–10 t	9405 360 01002
3	Mounting kit PR 6001/01N	20–75 t	9405 360 01011
4	Mounting kit PR 6001/01S	20–75 t	9405 360 01012
5	Mounting kit PR 6145/00N incl. lower load disc with supporting ring PR 6143/54S @ 20–50 t	500 kg–10 t	9405 361 45001
6	Mounting kit PR 6145/00S incl. lower load disc with supporting ring PR 6143/54S @ 20–50 t	500 kg–10 t	9405 361 45002
7	Pivot PR 6101/53N	5 t	9405 561 01531
8	Pivot PR 6101/53S	5 t	9405 561 01532
9	Pivot PR 6101/24N	20 t	9405 561 01241
10	Pivot PR 6101/24S	20 t	9405 561 01242
11	Pivot PR 6101/54N	60 t, 75 t	9405 561 01541
12	Pivot PR 6101/54S	60 t, 75 t	9405 561 01542

N = steel zinc plated, passivated and sealed (RoHS-compliant)

S = stainless steel

No.	Description	Perm. horizontal force	Order no.
13	Maxi FLEXLOCK PR 6001/10N	≤25 kN	9405 360 01101
14	Maxi FLEXLOCK PR 6001/10S	≤25 kN	9405 360 01102
15	Maxi FLEXLOCK PR 6001/11N	≤25 kN	9405 360 01111
16	Maxi FLEXLOCK PR 6001/11S	≤25 kN	9405 360 01112
17	Mini FLEXLOCK PR 6143/00N	≤25 kN	9405 361 43001
18	Mini FLEXLOCK PR 6143/00S	≤25 kN	9405 361 43002
19	Constrainer PR 6143/80	≤2 kN	9405 361 43801
20	Constrainer PR 6143/83	≤20 kN	9405 361 43831

N = steel zinc plated, passivated and sealed (RoHS-compliant)

S = stainless steel

11.2.2 Load discs

To install the load cell, the following load discs are recommended:

No.	Description	Max. capacity	Order no.
1	Upper load disc, standard PR 6143/50N	500 kg–75 t	9405 361 43501
2	Upper load disc, PR 6143/50S	500 kg–75 t	9405 361 43502
3	Lower load disc with supporting ring PR 6143/24S	500 kg–10 t	9405 361 43242
4	Lower load disc with supporting ring PR 6143/54S	20–75 t	9405 361 43542

N = steel zinc plated, passivated and sealed (RoHS-compliant)

S = stainless steel

11.2.3 Connecting cables

To connect the junction box to the weighing electronics, we recommend using the following connecting cables:

No.	Description	Order no.
1	PR 6135/××	9405 361 35××2
2	PR 6135/01A (armored)	9405 361 35019
3	PR 6136/×× (for installation inside the explosion-hazarded area)	9405 361 36××1
4	PR 6136/01A (armored, for installation inside the explosion-hazarded area)	9405 361 36019

11.2.4 Cable junction boxes

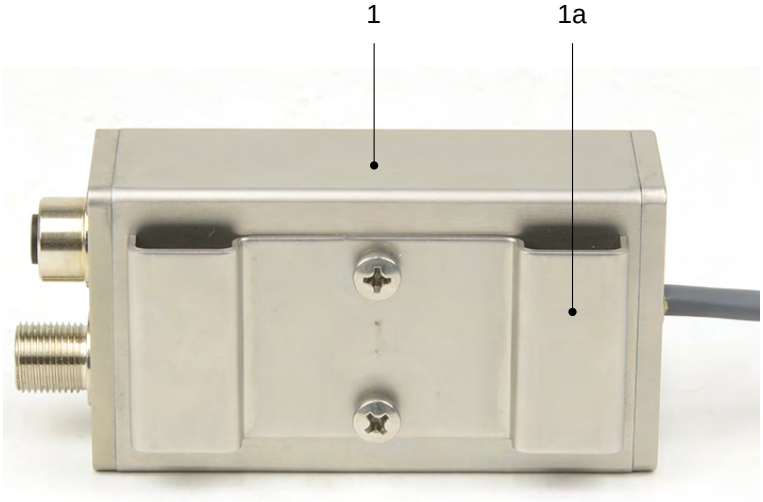
We recommend using the following junction boxes:

No.	Description	Order no.
1	PR 6130/04 (aluminum, 1–4 load cells, IP67; not for Inteco®/..D1E, ..C3E, ..C6E)	9405 361 30044
2	PR 6130/08 (polycarbonate, 1–8 load cells, IP66; not for Inteco®/..D1E, ..C3E, ..C6E)	9405 361 30084
3	PR 6130/34Sa (1.4301, 1–4 load cells, IP68, IP69, verifiable; not for Inteco®/..D1E, ..C3E, ..C6E)	9405 361 30344
4	PR 6130/35S (1.4301, 1–4 load cells, IP68, IP69, verifiable; not for Inteco®/..D1E, ..C3E, ..C6E)	9405 361 30354
5	PR 6130/38S (1.4404, 1–8 load cells, IP68, IP69, verifiable; not for Inteco®/..D1E, ..C3E, ..C6E)	9405 361 30384
6	PR 6130/64Sa (1.4301, 1–4 load cells, IP68, IP69, verifiable, ATEX, IECEx, FM)	9405 361 30644
7	PR 6130/65S (1.4301, 1–4 load cells, IP68, IP69, verifiable, ATEX, IECEx, FM)	9405 361 30654
8	PR 6130/68S (1.4404, 1–8 load cells, IP68, IP69, verifiable, ATEX, IECEx, FM)	9405 361 30684

11.2.5 Connexx module

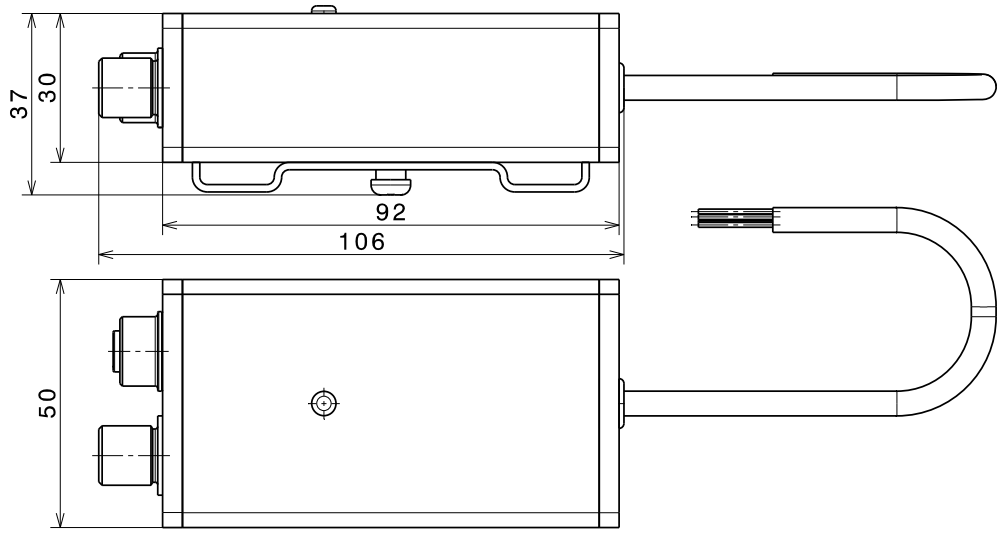
11.2.5.1 Specifications

11.2.5.1.1 Equipment supplied



No.	Description
1	Connexx module incl. retaining plate (1a)
Not shown:	
2	Fixing bracket incl. knurled screw
3	Washers (4×; for various screw sizes)
4	Rail holder

11.2.5.1.2 Dimensions



All dimensions in mm

11.2.5.1.3 Technical data

Designation	Description	Abbr.	Temperature
Nominal ambient temp. range	to hold the specified performance	B_T	-10...+40 °C
Usable ambient temp. range	permissible for continuous operation without damage	B_{Tu}	-30...+60 °C
Storage temperature range	without electrical and mechanical stress	B_{Ti}	-30...+70 °C

11.2.5.2 Connection of Connexx modules

The load cell is firmly attached to the Connexx module.

The load cell cable is 0.7...1.0 m long.

The mounting options for the module are described in Chapter 11.2.5.3.

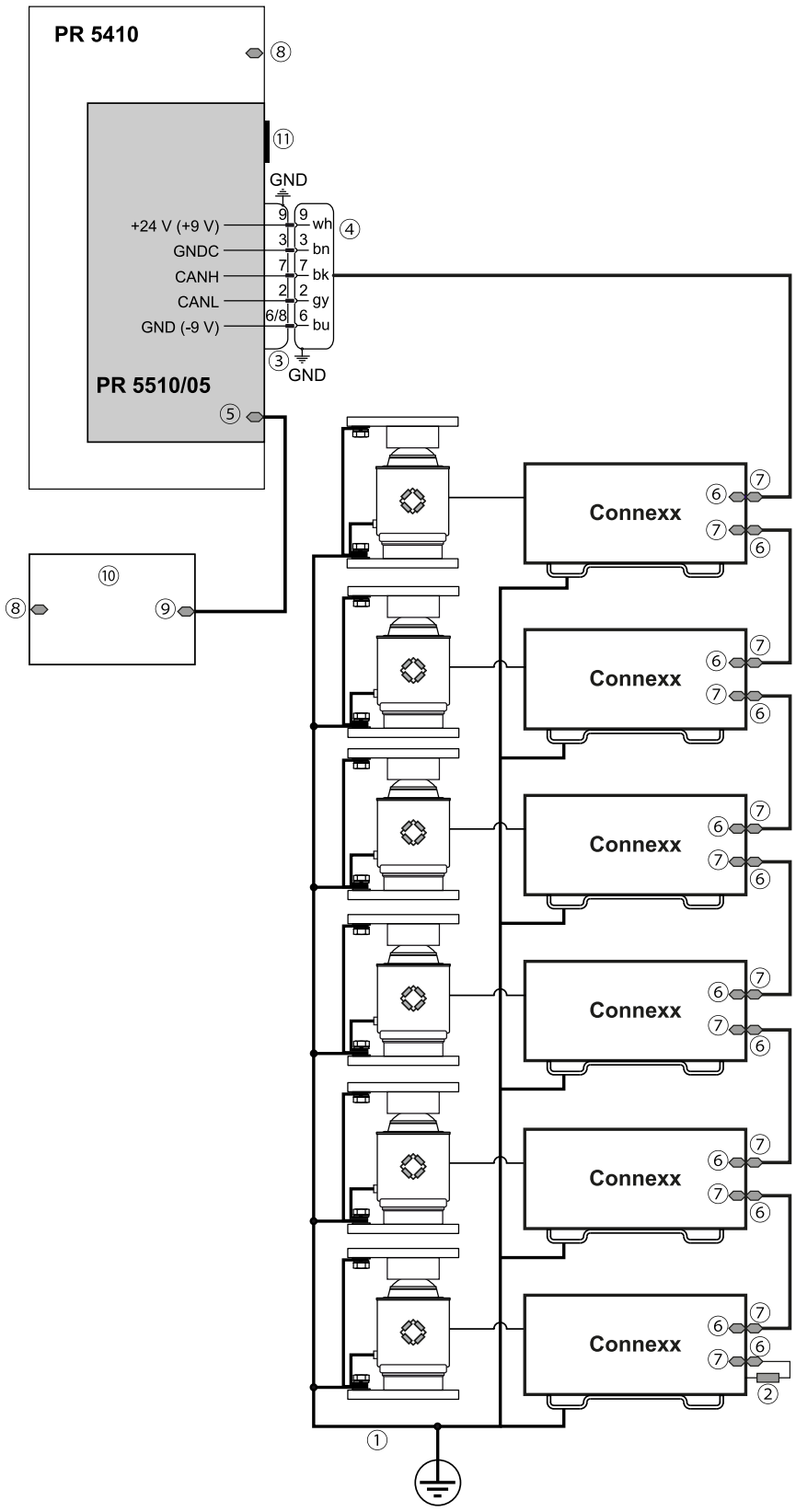
Cable lengths

Connecting part	Recommended length
Between the individual Connexx modules	max. 10 m

Connections

Color abbreviations	Color	Description
wh	white	+ Supply voltage
bu	blue	- Supply voltage
bn	brown	GNDC
gy gr/ye	gray green/yellow	CAN_L bus signal (material PUR) CAN_L bus signal (material PVC)
bk	black	CAN_H bus signal

Connection example, shown as a diagram



① Potential equalization

② Terminating resistor

③ D-Sub 9-pin plug connector, male

④ D-Sub 9-pin plug connector, female

⑤ Input voltage U_{DC} = 24 V (only for connected external voltage supply)

⑥ M12 plug connector, male

⑦ M12 plug connector, female

⑧ Voltage supply U_{AC} = 230 V

⑨ Output voltage U_{DC} = 24 V (only for connected external voltage supply)

⑩ External voltage supply (only required when connecting >4 Connexx modules)

⑪ Switch to turn on a bus-terminating resistor

11.2.5.3 Mounting options

The Connexx module is delivered with mounting elements.

It is possible to mount the Connexx module in the following ways:

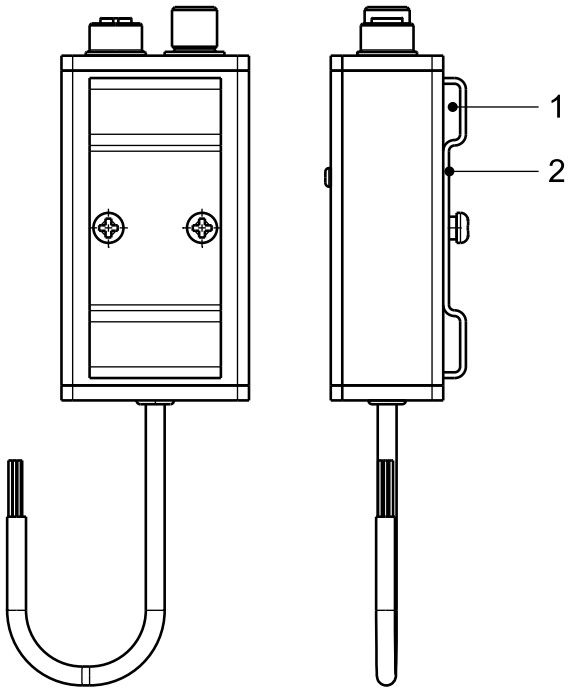
- Mounting using a retaining plate, see Chapter 11.2.5.3.1
- Mounting using a mounting bracket, see Chapter 11.2.5.3.2
- Mounting using a mounting rail holder, see Chapter 11.2.5.3.3

11.2.5.3.1 Mounting using a retaining plate

When using a retaining plate, the Connexx module is attached to the weighing device (e.g. the leg of a container).

Note:

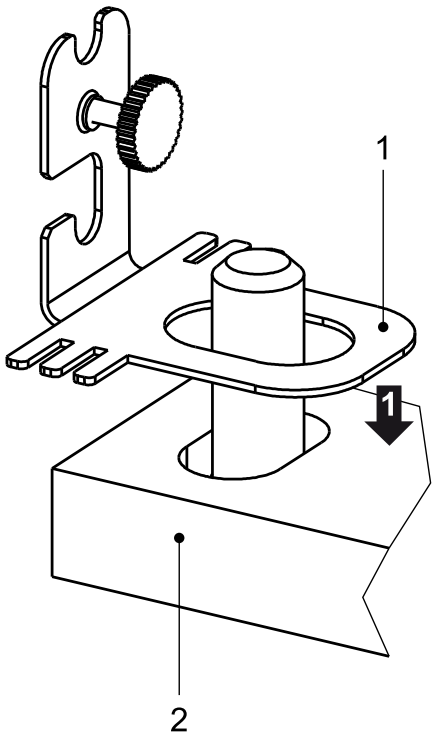
Minebea Intec recommends using a stainless-steel cable tie when mounting using a retaining plate.



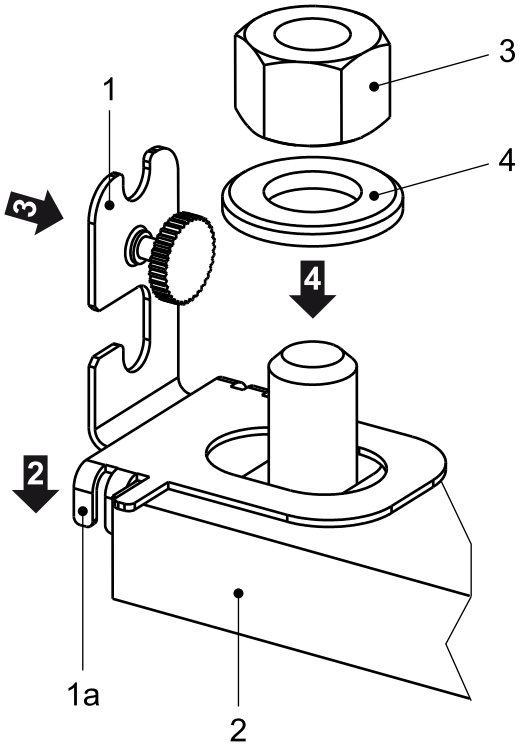
▶ Thread the stainless-steel cable tie through the lugs (1) on the retaining plate (2) and attach to the weighing device.

11.2.5.3.2 Mounting using a fixing bracket

When using a fixing bracket, the Connexx module is attached to the mounting kit.

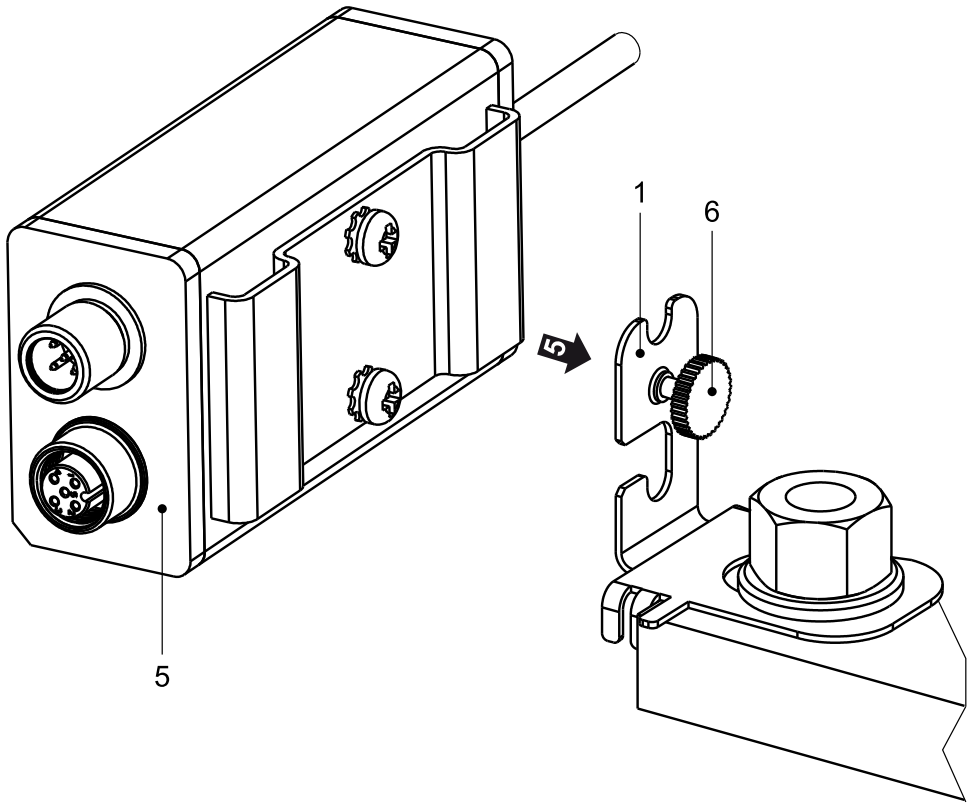


1. Place the fixing bracket (1) on the lower plate (2) of the mounting kit.



2. Depending on the mounting kit, bend the appropriate lugs (1a) downwards using a tool to prevent the fixing bracket from twisting.
3. Slide the fixing bracket (1) onto the lower plate (2) of the mounting kit.
4. Place one of the enclosed washers (4) over the bolt and tighten the nut (3).

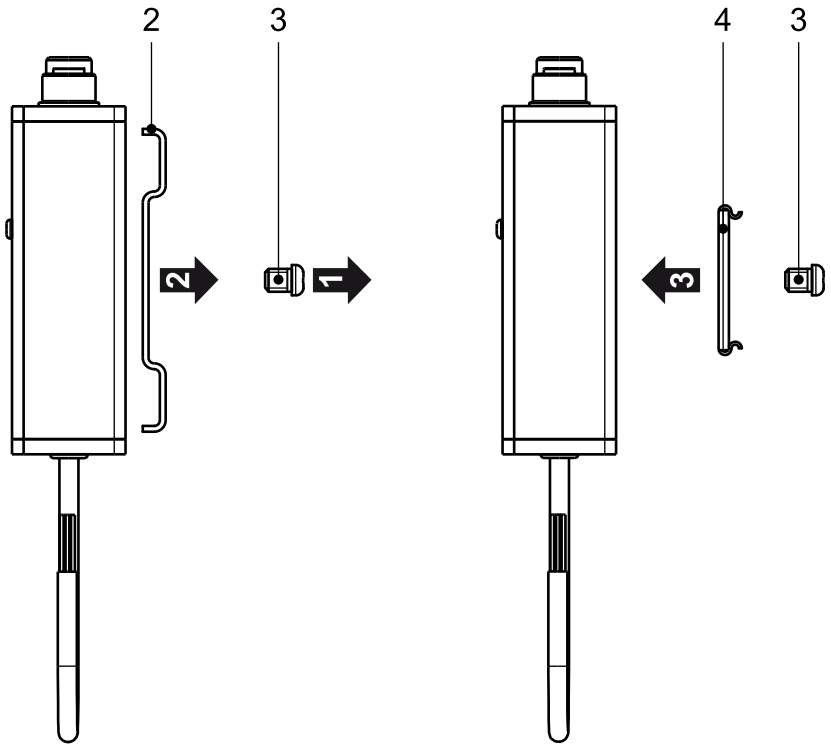
   The fixing bracket is now secured against twisting.



5. Mount the Connexx module (5) on the fixing bracket (1).
6. Tighten the knurled screw (6) by hand to fix the module in place.

11.2.5.3.3 Mounting using a mounting rail holder

When using a mounting rail holder, the Connexx module is attached to the weighing device (e.g. frame with a mounting rail).



1. Remove the screw (3).
2. Remove the retaining plate (2).
3. Install the rail holder (4) and tighten the screws (3).
4. Click the Connexx Module into the rail holder.

11.2.5.4 Connecting parts for the Connexx module

To connect the Connexx module, the following connecting parts are required:

No.	Description	Order no.
1	PR 5510/05 CANopen interface for PR 5410	9405 355 10051
2	PR 6154/03 Connexx connecting kit for three load cells (comprising: 2× PR 6155/05, 1× PR 6152/25, 1× PR 6153/99)	9405 361 54031
3	PR 6154/04 Connexx connecting kit for four load cells (comprising: 3× PR 6155/05, 1× PR 6152/25, 1× PR 6153/99)	9405 361 54041
4	PR 6154/06 Connexx connecting kit for six load cells (comprising: 5× PR 6155/10, 1× PR 6152/25, 1× PR 6153/99)	9405 361 54061
5	PR 6154/08 Connexx connecting kit for eight load cells (comprising: 7× PR 6155/10, 1× PR 6152/25, 1× PR 6153/99)	9405 361 54081
6	PR 6155/05 Connecting cable between individual Connexx modules (M12 plug connector, male → M12 plug connector, female); 5 m	9405 361 55051
7	PR 6155/10 Connecting cable between individual Connexx modules (M12 plug connector, male → M12 plug connector, female); 10 m	9405 361 55101
8	PR 6152/10 Connecting cable between Connexx module and CANopen interface (M12 plug connector, female → D-Sub 9-pin plug connector, female); 10 m	9405 361 52101
9	PR 6152/11 Connecting cable between Connexx module and CANopen interface (M12 female → open cable ends incl. D-Sub 9-pin plug connector, female with screw connectors); 10 m	9405 361 52111
10	PR 6152/25 Connecting cable between Connexx module and CANopen interface (M12 plug connector, female → D-Sub 9-pin plug connector, female); 25 m	9405 361 52251
11	PR 6152/26 Connecting cable between Connexx module and CANopen interface (M12 plug connector, female → open cable ends incl. D-Sub 9-pin plug connector, female with screw connectors); 25 m	9405 361 52261
12	PR 6152/40 Connecting cable between Connexx module and CANopen interface (M12 plug connector, female → D-Sub 9-pin plug connector, female); 40 m	9405 361 52401
13	PR 6152/41 Connecting cable between Connexx module and CANopen interface (M12 plug connector, female → open cable ends incl. D-Sub 9-pin plug connector, female with screw connectors); 40 m	9405 361 52411
14	PR 6153/98 Split cable gland for connecting cable PR 6152/.. with D-Sub plug connector, female	9405 361 53981
15	PR 6153/ 99 Terminating resistor for Connexx module (M12 plug connector, male)	9405 361 53991

12 Certificates/safety instructions/control drawing

Ser. no.	Description	Document no.	see Chapter
1	EU-Type Examination Certificate	BVS 17 ATEX E 111X	12.1
2	Certificate of Conformity	IECEx BVS 17.0092X	12.2
3	EU-Type Examination Certificate	TÜV 03 ATEX 2301X	12.3
4	Certificate of Conformity	IECEx TUN 17.0025X	12.4
5	Manufacturer's Certificate	MIN16ATEX001X	12.5
6	Certificate of Conformity FM	FM17CA0138 FM17US0276	12.6 12.7
7	Control drawing FM	4012 101 5688	12.8
8	EU-Declaration of Conformity	MEU18005	12.9
9	Certificate of Conformity TR CU 012	RU C-DE.АЖ58.B.00915/20	12.10
10	Certificate of Conformity TR CU 020/2011	ЕА ЭС N RU Д-DE.PA01.B.59179/21	12.11
11	MPA	82232-21	12.12
12	OIML Certificate of Conformity (NMi)	R60/2000-A-NL1-18.12	12.13
13	Test Certificate (NMi)	TC11162	12.14
14	Certificate of Conformance (NTEP)	17-111	12.15
15	Certificate of Approval (NTEP-New York)	10034	12.16

12.1 BVS 17 ATEX E 111X

1 **EU-Baumusterprüfbescheinigung**

2 **Geräte zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen Richtlinie 2014/34/EU**

3 Nr. der EU-Baumusterprüfbescheinigung: **BVS 17 ATEX E 111 X**

4 Produkt: **Wägezelle Typ PR62** / ** ** E**

5 Hersteller: **Minebea Intec GmbH**

6 Anschrift: **Meiendorfer Straße 205 A, 22145 Hamburg, Deutschland**

7 Die Bauart dieses Produktes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser Baumusterprüfbescheinigung festgelegt.

8 Die Zertifizierungsstelle der DEKRA EXAM GmbH, benannte Stelle Nr. 0158 gemäß Artikel 17 der Richtlinie 2014/34/EU des Europäischen Parlaments und des Rates vom 26. Februar 2014, bescheinigt, dass das Produkt die wesentlichen Gesundheits- und Sicherheitsanforderungen für die Konzeption und den Bau von Produkten zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie erfüllt.
Die Ergebnisse der Prüfung sind in dem vertraulichen Prüfprotokoll BVS PP 18.2002 EU niedergelegt.

9 Die wesentlichen Gesundheits- und Sicherheitsanforderungen werden erfüllt durch Übereinstimmung mit den Normen:

EN 60079-0:2012 + A11:2013 **Allgemeine Anforderungen**
EN 60079-11:2012 **Eigensicherheit „i"**

10 Falls das Zeichen „X" hinter der Bescheinigungsnummer steht, wird in der Anlage zu dieser Bescheinigung auf besondere Bedingungen für die sichere Anwendung des Produktes hingewiesen.

11 Diese EU-Baumusterprüfbescheinigung bezieht sich nur auf den Entwurf und Bau der beschriebenen Produkte.
Für den Herstellungsprozess und die Abgabe der Produkte sind weitere Anforderungen der Richtlinie zu erfüllen, die nicht durch diese Bescheinigung abgedeckt sind.

12 Die Kennzeichnung des Produktes muss die folgenden Angaben enthalten:

Ex II 1G Ex ia IIC T6 Ga

DEKRA EXAM GmbH
Bochum, den 03.01.2018

Zertifizierer

Fachzertifizierer

Seite 1 von 3 zu BVS 17 ATEX E 111 X
Dieses Zertifikat darf nur vollständig und unverändert weiterverbreitet werden.

DEKRA EXAM GmbH, Dinnendahlstraße 9, 44809 Bochum, Deutschland
Telefon +49.234.3696-105, Telefax +49.234.3696-110, zs-exam@dekra.com

13 **Anlage zur**

14 **EU-Baumusterprüfbescheinigung**

BVS 17 ATEX E 111 X

15 **Beschreibung des Produktes**

15.1 **Gegenstand und Typ**

Wägezelle Typ PR62** / ** ** E

Anstelle der *** werden in der vollständigen Benennung Buchstaben und Ziffern eingefügt, die unterschiedliche Ausführungen kennzeichnen:

Wägezelle Typ PR62 [**] / [**] E**

- Version 03
- Laststufe (nicht Ex-relevant)
- Genauigkeit (nicht Ex-relevant)

15.2 **Beschreibung**

Die Wägezelle Typ PR62** / ** ** E dient zur Umwandlung von Kraft in ein elektrisches Signal.
Die Wägezelle hat ein Metallgehäuse mit eingebautem Dehnungsmessstreifen.
Der elektrische Anschluss erfolgt über eine fest angeschlossene Leitung.
Die Wägezelle ist ein „einfaches elektrisches Betriebsmittel"

15.3 **Kenngrößen**

Maximale Eingangsspannung	U_i	DC	25	V
Maximaler Eingangsstrom	I_i		160	mA
Maximale Eingangsleistung	P_i		2	W
Innere wirksame Kapazität	C_i		vernachlässigbar	
Innere wirksame Induktivität	L_i		vernachlässigbar	

Für die Kapazität und Induktivität der Anschlussleitung (maximal 25 m Länge) sind die folgenden Werte zu berücksichtigen:

Kapazitätsbelag	C_c	200	pF/m
Induktivitätsbelag	L_c	1	µH/m

Umgebungstemperaturbereich	T_a	-30 °C bis +55 °C

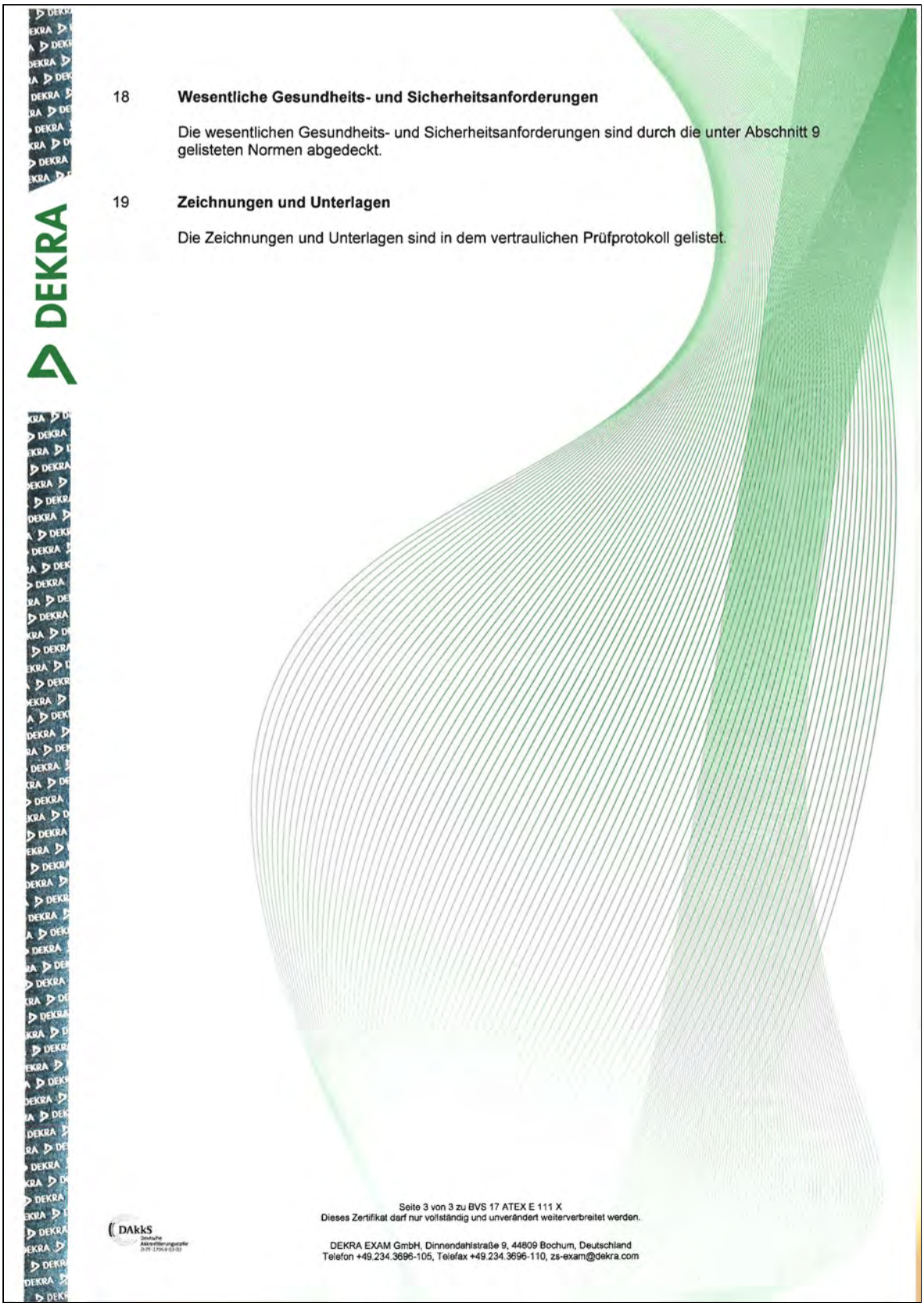
16 **Prüfprotokoll**

BVS PP 18.2002 EU, Stand 03.01.2018

17 **Besondere Bedingungen für die Verwendung**

Das Gerät ist so zu errichten, dass elektrostatische Aufladungen auszuschließen sind.

DEKRA EXAM GmbH, Dinnendahlstraße 9, 44809 Bochum, Deutschland
Telefon +49.234.3696-105, Telefax +49.234.3696-110, zs-exam@dekra.com



18 **Wesentliche Gesundheits- und Sicherheitsanforderungen**

Die wesentlichen Gesundheits- und Sicherheitsanforderungen sind durch die unter Abschnitt 9 gelisteten Normen abgedeckt.

19 **Zeichnungen und Unterlagen**

Die Zeichnungen und Unterlagen sind in dem vertraulichen Prüfprotokoll gelistet.

DEKRA EXAM GmbH, Dinnendahlstraße 9, 44809 Bochum, Deutschland
Telefon +49.234.3696-105, Telefax +49.234.3696-110, zs-exam@dekra.com

Translation

1 # EU-Type Examination Certificate

2 **Equipment intended for use in potentially explosive atmospheres Directive 2014/34/EU**

3 EU-Type Examination Certificate Number: **BVS 17 ATEX E 111 X**

4 Product: **Load cell type PR62** / ** ** E**

5 Manufacturer: **Minebea Intec GmbH**

6 Address: **Meiendorfer Straße 205 A, 22145 Hamburg, Germany**

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA EXAM GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in the confidential Report No. BVS PP 18.2002 EU.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012 + A11:2013 General requirements
EN 60079-11:2012 Intrinsic Safety "i"

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

Ex **II 1G Ex ia IIC T6 Ga**

DEKRA EXAM GmbH
Bochum, 2018-01-03

Signed: Jörg Koch
Certifier

Signed: Dr Franz Eickhoff
Approver

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, fax +49.234.3696-110, zs-exam@dekra.com

13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 17 ATEX E 111 X

15 **Product description**

15.1 **Subject and type**

Load cell type PR62** / ** ** E

Instead of the *** in the complete denomination letters and numerals will be inserted which characterize the different modifications:

Load cell type PR62 [**] / [**] [**] E

Version 03

Load level (not Ex relevant)

Precision (not Ex relevant)

15.2 **Description**

The load cell type PR62** / ** ** E is used for converting a load into an electrical signal.
The load cell has a metal enclosure with inside fixed resistance strain gauge.
The electrical connection is carried out by a permanently connected cable.
The load cell is a "simple apparatus".

15.3 **Parameters**

Maximum input voltage	U_i	DC	25	V
Maximum input current	I_i		160	mA
Maximum input power	P_i		2	W
Effective internal capacitance	C_i		negligible	
Effective internal inductance	L_i		negligible	

For the capacitance and inductance of the connection cable (max. 25 m length) the following values shall be used:

Cable capacitance	C_c	200	pF/m
Cable inductance	L_c	1	µH/m

Ambient temperature range	T_a	-30 °C up to +55 °C

16 **Report Number**

BVS PP 18.2002 EU, as of 2018-01-03

17 **Special Conditions for Use**

The apparatus has to be installed in such a way that electrostatic charging hazards can be excluded.

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, fax +49.234.3696-110, zs-exam@dekra.com

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
Bochum, dated 2018-01-03
BVS-Hil/Mu A 20171008

Certifier

Approver

DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,
telephone +49.234.3696-105, fax +49.234.3696-110, zs-exam@dekra.com

12.2 IECEx BVS 17.0092X

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BVS 17.0092X	issue No.:0	Certificate history:
Status:	**Current**		
Date of Issue:	**2018-01-15**	Page 1 of 4	
Applicant:	**Minebea Intec GmbH** Meiendorfer Straße 205 A 22145 Hamburg **Germany**		
Equipment: *Optional accessory:*	**Load cell type PR62** / ** ** E**		
Type of Protection:	**Equipment protection by intrinsic safety "i"**		
Marking:	Ex ia IIC T6 Ga		
Approved for issue on behalf of the IECEx Certification Body:	Jörg Koch		
Position:	Head of Certification Body		
Signature: *(for printed version)*			
Date:	15.1.18		

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
On the safe side.

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 17.0092X

Date of Issue: **2018-01-15** Issue No.: **0**

Page 2 of 4

Manufacturer: **Minebea Intec GmbH**
Meiendorfer Straße 205 A
22145 Hamburg
Germany

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
DE/BVS/ExTR18.0001/00

Quality Assessment Report:

DE/PTB/QAR13.0007/02

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 17.0092X

Date of Issue: **2018-01-15** Issue No.: **0**

Page 3 of 4

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Description

The load cell is used for converting a load into an electrical signal.
The load cell has a metal enclosure with inside fixed resistance strain gauge.
The electrical connection is carried out by a permanently connected cable.
The load cell is a "simple apparatus".

Subject and Type

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

The apparatus has to be installed in such a way that electrostatic charging hazards can be excluded.

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 17.0092X

Date of Issue: **2018-01-15** Issue No.: **0**

Page 4 of 4

EQUIPMENT(continued):

Parameters

Maximum input voltage	U_i	DC	25	V
Maximum input current	I_i		160	mA
Maximum input power	P_i		2	W
Effective internal capacitance	C_i		negligible	
Effective internal inductance	L_i		negligible	

For the capacitance and inductance of the connection cable (max. 25 m length) the following values shall be used:

Cable capacitance	C_c	200	pF/m
Cable inductance	L_c	1	µH/m

Ambient temperature range	T_a	-30 °C up to +55 °C

Annex: BVS_17_0092X_MinebeaIntec_Annex.pdf

IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 17.0092X**
Annex
Page 1 of 1

Subject and Type

Load cell type PR62** / ** ** E
Instead of the *** in the complete denomination letters and numerals will be inserted which characterize the different modifications:

Load cell type PR62 [**] / [** **] **E**

Version 03

Load level (not Ex relevant)

Precision (not Ex relevant)

12.3 TÜV 03 ATEX 2301X

(1) **EU-Baumusterprüfbescheinigung**

(2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen, **Richtlinie 2014/34/EU**

(3) **Bescheinigungsnummer:** **TÜV 03 ATEX 2301 X** **Ausgabe:** 00

(4) für das Produkt: Wägezellen Typ PR 62.../.. und MP76/...

(5) des Herstellers: Minebea Intec GmbH

(6) Anschrift: Meiendorfer Str. 205 A, 22145 Hamburg

Auftragsnummer: 8000475687

Ausstellungsdatum: 14.11.2017

(7) Die Bauart dieses Produktes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage und den darin aufgeführten Unterlagen zu dieser EU-Baumusterprüfbescheinigung festgelegt.

(8) Die TÜV NORD CERT GmbH bescheinigt als notifizierte Stelle Nr. 0044 nach Artikel 17 der Richtlinie 2014/34/EU des Europäischen Parlaments und des Rates vom 26. Februar 2014 die Erfüllung der wesentlichen Gesundheits- und Sicherheitsanforderungen für die Konzeption und den Bau dieses Produktes zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.
Die Ergebnisse der Prüfung sind in dem vertraulichen ATEX Prüfungsbericht Nr. 17 203 206448 festgelegt.

9) Die wesentlichen Gesundheits- und Sicherheitsanforderungen werden erfüllt durch Übereinstimmung mit:
EN 60079-0:2012+A11:2013 EN 60079-31:2014
ausgenommen die unter Abschnitt 18 der Anlage gelisteten Anforderungen.

(10) Falls das Zeichen "X" hinter der Bescheinigungsnummer steht, wird auf die Besonderen Bedingungen für die Verwendung des Produktes in der Anlage zu dieser Bescheinigung hingewiesen.

(11) Diese EU-Baumusterprüfbescheinigung bezieht sich nur auf Konzeption und Prüfung des festgelegten Produktes. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Bereitstellen dieses Produktes. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.

(12) Die Kennzeichnung des Produktes muss die folgenden Angaben enthalten:

Ex II 1 D Ex ta IIIC T160 °C Da

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notifiziert durch die Zentralstelle der Länder für Sicherheitstechnik (ZLS), Ident. Nr. 0044, Rechtsnachfolger der TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

Der Leiter der notifizierten Stelle

Meyer

Geschäftsstelle Hannover, Am TÜV 1, 30519 Hannover, Tel. +49 511 998-61455, Fax +49 511 998-61590

Diese Bescheinigung darf nur unverändert weiterverbreitet werden.
Auszüge oder Änderungen bedürfen der Genehmigung der TÜV NORD CERT GmbH

P17-F-001 Rev. 01/014.16 Seite 1/3

(13) **ANLAGE**

(14) **EU-Baumusterprüfbescheinigung Nr. TÜV 03 ATEX 2301 X Ausgabe 00**

(15) Beschreibung des Produktes

Die Wägezellen Typen PR62../... und MP76/... gemäß der unten aufgeführten Tabelle dienen zur Messung von Kräften mittels einer DMS Brücke mit Kompensations- und Abgleichwiderständen. Die Gehäuse der Wägezellen sowie die eingesetzten Membranen bestehen aus Edelstahl. Alle Gehäuseteile und die Membranen sind gasdicht verschweißt.
Die Wägezellen dürfen in durch Staub explosionsgefährdeten Bereichen für EPL Da-Betriebsmittel bzw. EPL Db-Betriebsmittel installiert werden.

Der zulässige Umgebungstemperaturbereich beträgt -20 °C ... 55°C.

Auflistung der Typen und Gehäuseformen

Typen	Gehäuseform
PR 6201/...	Zylinder
PR 6202/...	Zylinder
PR 6203/...	Zylinder
PR 6221/...	Zylinder
PR 6211/...	Kreisplatte
PR 6212/...	Kreisplatte
PR 6251/...	Kreisplatte
PR 6261/...	Kreisplatte
PR 6241/...	S-Form
PR 6246/...	S-Form
MP 76/...	S-Form

Elektrische Daten

Versorgungs- und Signalstromkreis ..... (fest angeschlossenes Kabel)

nur zum Anschluss an einen bescheinigten eigensicheren Stromkreis

Höchstwert:
P_i = 2 W
Die wirksame innere Induktivität und Kapazität sind vernachlässigbar klein.
Verwendung als EPL Da-Betriebsmittel
Schutzniveau des Stromkreises: ia
Verwendung als EPL Db-Betriebsmittel
Schutzniveau des Stromkreises: ia oder ib

(16) Zeichnungen und Dokumente sind im ATEX Prüfungsbericht Nr. 17 203 206448 aufgelistet.

Seite 2/3

Anlage zur EU-Baumusterprüfbescheinigung Nr. TÜV 03 ATEX 2103 X Ausgabe 00

(17) Besondere Bedingungen für die Verwendung

1. Die freien Leitungsenden der Anschlüsse sind außerhalb des explosionsgefährdeten Bereiches oder in einem geeigneten, für den Einsatz in durch Staub explosionsgefährdeten Bereichen bescheinigten Klemmenkasten zu verdrahten.

2. Der Anschluss von nichteigensicheren Stromkreisen
- mit einer sicheren Begrenzung der verfügbaren Leistung auf 2W und
- einer sicheren galvanischen Trennung vom Erdpotential (für Wägezellen ohne zusätzlichen Erdanschluss erforderlich)

an die Wägezellen mit EPL Db ist zulässig.

3. Die Wägezellen sind so zu errichten, dass die Gehäuse sicher mit Erdpotential verbunden sind (z. B. über die Erdungsklemme; die Betriebsanleitung des Herstellers ist zu beachten).

(18) Wesentliche Gesundheits- und Sicherheitsanforderungen

keine zusätzlichen

- Ende der Bescheinigung -

Seite 3/3

Translation

(1) **EU-Type Examination Certificate**

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**

(3) **Certificate Number** **TÜV 03 ATEX 2301 X** **issue:** 00

(4) for the product: Load cell type PR 62../... and MP76/...

(5) of the manufacturer: Minebea Intec GmbH

(6) Address: Meiendorfer Str. 205 A, 22145 Hamburg

Order number: 8000475687

Date of issue: 2017-11-14

(7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in the confidential ATEX Assessment Report No. 17 203 206448.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2012+A11:2013 EN 60079-31:2012
except in respect of those requirements listed at item 18 of the schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions for Use specified in the schedule to this certificate.

11) This EU-Type Examination Certificate relates only to the design, and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the product shall include the following:
Ex II 1 D Ex ta IIIC T160 °C Da

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Meyer

Hanover office, Am TÜV 1, 30519 Hannover, Tel. +49 511 998-61455, Fax +49 511 998-61590

(13) **SCHEDULE**

(14) **EU-Type Examination Certificate No. TÜV 03 ATEX 2301 X issue 00**

(15) Description of product

The load cells type PR62../... and MP76/... according to the table mentioned below are used for measuring forces by means of a strain gauge with resistors for compensation and adjustment.
The housings of the load cells as well as the used membranes consist of stainless steel. All parts of the housing and the membranes are welded gas-tight.
The load cells are allowed to be installed in explosion hazardous areas caused by dust for EPL Da apparatus resp. for EPL Db apparatus.
The permissible ambient temperature range is -20 °C ... 55 °C.

Listing of types and shape of housings

Types	Shape of housing
PR 6201/...	Cylinder
PR 6202/...	Cylinder
PR 6203/...	Cylinder
PR 6221/...	Cylinder
PR 6211/...	Circle plate
PR 6212/...	Circle plate
PR 6251/...	Circle plate
PR 6261/...	Circle plate
PR 6241/...	S-shape
PR 6246/...	S-shape
MP 76/...	S-shape

Supply- and signal circuit ..... (Cable connected fixed)

only for connection to a certified intrinsically safe circuit

Maximum value:
P_i = 2 W
The effective internal inductance and capacitance are negligibly small.
Use as EPL Da apparatus
Level of protection of the circuit: ia
Use as EPL Db apparatus
Level of protection of the circuit: ia or ib

(16) Drawings and documents are listed in the ATEX Assessment Report No. 17 203 206448

page 2/3

Schedule to EU-Type Examination Certificate No. TÜV 03 ATEX 2301 X issue 00

(17) Specific Conditions for Use

1. The free cable ends of the connections have to be wired outside of the explosion hazardous area or in a suitable terminal box, suitably certified for the application in explosion hazardous areas caused by dust.

2. The connection of non-intrinsically safe circuits
- with a safe limitation of the available power of 2 W and
- a safe galvanic separation from earth potential (necessary for load cells without an additional earth connection)
to the load cells of EPL Db is permissible.

3. The load cells have to be installed in such a way, that the housings are safely connected with earth potential (e. g. via the earth terminal; observe manual of the manufacturer).

(18) Essential Health and Safety Requirements
no additional ones

- End of Certificate -

page 3/3

12.4 IECEx TUN 17.0025X

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx TUN 17.0025X issue No.:0 Certificate history:

Status: Current

Date of Issue: 2017-11-14 Page 1 of 3

Applicant: **Minebea Intec GmbH**
Meiendorfer Str. 205
22145 Hamburg
Germany

Equipment: **Weighing cells type PR 62.. /... and MP76/...**
Optional accessory:

Type of Protection: **Equipment dust ignition protection by enclosure "t"**

Marking: Ex ta IIIC T160°C Da

Approved for issue on behalf of the IECEx Certification Body: Andreas Meyer

Position: Head of IECEx Certification Body

Signature:
(for printed version)

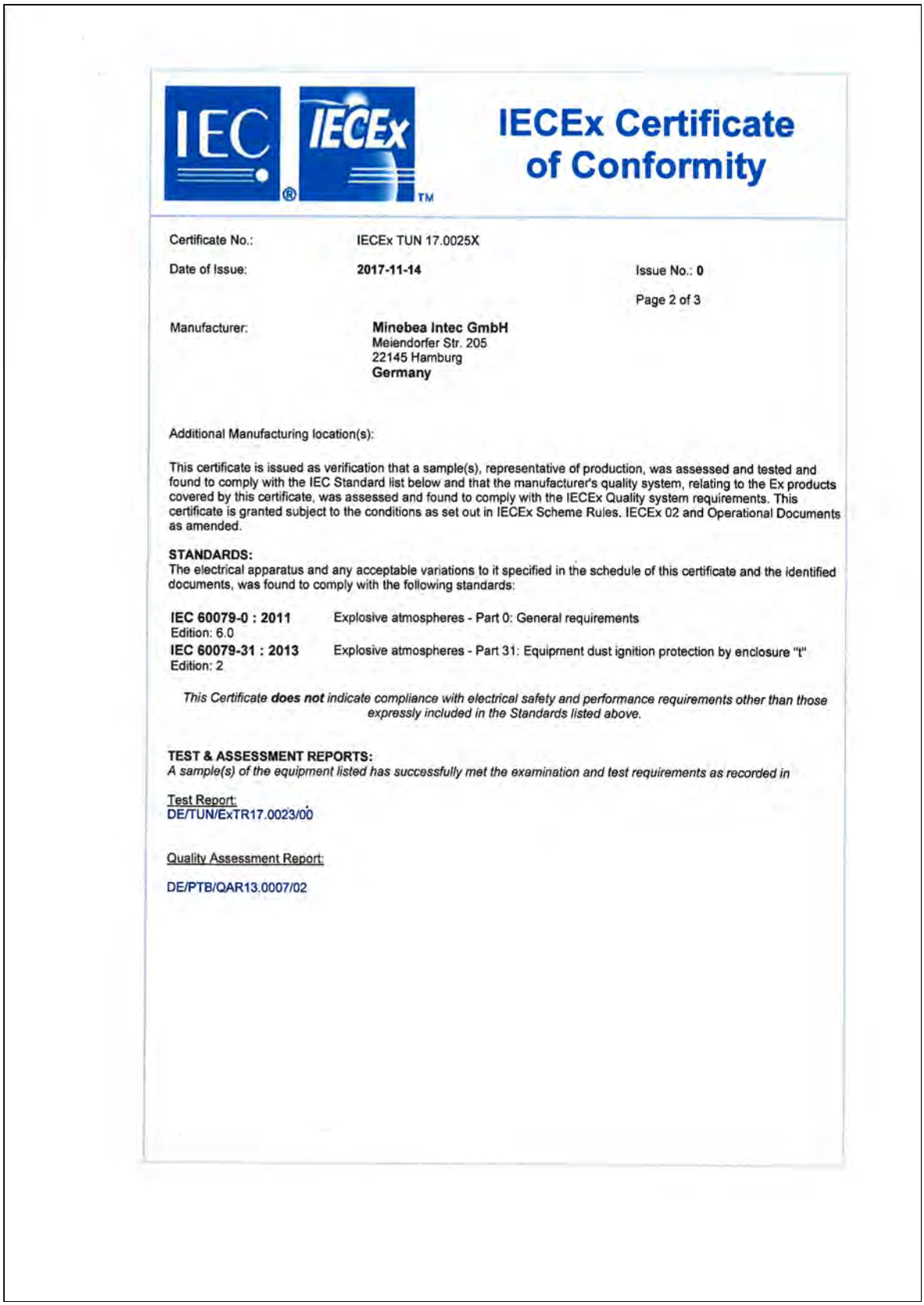
Date: 2017-11-14

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1, 30519 Hannover
Germany

TÜV NORD



IECEx Certificate of Conformity

Certificate No.: IECEx TUN 17.0025X

Date of Issue: **2017-11-14** Issue No.: **0**

Page 2 of 3

Manufacturer: **Minebea Intec GmbH**
Meiendorfer Str. 205
22145 Hamburg
Germany

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules. IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-31 : 2013 Edition: 2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
DE/TUN/ExTR17.0023/00

Quality Assessment Report:

DE/PTB/QAR13.0007/02

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 17.0025X

Date of Issue: **2017-11-14** Issue No.: **0**

Page 3 of 3

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The load cells type PR62../... and MP76/... according to the table mentioned below are used for measuring forces by means of a strain gauge with resistors for compensation and adjustment.
The housings of the load cells as well as the used membranes consist of stainless steel. All parts of the housing and the membranes are welded gas-tight.
The load cells are allowed to be installed in explosion hazardous areas caused by dust for EPL Da apparatus resp. for EPL Db apparatus.
The permissible ambient temperature range is -20 °C ... +55 °C.

See attachment for further details.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1.The free cable ends of the connections have to be wired outside of the explosion hazardous area or in a suitable terminal box, certified for the application in explosion hazardous areas caused by dust.

2.The connection of non intrinsically safe circuits
- with a safe limitation of the available power of 2W and
- a safe galvanic separation from earth potential (necessary for load cells without an additional earth connection)

to the load cells of the category 2 is permissible.

3.The load cells have to be installed in such a way, that the housings are connected with earth potential.

Annex: _Attachment_load cells TUN 17.0025 X (2).pdf

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1
30519 Hannover
Germany

Attachment to IECEx TUN 17.0025 X issue 00

The load cells type PR62../... and MP76/... according to the table mentioned below are used for measuring forces by means of a strain gauge with resistors for compensation and adjustment. The housings of the load cells as well as the used membranes consist of stainless steel. All parts of the housing and the membranes are welded gas-tight.
The load cells are allowed to be installed in explosion hazardous areas caused by dust for category 1 apparatus resp. for category 2 apparatus.
The permissible ambient temperature range is -20 °C ... 55 °C.

Listing of types and shape of housings

Types	Shape of housing
PR 6201/...	Cylinder
PR 6202/...	Cylinder
PR 6203/...	Cylinder
PR 6221/...	Cylinder
PR 6211/...	Circle plate
PR 6212/...	Circle plate
PR 6251/...	Circle plate
PR 6261/...	Circle plate
PR 6241/...	S-shape
PR 6246/...	S-shape
MP 76/...	S-shape

Supply- and signal circuit ..... (Cable connected fixed)

only for connection to a certified intrinsically safe circuit

Maximum value:
P_i = 2 W
The effective internal inductance and capacitance are negligibly small.
Use as category 1 apparatus
Level of protection of the circuit: ia
Use as category 2 apparatus
Level of protection of the circuit: ia or ib

Specific Conditions of Use

1.The free cable ends of the connections have to be wired outside of the explosion hazardous area or in a suitable terminal box, suitably certified for the application in explosion hazardous areas caused by dust.

2.The connection of non intrinsically safe circuits
- with a safe limitation of the available power of 2 W and
- a safe galvanic separation from earth potential (necessary for load cells without an additional earth connection)
to the load cells of the category 2 is permissible.

3.The load cells have to be installed in such a way, that the housings are safely connected with earth potential (e. g. via the earth terminal; observe manual of the manufacturer).

12.5 MIN16ATEX001X

Herstellerbescheinigung
Manufacturer´s certificate

Minebea intec

Nummer *Number*	MIN16ATEX001X
Hersteller *Manufacturer*	Minebea Intec GmbH Meiendorfer Straße 205A 22145 Hamburg, Germany

erklärt in alleiniger Verantwortung, dass das Produkt
declares under sole responsibility that the product

Geräteart *Device type*	Wägezelle *Load cell*
Baureihe *Type series*	PR 6201, PR 6202, PR 6203, PR 6207, PR 6211 D1(500kg-10t), PR 6212, PR 6221, PR 6241, PR 6246, PR 6251, PR 6261 | (ohne Typ / without type LA or LT)

auf das sich diese Bescheinigung bezieht, mit der/den folgenden Norm(en) oder normativen Dokument(en) übereinstimmt (siehe Seite 2) gemäß den Bestimmungen der „Richtlinie **2014/34/EU** des Europäischen Parlaments und des Rates vom 26. Februar 2014 zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten für Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen". Das Produkt wird wie folgt gekennzeichnet:
*to which this certification relates is in conformity with the following standard(s) or other normative document(s) (see page 2) pursuant to the provisions of the "Directive **2014/34/EU** of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres ". This product is labelled as follows:*

Kennzeichnung *Marking*	II 3G Ex nA IIC T6 Gc II 3D Ex tc IIIC T85°C Dc MIN16ATEX001X

Minebea Intec GmbH
Hamburg, 14.07.2022

Dr. K. Sommer Managing Director	Dr. A. Böttger CTO	Torben Hiller Ex Approval Manager

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten EU-Richtlinien, ist jedoch keine Zusicherung von Eigenschaften. Bei einer mit uns nicht abgestimmten Änderung des Produktes verliert diese Erklärung ihre Gültigkeit. Die Sicherheitshinweise der zugehörigen Produktdokumentation sind zu beachten.
This declaration certifies conformity with the above mentioned EC Directives, but does not guarantee product attributes. Unauthorized product modifications make this declaration invalid. The safety information in the associated product documentation must be observed.

1/2
MIN16ATEX001X Rev. 6

Herstellerbescheinigung
Manufacturer's certificate

Minebea intec

Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit:
Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

Normen ***Standards***	**EN IEC 60079-0:2018** Explosionsgefährdete Bereiche – Teil 0: Geräte – Allgemeine Anforderungen *Explosive atmospheres – Part 0: Equipment – General requirements* **EN 60079-15:2010** Explosionsfähige Atmosphäre – Teil 15: Geräteschutz durch Zündschutzart „n" *Explosive atmospheres – Part 15: Equipment protection by type of protection „n"* **EN 60079-31:2014** Explosionsfähige Atmosphäre – Teil 31: Geräte-Staubexplosionsschutz durch Gehäuse „t" *Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure „t"*

Diese Bescheinigung wurde auf Basis des folgenden Prüfberichts erstellt:
This certificate was drawn on the basis of the following test report:

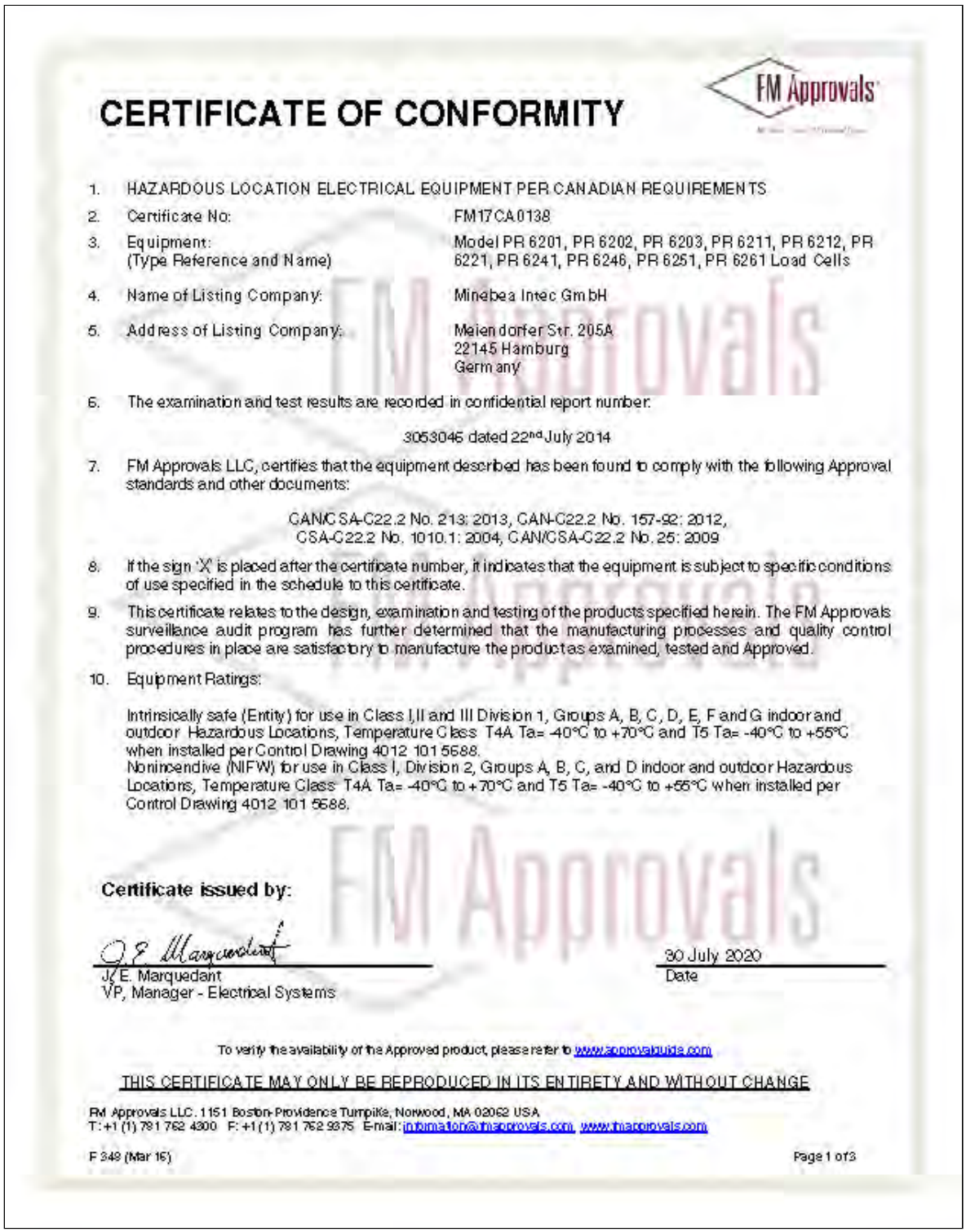
Prüfbericht ***Test Report***	**MTR17001** Minebea Intec GmbH, Hamburg, Germany
Sicherheitshinweise ***Safety instructions***	**949905947901**
Umgebungstemperatur **Ambient temperature**	**-30°C ... +55°C**
IP-Schutz ***IP protection***	**IP6X**

Für diese Produkt gelten folgende besonderen Bedingungen für den sicheren Gebrauch:
For this product the following special conditions for safe use apply:

besondere Bedingungen ***special Conditions***	Für Anwendungen in Umgebungen mit brennbaren Stäuben ist eine elektrostatische Aufladung zu vermeiden. *For application in environments with combustible dust, electrostatic charging shall be avoided.* Bei Verwendung der Zündschutzart "Ex nA" ist eine Transientenschutzeinrichtung vorzusehen welche einen Maximalwert von 140% des Spitzenspannungswertes von 85V sicherstellt. *When applied in type of protection non sparking "Ex nA", a transient protection device shall be set at a level not exceeding 140% of the peak rated voltage value of 85 V.*

2/2
MIN16ATEX001X Rev. 6

12.6 FM17CA0138



CERTIFICATE OF CONFORMITY

FM Approvals

1. HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS
2. Certificate No: FM17CA0138
3. Equipment: (Type Reference and Name) Model PR 6201, PR 6202, PR 6203, PR 6211, PR 6212, PR 6221, PR 6241, PR 6246, PR 6251, PR 6261 Load Cells
4. Name of Listing Company: Minebea Intec GmbH
5. Address of Listing Company: Meiendorfer Str. 205A
22145 Hamburg
Germany
6. The examination and test results are recorded in confidential report number:

   3053046 dated 22nd July 2014
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   CAN/CSA-C22.2 No. 213: 2013, CAN-C22.2 No. 157-92: 2012,
CSA-C22.2 No. 1010.1: 2004, CAN/CSA-C22.2 No. 25: 2009
8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
10. Equipment Ratings:

    Intrinsically safe (Entity) for use in Class I,II and III Division 1, Groups A, B, C, D, E, F and G indoor and outdoor Hazardous Locations, Temperature Class T4A Ta= -40°C to +70°C and T5 Ta= -40°C to +55°C when installed per Control Drawing 4012 101 5688.
    Nonincendive (NIFW) for use in Class I, Division 2, Groups A, B, C, and D indoor and outdoor Hazardous Locations, Temperature Class T4A Ta= -40°C to +70°C and T5 Ta= -40°C to +55°C when installed per Control Drawing 4012 101 5688.

Certificate issued by:

J. E. Marquedant
VP, Manager - Electrical Systems

30 July 2020
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

F 349 (Mar 16) Page 1 of 3

SCHEDULE

Canadian Certificate Of Conformity No: FM17CA0138

Dust Ignition protected for Class II, III Division 2, Groups E, F and G indoor and outdoor Hazardous Locations, Temperature Class T4A Ta= -40°C to +70°C and T5 Ta= -40°C to +55°C when installed per Control Drawing 4012 101 5688

11. The marking of the equipment shall include:

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 - 4012 101 5688; NIFW
T4A Ta= -40°C to 70°C; T5 Ta= -40°C to 55°C

12. **Description of Equipment:**

General - The Model PR 62xx Series Load Cells are precision compression load cells designed to meet the specific requirements of a wide range of weighing installations.

Construction - The Model PR 62xx Series Load Cells are contructed of welded stainless steel, hermetically sealed, and filled with inert gas.

Ratings - The Model PR 62xx Series Load Cells are rated for an operating temperature range of -40°C to 70°C. Entity and Nonincendive Field Wiring parameters are as defined below.

PR 62a/bc d e. Load Cell.

Entity/Nonincendive Field Wiring Parameters:
Ui = 25 V, Ii = 160 mA, Pi = 2 W; Ci= 0 µF, Li= 0 mH.

a = 01, 02, 03, 11, 12, 21, 41, 46, 51, 61
b = up to three numbers denoting the maximum capacity (may be separated by a dot)
c = Unit of measurement: blank or t
d = Accuracy: up to three numbers or letters (may be separated by dots)
e = Special: F or blank

13. **Specific Conditions of Use:**

None

14. **Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals Canadian Certification Scheme.

15. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

16. **Certificate History**

Details of the supplements to this certificate are described below:

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
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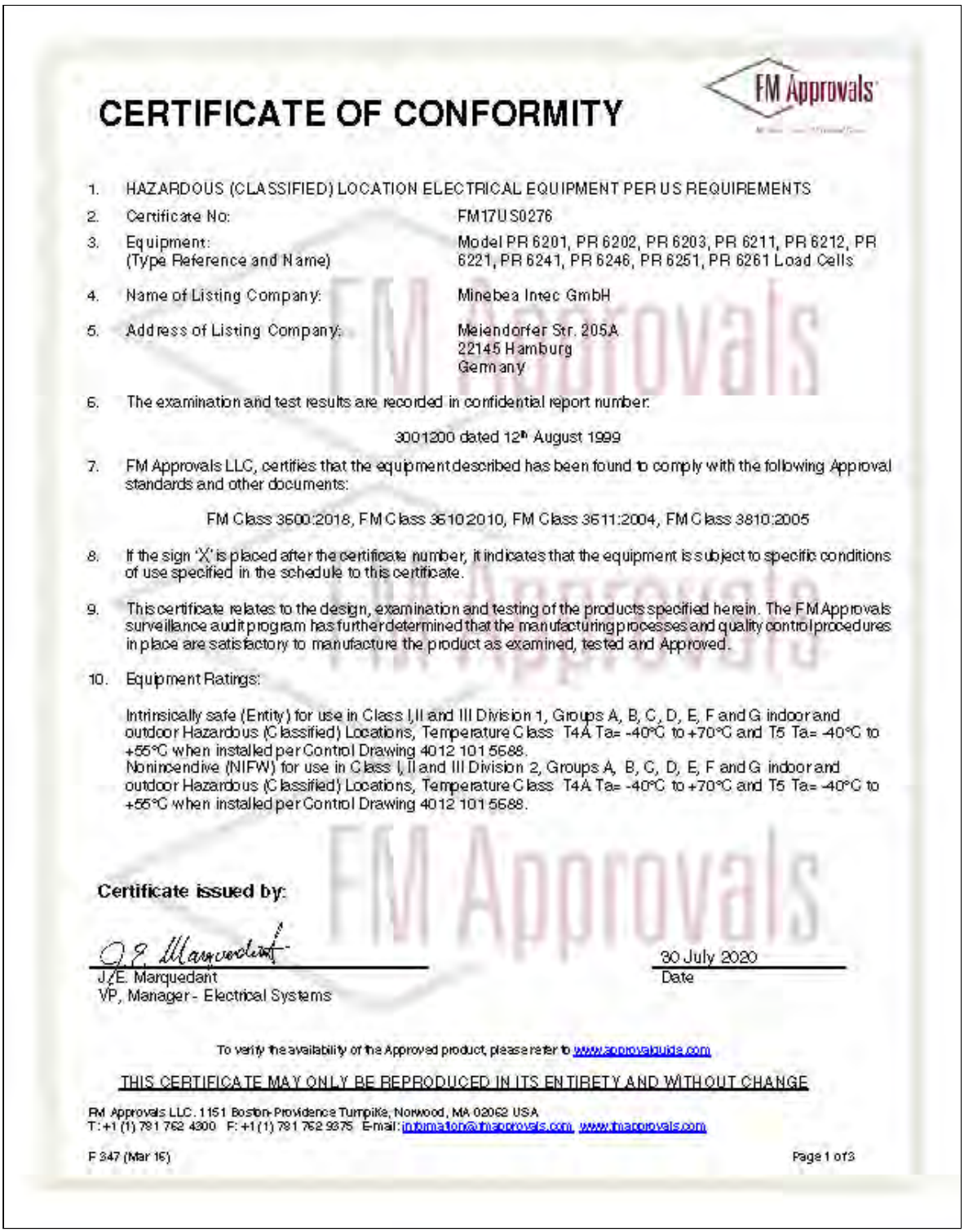
SCHEDULE

Canadian Certificate Of Conformity No: FM17CA0138

Date	Description
22nd July 2014	Original Issue.
6th October 2017	Supplement 3: Report Reference: – RR210028 dated 6th October 2017. Description of the Change: Company name change from Sartorius Mechatronics T&H GmbH. Certificate reformated.
10th November 2017	Supplement 4: Report Reference: – RR211742 dated 10th November 2017. Description of the Change: Addition of option a = 03.
24th October 2018	Supplement 5: Report Reference: – RR215447 dated 24th October 2018 . Description of the Change: Update lower operating temperatures from -30°C to -40°C.
30th July 2020	Supplement 6: Report Reference: – RR224030 dated 30th July 2020. Description of the Change: Added load cell variation PR 6261.

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

12.7 FM17US0276



CERTIFICATE OF CONFORMITY

FM Approvals

1. HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS
2. Certificate No: FM17US0276
3. Equipment: (Type Reference and Name) Model PR 6201, PR 6202, PR 6203, PR 6211, PR 6212, PR 6221, PR 6241, PR 6246, PR 6251, PR 6261 Load Cells
4. Name of Listing Company: Minebea Intec GmbH
5. Address of Listing Company: Meiendorfer Str. 205A
22145 Hamburg
Germany
6. The examination and test results are recorded in confidential report number:

   3001200 dated 12th August 1999
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   FM Class 3600:2018, FM Class 3610:2010, FM Class 3611:2004, FM Class 3810:2005
8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
10. Equipment Ratings:

    Intrinsically safe (Entity) for use in Class I,II and III Division 1, Groups A, B, C, D, E, F and G indoor and outdoor Hazardous (Classified) Locations, Temperature Class T4A Ta= -40°C to +70°C and T5 Ta= -40°C to +55°C when installed per Control Drawing 4012 101 5688.
    Nonincendive (NIFW) for use in Class I, II and III Division 2, Groups A, B, C, D, E, F and G indoor and outdoor Hazardous (Classified) Locations, Temperature Class T4A Ta= -40°C to +70°C and T5 Ta= -40°C to +55°C when installed per Control Drawing 4012 101 5688.

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

30 July 2020
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

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F 347 (Mar 16) Page 1 of 3

SCHEDULE

US Certificate Of Conformity No: FM17US0276

11. The marking of the equipment shall include:

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 - 4012 101 5688; NIFW
T4A Ta= -40°C to 70°C; T5 Ta= -40°C to 55°C

12. **Description of Equipment:**

General - The Model PR 62xx Series Load Cells are precision compression load cells designed to meet the specific requirements of a wide range of weighing installations.

Construction - The Model PR 62xx Series Load Cells are contructed of welded stainless steel, hermetically sealed, and filled with inert gas.

Ratings - The Model PR 62xx Series Load Cells are rated for an operating temperature range of -40°C to 70°C. Entity and Nonincendive Field Wiring parameters are as defined below.

PR 62a/bc d e. Load Cell.

Entity/Nonincendive Field Wiring Parameters:
Ui = 25 V, Ii = 160 mA, Pi = 2 W; Ci= 0 µF, Li= 0 mH.

a = 01, 02, 03, 11, 12, 21, 41, 46, 51, 61
b = up to three numbers denoting the maximum capacity (may be separated by a dot)
c = Unit of measurement: blank or t
d = Accuracy: up to three numbers or letters (may be separated by dots)
e = Special: F or blank

13. **Specific Conditions of Use:**

None

14. **Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
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SCHEDULE

US Certificate Of Conformity No: FM17US0276

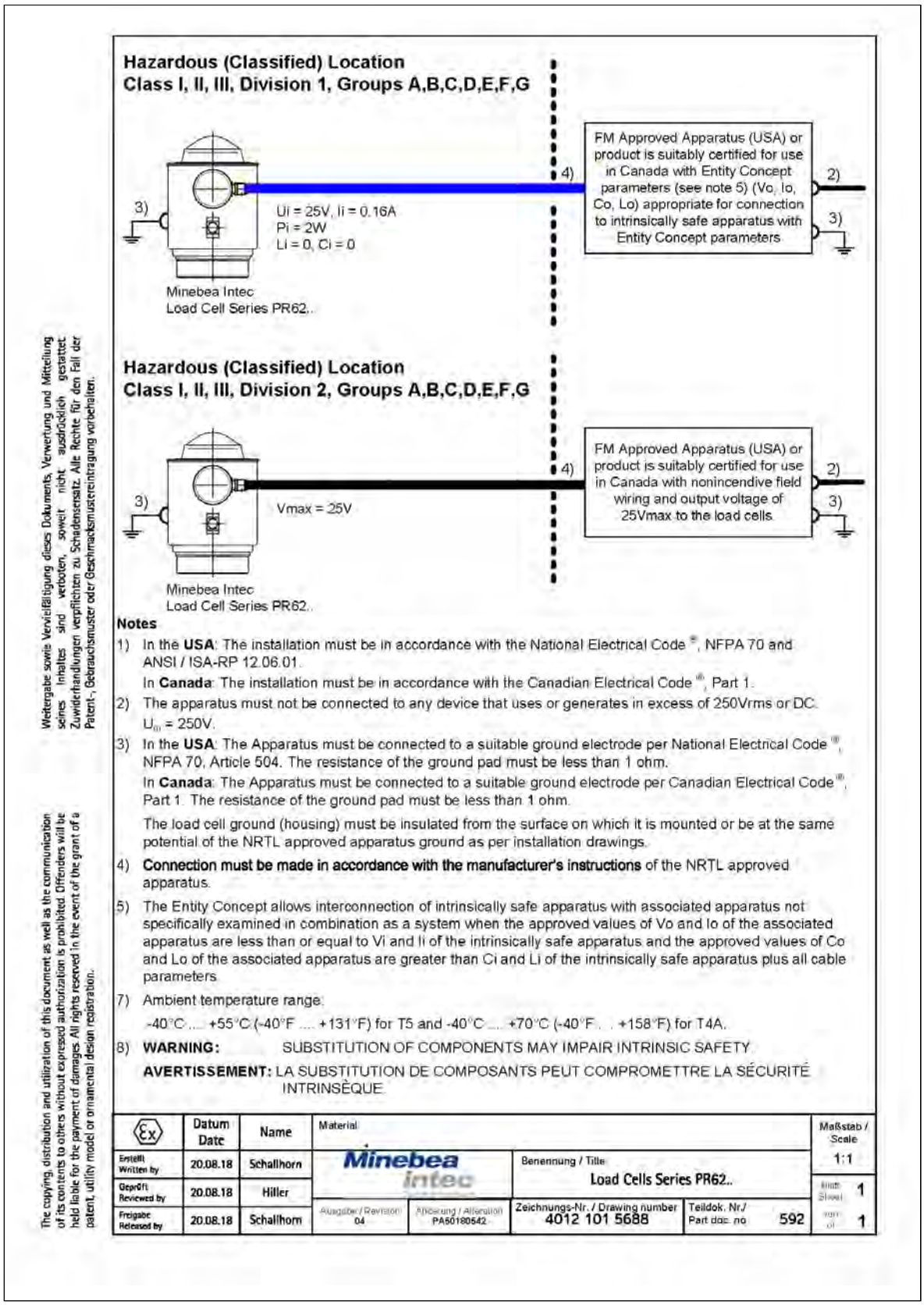
16. **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
12th August 1999	Original Issue.
6th October 2017	Supplement 7: Report Reference: – RR210028 dated 6th October 2017. Description of the Change: Company name change from Sartorius Mechatronics T&H GmbH. Certificate reformated.
10th November 2017	Supplement 8: Report Reference: – RR211742 dated 10th November 2017. Description of the Change: Addition of option a = 03.
24th October 2018	Supplement 9: Report Reference: – RR215447 dated 24th October 2018. Description of the Change: Update lower operating temperatures from -30°C to -40°C. Update FM Class 3600 from 2011 to 2018.
30th July 2020	Supplement 10: Report Reference: – RR224030 dated 30th July 2020. Description of the Change: Added load cell variation PR 6261.

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

12.8 4012 101 5688



Notes

1) In the **USA**: The installation must be in accordance with the National Electrical Code ®, NFPA 70 and ANSI / ISA-RP 12.06.01.
   In **Canada**: The installation must be in accordance with the Canadian Electrical Code ®, Part 1.
2) The apparatus must not be connected to any device that uses or generates in excess of 250Vrms or DC.
   U_m = 250V.
3) In the **USA**: The Apparatus must be connected to a suitable ground electrode per National Electrical Code ®, NFPA 70, Article 504. The resistance of the ground pad must be less than 1 ohm.
   In **Canada**: The Apparatus must be connected to a suitable ground electrode per Canadian Electrical Code ®, Part 1. The resistance of the ground pad must be less than 1 ohm.
   The load cell ground (housing) must be insulated from the surface on which it is mounted or be at the same potential of the NRTL approved apparatus ground as per installation drawings.
4) **Connection must be made in accordance with the manufacturer's instructions** of the NRTL approved apparatus.
5) The Entity Concept allows interconnection of intrinsically safe apparatus with associated apparatus not specifically examined in combination as a system when the approved values of Vo and Io of the associated apparatus are less than or equal to Vi and Ii of the intrinsically safe apparatus and the approved values of Co and Lo of the associated apparatus are greater than Ci and Li of the intrinsically safe apparatus plus all cable parameters.
7) Ambient temperature range:
   -40°C .... +55°C (-40°F .... +131°F) for T5 and -40°C .... +70°C (-40°F .... +158°F) for T4A.
8) **WARNING:** SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.
   AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SÉCURITÉ INTRINSÈQUE.

	Datum / Date	Name	Material		Maßstab / Scale
Erstellt / Written by	20.08.18	Schallhorn	Minebea intec	Benennung / Title: Load Cells Series PR62..	1:1
Geprüft / Reviewed by	20.08.18	Hiller			Blatt / Sheet 1
Freigabe / Released by	20.08.18	Schallhorn	Ausgabe / Revision 04	Änderung / Alteration PA50180542	Zeichnungs-Nr. / Drawing number 4012 101 5688	Teildok. Nr./ Part doc. no 592	von / of 1

12.9 MEU18005

CE

EU-Declaration of Conformity

Minebea intec
The true measure

MEU18005

1. Product model / product number / solely valid for project number:
   Compression Load Cell Inteco ®/ PR 6203 / ----

2. Name and address of the manufacturer (2.1) and his authorized representative (2.2):
   2.1 Minebea Intec GmbH, Meiendorfer Straße 205 A, 22145 Hamburg, Germany
   2.2 /

3. This declaration of conformity is issued under the sole responsibility of the manufacturer.

4. Object(s) of the declaration:
   4.1 PR 6203
   4.2 PR 6203 (A.1)
   4.3 PR 6203 (A.2)
   4.4 PR 6203/____E

5. The object(s) of the declaration described above is in conformity with the relevant Union harmonization legislation:

		(4.1)	(4.2)	(4.3)	(4.4)
5.1	2014/30/EU	(6.1)	(6.1)	(6.1)	(6.1)
5.2	2011/65/EU	(6.2)	(6.2)	(6.2)	(6.2)
5.3	2014/34/EU		(6.3)	(6.4)	(6.5)

6. References to the relevant harmonized standards used or references to the other technical specifications in relation to which conformity is declared:

6.1	2014/30/EU	EN 61326-1:2013, EN 61000-4-20:2010
6.2	2011/65/EU	EN 50581:2012
6.3	2014/34/EU	EN 60079-0:2012+A11:2013, EN 60079-15:2010, EN 60079-31:2014
6.4	2014/34/EU	EN 60079-0:2012+A11:2013, EN 60079-31:2014
6.5	2014/34/EU	EN 60079-0:2012+A11:2013, EN 60079-11:2012

7. The notified body w performed x and issued the certificate y relevant for z:

	w	x	y	z
7.1	/	Manufacturer's certificate	MIN16ATEX001X	(4.2)
7.2	0032	EC-Type Examination Certificate	TÜV 03 ATEX 2301 X	(4.3)
7.3	0158	EC-Type Examination Certificate	BVS 17 ATEX E 111X	(4.4)
7.4	0102	Production Quality Assessment Notification	PTB 02 ATEX Q010	(4.3), (4.4)

Minebea Intec GmbH
Hamburg, 08. Jul. 2019

Wolf Dieter Schulze
Managing Director

Oliver Freitag
CE Certification

Torben Hiller
Ex Approval Manager

1/6

CE

MEU18005

EU-Declaration of Conformity

Minebea intec
The true measure

A. Additional information on ( ):

A.1	(7.1)	Marking	Ex	II 3G Ex nA IIC T6 Gc II 3D Ex tc IIIC T85°C Dc MIN16ATEX001X
A.2	(7.2)	Marking	Ex	II 1 D Ex ta IIIC T160 °C Da TÜV 03 ATEX 2301 X
A.3	(7.3)	Marking	Ex	II 1G Ex ia IIC T6 Ga BVS 17 ATEX E 111X

2/6

EU-Declaration of Conformity

MEU18005

Minebea intec
The true measure

български (bg)

Декларация за съответствие
1. Модел на продукта / Номер на продукта / валидно само за номера на проекта:
2. Наименование и адрес на производителя (2.1) и на неговия упълномощен представител (2.2):
3. Настоящата декларация за съответствие е издадена на отговорността на производителя.
4. Предмет(и) на декларацията:
5. Предметът (ите) на декларацията, описан(и) по-горе отговаря(т) на съответното законодателство на Съюза за хармонизация:
6. Позоваване на използваните хармонизирани стандарти или позоваване на други технически спецификации, по отношение на които се декларира съответствие:
7. Нотифицираният орган w извърши x и издаде сертификата y, отнасящ се за z:
A. Допълнителна информация за ( ):
A.1 Маркировка
A.2 Маркировка
A.3 Маркировка

čeština (cs)

Prohlášení o shodě
1. Model výrobku / číslo výrobku / platné pouze pro číslo projektu:
2. Jméno a adresa výrobce (2.1) a jeho zplnomocněného zástupce (2.2):
3. Toto prohlášení o shodě se vydává na výhradní odpovědnost výrobce.
4. Předmět(y) prohlášení:
5. Výše popsaný předmět / Výše popsané předměty prohlášení je/jsou ve shodě s příslušnými harmonizačními právními předpisy Unie:
6. Odkazy na příslušné harmonizované normy, které byly použity, nebo na jiné technické specifikace, na jejichž základě se shoda prohlašuje:
7. Oznámený subjekt w provedl x a vydal certifikát y relevantní z hlediska z:
A. Další informace o ( ):
A.1 Označení
A.2 Označení
A.3 Označení

dansk (da)

Overensstemmelseserklæring
1. Produktmodel / produktnummer / gælder kun for projektnummer:
2. Fabrikantens (2.1) og dennes bemyndigede repræsentants (2.2) navn og adresse:
3. Denne overensstemmelseserklæring udstedes på fabrikantens ansvar.
4. Genstand(ene) for erklæringen:
5. Genstanden(e) for erklæringen, som beskrevet ovenfor, er i overensstemmelse med den relevante EU-harmoniseringslovgivning:
6. Referencer til de relevante anvendte harmoniserede standarder eller til de andre tekniske specifikationer, som der erklæres overensstemmelse med:
7. Det bemyndigede organ w har foretaget x og udstedt attesten y, der gælder for z:
A. Supplerende oplysninger om ( ):
A.1 Mærkning
A.2 Mærkning
A.3 Mærkning

Deutsch (de)

Konformitätserklärung
1. Produktmodell / Produktnummer / gilt ausschließlich für Projekt-Nr.:
2. Name und Anschrift des Herstellers (2.1) und seines Bevollmächtigten (2.2):
3. Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.
4. Gegenstände der Erklärung:
5. Die oben beschriebenen Gegenstände der Erklärung erfüllen die einschlägigen Harmonisierungsrechtsvorschriften der Union:
6. Angabe der einschlägigen harmonisierten Normen oder der anderen technischen Spezifikationen, die der Konformitätserklärung zugrunde gelegt wurden:
7. Die notifizierte Stelle w hat x und die für z relevante Bescheinigung y ausgestellt:
A. Zusatzangaben zu ( ):
A.1 Kennzeichnung
A.2 Kennzeichnung
A.3 Kennzeichnung

Ελληνικά (el)

Δήλωση συμμόρφωσης
1. Μοντέλο προϊόντος / αριθμός προϊόντος / ισχύει μόνο για τον αριθμό του έργου:
2. Όνομα και διεύθυνση του κατασκευαστή (2.1) και του εξουσιοδοτημένου αντιπροσώπου του (2.2):
3. Η παρούσα δήλωση συμμόρφωσης εκδίδεται με αποκλειστική ευθύνη του κατασκευαστή.
4. Σκοπός της δήλωσης:
5. Ο στόχος της δήλωσης που περιγράφεται παραπάνω είναι σύμφωνος με τη σχετική ενωσιακή νομοθεσία εναρμόνισης:
6. Παραπομπές στα σχετικά εναρμονισμένα πρότυπα που χρησιμοποιήθηκαν ή παραπομπές στις λοιπές τεχνικές προδιαγραφές σε σχέση με τις οποίες δηλώνεται η συμμόρφωση:
7. Ο κοινοποιημένος οργανισμός w διεξήγε x και εξέδωσε το πιστοποιητικό y όπως απαιτείται για το:
A. Πρόσθετες πληροφορίες σχετικά με ( ):
A.1 Σήμανση
A.2 Σήμανση
A.3 Σήμανση

español (es)

Declaración de conformidad
1. Modelo de producto/número de producto / únicamente válido para el número de proyecto:
2. Nombre y dirección del fabricante (2.1) y de su representante autorizado (2.2):
3. La presente declaración de conformidad se expide bajo la exclusiva responsabilidad del fabricante.
4. Objeto(s) de la declaración:
5. El/Los objeto(s) de la declaración descritos anteriormente son conformes con la legislación de armonización pertinente de la Unión Europea:
6. Referencias a las normas armonizadas pertinentes utilizadas o referencias a las otras especificaciones técnicas respecto a las cuales se declara la conformidad:
7. El organismo notificado W ha efectuado X y expedido el certificado Y relevante para Z:
A. Información adicional en ( ):
A.1 Marcado
A.2 Marcado
A.3 Marcado

3/6

EU-Declaration of Conformity

MEU18005

Minebea intec
The true measure

eesti keel (et)

Vastavusdeklaratsioon
1. Tootemudel / tootenumber / kehtib vaid järgmise projekti puhul:
2. Tootja nimi ja aadress (2.1) ning tema volitatud esindaja (2.2):
3. Käesolev vastavusdeklaratsioon on välja antud tootja ainuvastutusel.
4. Deklareeritav toode:
5. Ülalkirjeldatud deklareeritav toode on kooskõlas asjaomaste liidu ühlustamisaktidega:
6. Viited kasutatud harmoneeritud standardatele või viited muudele tehnilistele spetsifikatsioonidele, millele vastavus deklareeritakse:
7. Teavitatud asutus w teostas x ja andis välja tõendi z, mis on aqalokuane y-le:
A. Lisateave järgmise kohta ( ):
A.1 Märgistus
A.2 Märgistus
A.3 Märgistus

français (fr)

Déclaration de conformité
1. Modèle / numéro de produit / valable uniquement pour le numéro de projet:
2. Nom et adresse du fabricant (2.1) et de son mandataire (2.2):
3. La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.
4. Objet(s) de la déclaration:
5. Le ou les objets de la déclaration décrits ci-dessus est sont conforme(s) à la législation d'harmonisation de l'Union applicable :
6. Références des normes harmonisées pertinentes appliquées ou des autres spécifications techniques par rapport auxquelles la conformité est déclarée :
7. L'organisme notifié w a effectué x et a établi l'attestation y applicable à z :
A. Informations complémentaires relatives à ( ) :
A.1 Marquage
A.2 Marquage
A.3 Marquage

hrvatski (hr)

Izjava o sukladnosti
1. Model proizvoda / broj proizvoda / vrijedi samo za broj projekta:
2. Naziv i adresa proizvođača (2.1) i njegovog ovlaštenog zastupnika (2.2):
3. Za izdavanje ove izjave o sukladnosti odgovoran je isključivo proizvođač.
4. Predmet(i) izjave:
5. Predmet(i) navedene izjave je/su u skladu s mjerodavnim zakonodavstvom Unije o usklađivanju.
6. Pozivanja na relevantne primijenjene usklađene norme ili pozivanja na ostale tehničke specifikacije u vezi s kojima se izjavljuje sukladnost:
7. Prijavljeno tijelo w provelo je x i izdalo certifikat y koji je relevantan za z:
A. Dodatne informacije o proizvodu ( ):
A.1 Označavanje
A.2 Označavanje
A.3 Označavanje

magyar (hu)

Megfelelőségi nyilatkozat
1. Termékmodell / termékszám / kizárólag az alábbi projektszámhoz érvényes:
2. A gyártó (2.1) vagy adott esetben meghatalmazott képviselőjének (2.2) neve és címe:
3. Ezt a megfelelőségi nyilatkozatot a gyártó kizárólagos felelőssége mellett adják ki.
4. A nyilatkozat tárgya(i):
5. A fent ismertetett nyilatkozat tárgya megfelel a vonatkozó uniós harmonizációs jogszabályoknak:
6. Az alkalmazott harmonizált szabványokra való hivatkozás vagy az azokra az egyéb műszaki leírásokra való hivatkozás, amelyekkel kapcsolatban megfelelőségi nyilatkozatot tesznek:
7. A(z) w bejelentett szervezet elvégezte a(z) x eljárást, és kiállította a(z) z kapcsolódó y tanúsítványt:
A. További információk ( ):
A.1 Jelölés
A.2 Jelölés
A.3 Jelölés

italiano (it)

Dichiarazione di conformità
1. Modello di prodotto / numero di prodotto / valido unicamente per numero di progetto:
2. Nome e indirizzo del fabbricante (2.1) e del relativo rappresentante autorizzato (2.2):
3. La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante.
4. Oggetto/i della dichiarazione:
5. L'oggetto o gli oggetti della dichiarazione di cui sopra sono conformi alla pertinente normativa di armonizzazione dell'Unione:
6. Riferimento alle pertinenti norme armonizzate utilizzate o riferimenti alle altre specifiche tecniche in relazione alle quali è dichiarata la conformità:
7. L'organismo notificato w ha effettuato x e rilasciato il certificato y pertinente a z:
A. Informazioni aggiuntive su ( ):
A.1 Marcatura
A.2 Marcatura
A.3 Marcatura

Latvių kalba (lt)

Atitikties deklaracija
1. Gaminio modelis / gaminio numeris / galioja tik projekto numeriui:
2. Gamintojo (2.1) ir jo įgalioto atstovo (2.2) pavadinimas ir adresas:
3. Ši atitikties deklaracija išduota tik gamintojo atsakomybe.
4. Deklaracijos objektas (objektai):
5. Pirmiau aprašytas deklaracijos objektas (objektai) atitinka susijusius derinamuosius Sąjungos teisės aktus.
6. Susijusių taikytų darniųjų standartų nuorodos arba kitų techninių specifikacijų, pagal kurias buvo deklaruota atitiktis, nuorodos:
7. Notifikuotoji įstaiga w atliko x ir išdavė sertifikatą y dėl z:
A. Papildoma informacija ( ):
A.1 Ženklinimas
A.2 Ženklinimas
A.3 Ženklinimas

4/6

CE

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EU-Declaration of Conformity

Minebea intec
The true measure

latviešu valoda (lv)

Atbilstības deklarācija
1. Produkta modelis / produkta numurs / derīgs tikai projektam Nr.:
2. Ražotāja (2.1.) un tā pilnvarotā pārstāvja (2.2.) nosaukums un adrese:
3. Šī atbilstības deklarācija ir izdota vienīgi uz ražotāja atbildību.
4. Deklarācijas priekšmets vai priekšmeti:
5. Iepriekš aprakstītais deklarācijas priekšmets vai priekšmeti atbilst attiecīgajam Savienības saskaņošanas tiesību aktam:
6. Atsauces uz attiecīgajiem izmantojamiem saskaņotajiem standartiem vai uz citām tehniskajām specifikācijām, attiecībā uz ko tiek deklarēta atbilstība:
7. Paziņotā struktūra w ir veikusi x un izsniegusi sertifikātu y, kas attiecas uz z:
A. Papildu informācija par ( ):
A.1 Marķējums
A.2 Marķējums
A.3 Marķējums

malti (mt)

Dikjarazzjoni ta' konformità
1. Mudell tal-prodott / numru tal-prodott / validu biss għan-numru tal-proġett:
2. L-isem u l-indirizz tal-manifattur (2.1) u tar-rappreżentant awtorizzat tiegħu (2.2):
3. Din id-dikjarazzjoni ta' konformità tinħareġ taħt ir-responsabbiltà unika tal-manifattur.
4. L-għan(ijiet) tad-dikjarazzjoni:
5. L-għan(ijiet) tad-dikjarazzjoni deskritt(i) huwa/huma konformi mal-leġiżlazzjoni ta' armonizzazzjoni rilevanti tal-Unjoni:
6. Ir-referenzi għall-istandards armonizzati rilevanti li nużaw, jew ir-referenzi għall-ispeċifikazzjonijiet tekniċi l-oħra li skonthom qed tiġi ddikjarata l-konformità:
7. Il-korp notifikat w wettaq x u ħareġ iċ-ċertifikat y rilevanti għal z:
A. Informazzjoni addizzjonali fuq ( ):
A.1 Immarkar
A.2 Immarkar
A.3 Immarkar

nederlands (nl)

Conformiteitsverklaring
1. Productmodel / productnummer / uitsluitend geldig voor projectnummer:
2. Naam en adres van de fabrikant (2.1) en zijn gemachtigde (2.2):
3. Deze conformiteitsverklaring wordt verstrekt onder volledige verantwoordelijkheid van de fabrikant.
4. Voorwerp(en) van de verklaring:
5. Het (de) hierboven beschreven voorwerp(en) is (zijn) in overeenstemming met de desbetreffende harmonisatiewetgeving van de Unie:
6. Vermelding van de toegepaste relevante geharmoniseerde normen of van de overige technische specificaties waarop de conformiteitsverklaring betrekking heeft:
7. De aangemelde instantie w heeft een x uitgevoerd en het certificaat y verstrekt dat relevant is voor z:
A. Aanvullende informatie over ( ):
A.1 Markering
A.2 Markering
A.3 Markering

polski (pl)

Deklaracja zgodności
1. Model produktu / numer produktu / ważny wyłącznie dla projektu o numerze:
2. Nazwa i adres producenta (2.1) oraz jego upoważnionego przedstawiciela (2.2):
3. Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.
4. Przedmiot(-y) deklaracji:
5. Wymieniony powyżej przedmiot (lub przedmiot(y) niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego:
6. Odwołania do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku do których deklarowana jest zgodność:
7. Jednostka notyfikowana w przeprowadziła x i wydała certyfikat y odpowiedni dla z:
A. Informacje dodatkowe o ( ):
A.1 Oznakowanie
A.2 Oznakowanie
A.3 Oznakowanie

português (pt)

Declaração de conformidade
1. Modelo do produto / número do produto / somente válido para o número de projeto:
2. Nome e endereço do fabricante (2.1) e do seu mandatário (2.2):
3. A presente declaração de conformidade é emitida sob a exclusiva responsabilidade do fabricante.
4. Objeto(s) da declaração:
5. O(s) objeto(s) da declaração acima descrito(s) está(ão) em conformidade com a legislação aplicável de harmonização da União:
6. Referências às normas harmonizadas aplicáveis utilizadas ou às outras especificações técnicas em relação às quais é declarada a conformidade:
7. O organismo notificado w realizou x e emitiu o certificado y relevante para z:
A. Informações complementares relativa a ( ):
A.1 Marcação
A.2 Marcação
A.3 Marcação

română (ro)

Declarație de conformitate
1. Modelul de produs / Număr produs / valabil numai pentru numărul proiectului:
2. Denumirea și adresa producătorului (2.1) și a reprezentantului său autorizat (2.2):
3. Prezenta declarație de conformitate este emisă pe răspunderea exclusivă a producătorului.
4. Obiectul (obiectele) declarației:
5. Obiectul (obiectele) declarației descrise mai sus sunt în conformitate cu legislația relevantă de armonizare a Uniunii:
6. Trimiteri la standardele armonizate relevante folosite sau trimiteri la celelalte specificații tehnice în legătură cu care se declară conformitatea:
7. Organismul notificat w a efectuat x și a emis certificatul y corespunzător pentru z:
A. Informații suplimentare despre ( ):
A.1 Marcaj
A.2 Marcaj
A.3 Marcaj

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Minebea intec
The true measure

slovenčina (sk)

Vyhlásenie o zhode
1. Model výrobku / číslo výrobku / platné len pre číslo projektu:
2. Meno/názov a adresa výrobcu (2.1) a jeho splnomocneného zástupcu (2.2):
3. Toto vyhlásenie o zhode sa vydáva na vlastnú zodpovednosť výrobcu:
4. Predmet(-y) vyhlásenia:
5. Uvedený predmet či uvedené predmety vyhlásenia sú v zhode s príslušnými harmonizačnými právnymi predpismi Únie:
6. Odkazy na príslušné použité harmonizované normy alebo odkazy na iné technické špecifikácie, v súvislosti s ktorými sa zhoda vyhlasuje:
7. Notifikovaný orgán w vykonal x a vydal certifikát y relevantný pre z:
A. Doplňujúce informácie o ( ):
A.1 Označenie
A.2 Označenie
A.3 Označenie

slovenščina (sl)

Izjava o skladnosti
1. Model proizvoda / serijska številka proizvoda / veljavno samo za številko projekta:
2. Ime in naslov proizvajalca (2.1) ter njegovega pooblaščenega zastopnika (2.2):
3. Za izdajo te izjave o skladnosti je odgovoren izključno proizvajalec:
4. Predmet(i) izjave:
5. Predmet(i) navedene izjave je (so) v skladu z ustrezno zakonodajo Unije o harmonizaciji:
6. Sklicevanja na uporabljene ustrezne harmonizirane standarde ali sklicevanja na druge tehnične specifikacije v zvezi s skladnostjo, ki je navedena v izjavi:
7. Priglašeni organ w je izvedel x in izdal certifikat y, pomemben za z:
A. Dodatne informacije o ( ):
A.1 Oznaka
A.2 Oznaka
A.3 Oznaka

suomi (fi)

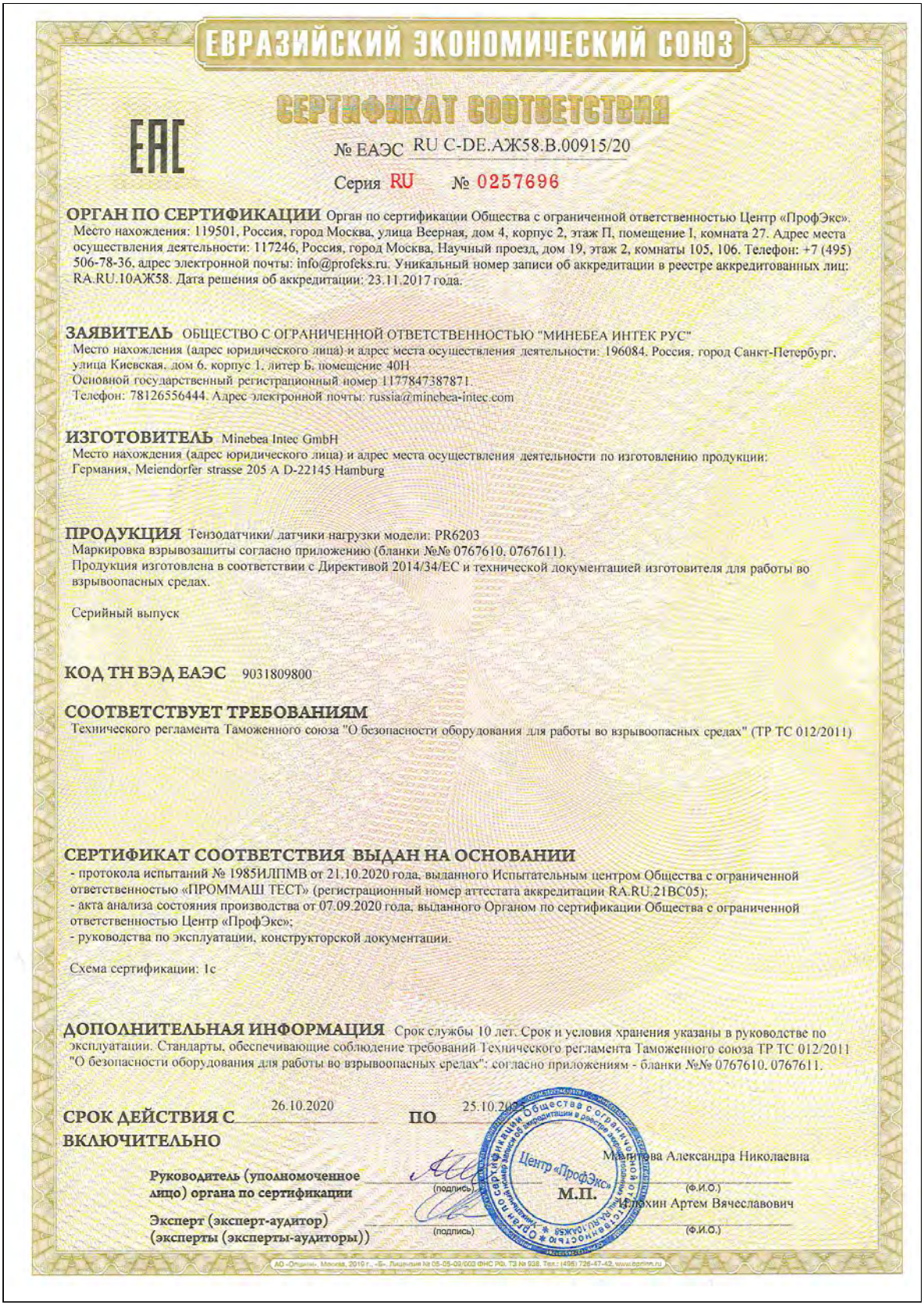
Vaatimustenmukaisuusvakuutus
1. Tuotemalli / tuotenumero / koskee vain projektinumeroa:
2. Valmistajan (2.1) ja valtuutetun edustajan (2.2) nimi ja osoite:
3. Tämä vaatimustenmukaisuusvakuutus on annettu valmistajan yksinomaisella vastuulla
4. Vakuuksen kohde (kohteet):
5. Edellä kuvattu (kuvatut) vakuuksen kohde (kohteet) on (ovat) asiaa koskevan unionin yhdenmukaistamislainsäädännön vaatimusten mukainen (mukaisia):
6. Viittaus niihin asiaa koskeviin yhdenmukaistettuihin standardeihin, joita on käytetty, tai viittaus muihin teknisiin eritelmiin, joiden perusteella vaatimustenmukaisuusvakuutus on annettu:
7. Ilmoitettu laitos w suoritti x ja antoi todistuksen y liittyen z:
A. Lisätietoja ( ):
A.1 Merkintä
A.2 Merkintä
A.3 Merkintä

svenska (sv)

Försäkran om överensstämmelse
1. Produktmodell / produktnummer / gäller endast för projektnummer:
2. Tillverkarens namn och adress (2.1) och dess auktoriserade representant (2.2):
3. Denna försäkran om överensstämmelse utfärdas på tillverkarens eget ansvar:
4. Föremål för försäkran:
5. Föremålet/föremålen för försäkran ovan överensstämmer med den relevanta harmoniserade unionslagstiftningen:
6. Hänvisningar till de relevanta harmoniserade standarder som använts eller hänvisningar till de andra tekniska specifikationer enligt vilka överensstämmelsen försäkras:
7. Det anmälda organet w har utfört x och utfärdat intyget y relevant för z:
A. Ytterligare information om ( ):
A.1 Märkning
A.2 Märkning
A.3 Märkning

6/6

12.10 RU C-DE.АЖ58.В.00915/20



ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ ЕАЭС RU C-DE.АЖ58.В.00915/20

Серия RU № 0257696

ОРГАН ПО СЕРТИФИКАЦИИ Орган по сертификации Общества с ограниченной ответственностью Центр «ПрофЭкс». Место нахождения: 119501, Россия, город Москва, улица Веерная, дом 4, корпус 2, этаж П, помещение I, комната 27. Адрес места осуществления деятельности: 117246, Россия, город Москва, Научный проезд, дом 19, этаж 2, комнаты 105, 106. Телефон: +7 (495) 506-78-36, адрес электронной почты: info@profeks.ru. Уникальный номер записи об аккредитации в реестре аккредитованных лиц: RA.RU.10АЖ58. Дата решения об аккредитации: 23.11.2017 года.

ЗАЯВИТЕЛЬ ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ "МИНЕБЕА ИНТЕК РУС"
Место нахождения (адрес юридического лица) и адрес места осуществления деятельности: 196084, Россия, город Санкт-Петербург, улица Киевская, дом 6, корпус 1, литер Б, помещение 40Н
Основной государственный регистрационный номер 1177847387871.
Телефон: 78126556444. Адрес электронной почты: russia@minebea-intec.com

ИЗГОТОВИТЕЛЬ Minebea Intec GmbH
Место нахождения (адрес юридического лица) и адрес места осуществления деятельности по изготовлению продукции: Германия, Meiendorfer strasse 205 A D-22145 Hamburg

ПРОДУКЦИЯ Тензодатчики/ датчики нагрузки модели: PR6203
Маркировка взрывозащиты согласно приложению (бланки №№ 0767610, 0767611).
Продукция изготовлена в соответствии с Директивой 2014/34/ЕС и технической документацией изготовителя для работы во взрывоопасных средах.

Серийный выпуск

КОД ТН ВЭД ЕАЭС 9031809800

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ
Технического регламента Таможенного союза "О безопасности оборудования для работы во взрывоопасных средах" (ТР ТС 012/2011)

СЕРТИФИКАТ СООТВЕТСТВИЯ ВЫДАН НА ОСНОВАНИИ
- протокола испытаний № 1985ИЛПМВ от 21.10.2020 года, выданного Испытательным центром Общества с ограниченной ответственностью «ПРОММАШ ТЕСТ» (регистрационный номер аттестата аккредитации RA.RU.21ВС05);
- акта анализа состояния производства от 07.09.2020 года, выданного Органом по сертификации Общества с ограниченной ответственностью Центр «ПрофЭкс»;
- руководства по эксплуатации, конструкторской документации.

Схема сертификации: 1с

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Срок службы 10 лет. Срок и условия хранения указаны в руководстве по эксплуатации. Стандарты, обеспечивающие соблюдение требований Технического регламента Таможенного союза ТР ТС 012/2011 "О безопасности оборудования для работы во взрывоопасных средах": согласно приложениям - бланки №№ 0767610, 0767611.

СРОК ДЕЙСТВИЯ С 26.10.2020 **ПО** 25.10.2025 **ВКЛЮЧИТЕЛЬНО**

Руководитель (уполномоченное лицо) органа по сертификации (подпись) Малитова Александра Николаевна (Ф.И.О.)

М.П.

Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы)) (подпись) Цыпкин Артем Вячеславович (Ф.И.О.)

АО «Опцион», Москва, 2019 г., «Б». Лицензия № 05-05-09/003 ФНС РФ. ТЗ № 938. Тел.: (495) 726-47-42, www.opcion.ru

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-DE.АЖ58.В.00915/20

Серия RU № 0767610

1. Назначение и область применения

Сертификат соответствия распространяется на тензодатчики/ датчики нагрузки модели: PR6203 (далее по тексту – тензодатчики) предназначенные для взвешивания силосов, баков и технологических емкостей.

Область применения – взрывоопасные зоны классов 0, 1 и 2 по ГОСТ IEC 60079-10-1-2011 категорий взрывоопасных смесей IIA, IIB и IIC по ГОСТ Р МЭК 60079-20-1-2011, а также взрывоопасные зоны классов 20, 21 и 22 по ГОСТ IEC 60079-10-2-2011, содержащие взрывоопасную пыль подгрупп IIIA, IIIB, IIIC согласно маркировкам взрывозащиты электрооборудования, ГОСТ IEC 60079-14-2011 и другим нормативным документам, регламентирующим применение электрооборудования в потенциально взрывоопасных средах.

2. Описание оборудования и средств обеспечения взрывозащиты

Тензодатчик PR6203 конструктивно выполнен в цельном металлическом корпусе имеющим прочную и герметичную конструкцию. Тензорезисторы внутри корпуса прикреплены к измерительному элементу. Измерительный элемент тензодатчика имеет цилиндрическую форму. Полость между измерительным элементом и корпусом герметично закрыта для защиты от атмосферных воздействий и заполнена азотом.

Внутри корпуса тензодатчика имеется герметизированная печатная плата с электронными компонентами. Балансировочные резисторы заключены в корпус на печатной плате и имеют достаточный отвод тепла. Печатная плата тензодатчика обеспечивает электрическое соединение с соединительным кабелем и измерительным элементом. В качестве балансировочных резисторов применяются резисторы типа MMA 0204-50. Корпус тензодатчика снаружи имеет газонепроницаемую сварку. Снаружи тензодатчик имеет герметичный вывод кабеля для питания тензодатчика и снятия измерительного напряжения.

Подробное описание конструкции тензодатчика приведено в руководстве по эксплуатации устройство.

Основные технические данные:

Маркировка взрывозащиты........ Ex 0Ex ia IIC T6 Ga
Ex Ex ta IIIC T160°C Da
Ex 2Ex nA IIC T6 Gc
Ex Ex tc IIIC T85°C Dc

Диапазон температур окружающей среды, °C........ от минус 30 до +55

Степень защиты от внешних воздействий по ГОСТ 14254-2015........ IP68

Параметры искробезопасных параметров тензодатчика приведены в таблице 2.1.

Таблица 2.1

Наименование параметра	Значение параметра
Максимальное входное напряжение U_i, В	25
Максимальный входной ток I_i, мА	160
Максимальная входная мощность P_i, Вт	2

Взрывозащищенность тензодатчиков обеспечивается выполнением их конструкции в соответствии с общими требованиями по ГОСТ 31610.0-2014 (IEC 60079-0:2011), видом взрывозащиты «искробезопасная электрическая цепь «i» по ГОСТ 31610.11-2014 (IEC 60079-11:2011), видом взрывозащиты "n" ГОСТ 31610.15-2014/IEC 60079-15:2010 и видом взрывозащиты от воспламенения пыли "t" ГОСТ Р МЭК 60079-31-2010.

Внесение изготовителем в конструкцию и техническую документацию изменений, влияющих на взрывобезопасность и соответствие тензодатчиков требованиям ТР ТС 012/2011, возможно только по согласованию с органом по сертификации ООО Центр «ПрофЭкс».

Данный сертификат соответствия подтверждает соответствие требованиям взрывобезопасности ТР ТС 012/2011 и не рассматривает любые другие виды безопасности тензодатчиков.

Руководитель (уполномоченное лицо) органа по сертификации (подпись) Мамыкова Александра Николаевна (Ф.И.О.)

М.П.

Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы)) (подпись) Инохин Артем Вячеславович (Ф.И.О.)

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-DE.АЖ58.В.00915/20

Серия RU № 0767611

3. Оборудование соответствует требованиям:

ТР ТС 012/2011	Технический регламент Таможенного союза «О безопасности оборудования для работы во взрывоопасных средах»;
ГОСТ 31610.0-2014 (IEC 60079-0:2011)	Взрывоопасные среды. Часть 0. Оборудование. Общие требования;
ГОСТ 31610.11-2014 (IEC 60079-11:2011)	Взрывоопасные среды. Часть 11. Оборудование с видом взрывозащиты «искробезопасная электрическая цепь «i»;
ГОСТ 31610.15-2014/IEC 60079-15:2010	Взрывоопасные среды. Часть 15. Оборудование с видом взрывозащиты "n";
ГОСТ Р МЭК 60079-31-2010	Взрывоопасные среды. Часть 31. Оборудование с видом взрывозащиты от воспламенения пыли "t".

4. Маркировка

Маркировка, наносимая на электрооборудование, должна включать следующие данные:

4.1 наименование предприятия-изготовителя;
4.2 обозначение типа оборудования;
4.3 порядковый номер по системе нумерации предприятия-изготовителя;
4.4 маркировку взрывозащиты;
4.5 наименование или знак органа по сертификации и номер сертификата соответствия;
4.6 предупредительные надписи;
4.7 единый знак ЕАС обращения продукции на рынке государств - членов Таможенного союза;
4.8 специальный знак взрывобезопасности Ex в соответствии с ТР ТС 012/2011;
4.9 другие данные, которые должен отразить изготовитель, если это требуется технической документацией (диапазон температур окружающей среды, степень защиты оболочки и т.д.).

5. Специальные условия применения

Нет.

Руководитель (уполномоченное лицо) органа по сертификации (подпись) Мамедова Александра Николаевна (Ф.И.О.)

М.П.

Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы)) (подпись) Шохин Артем Вячеславович (Ф.И.О.)

12.11 ЕА ЭС N RU Д-DE.PA01.B.59179/21

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ
ДЕКЛАРАЦИЯ О СООТВЕТСТВИИ

Заявитель ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ "МИНЕБЕА ИНТЕК РУС"
Место нахождения (адрес юридического лица) и адрес места осуществления деятельности: 196084, Россия, город Санкт-Петербург, улица Киевская, дом 6, корпус 1, литер Б, помещение 40-Н
Основной государственный регистрационный номер 1177847387871.
Телефон: 78126556444 Адрес электронной почты: russia@minebea-intec.com
в лице Генерального директора Акмановой Маргариты Юрьевны

заявляет, что Оборудование для взвешивания: датчики тензометрические, торговой марки: Minebea Intec, модели: PR6203.
Изготовитель Minebea Intec GmbH
Место нахождения (адрес юридического лица) и адрес места осуществления деятельности по изготовлению продукции: Германия, Meiendorfer str. 205 A, D-22145, Hamburg.
Продукция изготовлена в соответствии с Директивой 2014/30/EU «Электромагнитная совместимость».
Код (коды) ТН ВЭД ЕАЭС: 9031803800
Серийный выпуск

соответствует требованиям
Технического регламента Таможенного союза "Электромагнитная совместимость технических средств" (ТР ТС 020/2011)

Декларация о соответствии принята на основании
протокола приемо-сдаточных испытаний № 469 от 09.03.2021 года; руководства по эксплуатации; паспорта
Схема декларирования соответствия: 1д

Дополнительная информация
ГОСТ 30969-2002 (МЭК 61326-1:1997) "Совместимость технических средств электромагнитная. Электрическое оборудование для измерения, управления и лабораторного применения. Требования и методы испытаний" раздел 4, подразделы 6.2, 6.5 и 7.2. Условия хранения продукции в соответствии с требованиями ГОСТ 15150-69. Срок хранения (службы, годности) указан в прилагаемой к продукции эксплуатационной документации.

Декларация о соответствии действительна с даты регистрации по 18.03.2026 включительно.

(подпись) М.П. Акманова Маргарита Юрьевна (Ф.И.О. заявителя)

Регистрационный номер декларации о соответствии: ЕАЭС N RU Д-DE.PA01.B.59179/21

Дата регистрации декларации о соответствии: 19.03.2021

12.12 82238-21

ФЕДЕРАЛЬНОЕ АГЕНТСТВО
ПО ТЕХНИЧЕСКОМУ РЕГУЛИРОВАНИЮ И МЕТРОЛОГИИ

СЕРТИФИКАТ

об утверждении типа средств измерений
№ **82238-21**

Срок действия утверждения типа до **16 июля 2026 г.**

НАИМЕНОВАНИЕ И ОБОЗНАЧЕНИЕ ТИПА СРЕДСТВ ИЗМЕРЕНИЙ
Датчики весоизмерительные PR 6203

ИЗГОТОВИТЕЛЬ
"Minebea Intec GmbH", Германия

ПРАВООБЛАДАТЕЛЬ
"Minebea Intec GmbH", Германия

КОД ИДЕНТИФИКАЦИИ ПРОИЗВОДСТВА
ОС

ДОКУМЕНТ НА ПОВЕРКУ
МП 2301-0323-2021

ИНТЕРВАЛ МЕЖДУ ПОВЕРКАМИ **1 год**

Тип средств измерений утвержден приказом Федерального агентства по техническому регулированию и метрологии **от 16 июля 2021 г. N 1339.**

Руководитель

Подлинник электронного документа, подписанного ЭП, хранится в системе электронного документооборота Федеральное агентство по техническому регулированию и метрологии.
СВЕДЕНИЯ О СЕРТИФИКАТЕ ЭП
Сертификат: 028BB28700A0AC3E9843FA50B54F406F4C
Кому выдан: Шалаев Антон Павлович
Действителен: с 29.12.2020 до 29.12.2021

А.П.Шалаев

«03» августа 2021 г.

УТВЕРЖДЕНО
приказом Федерального агентства
по техническому регулированию
и метрологии
от «16» июля 2021 г. № 1339

Лист № 1
Всего листов 4

Регистрационный № 82238-21

ОПИСАНИЕ ТИПА СРЕДСТВА ИЗМЕРЕНИЙ

Датчики весоизмерительные PR 6203

Назначение средства измерений

Датчики весоизмерительные PR 6203 (далее - датчики) предназначены для измерений и преобразования воздействующей на датчик силы тяжести взвешиваемого объекта в аналоговый нормированный электрический измерительный сигнал.

Описание средства измерений

Принцип действия датчиков основан на изменении электрического сопротивления тензорезисторов, соединенных в мостовую схему, при их деформации, возникающей в местах наклейки тензорезисторов к упругому элементу датчика, под действием прилагаемой нагрузки. Изменение электрического сопротивления вызывает разбаланс мостовой схемы и появление в диагонали моста электрического сигнала, изменяющегося пропорционально нагрузке.

Датчики состоят из упругого элемента, кабеля питания и измерения, тензорезисторов на клеевой основе, соединенных по полной мостовой электрической схеме, и элементов герметизации. Места наклейки тензорезисторов и расположения элементов термокомпенсации и нормирования в датчиках находятся во внутренней полости упругого элемента и защищены крышками и герметиком.

Модификации датчиков отличаются пределами допускаемой погрешности и максимальной нагрузкой.

Пломбирование датчиков весоизмерительных PR 6203 не предусмотрено.

Место нанесения знака утверждения типа

Рисунок 1 – Общий вид датчика весоизмерительного PR6203

Маркировка датчиков производится на фирменной наклейке, на которой нанесены:
- торговая марка изготовителя;
- обозначение весоизмерительного датчика;
- серийный номер;
- максимальная нагрузка E_{max};
- номинальный выходной сигнал C_n;
- длина кабеля;
- год выпуска датчика;
- знак утверждения типа.

Лист № 2
Всего листов 4

Рисунок 2- Маркировка датчиков

Знак поверки наносится в свидетельство о поверке.

Программное обеспечение

отсутствует.

Метрологические и технические характеристики

Таблица 1 - Метрологические характеристики

Наименование характеристики	Значение					
Класс точности по ГОСТ 8.631-2013	D		C			
Максимальное число поверочных интервалов, $n_{max} = E_{max} / v$	1000		3000		6000	
Максимальная нагрузка, E_{max}, т	0,5	1, 2, 3, 5, 10, 20, 30, 50, 60, 75	2	3, 5, 10, 20, 30, 50, 60, 75	3, 5, 10	20, 30, 50, 60, 75
Минимальный поверочный интервал, v_{min}, кг	E_{max} /2500	E_{max} /5000	E_{max} /10000	E_{max} /14000	E_{max} /14000	E_{max} /20000
Минимальная нагрузка, E_{min}, кг	0					
Доля от пределов допускаемой погрешности весов, p_{LC}	0,7					
Значение поверочного интервала v, кг	E_{max}/n_{max}					
Относительный выходной сигнал при E_{max}, мВ/В	2,0					
Значение входного сопротивления датчиков, Ом	650±6					

Лист № 3
Всего листов 4

Продолжение таблицы 1

Наименование характеристики	Значение	
Класс точности по ГОСТ 8.631-2013	D	C
Значение выходного сопротивления датчиков, Ом - для E_{max} = 60 т - для E_{max} = 75 т - для остальных	 510±1 410±1 610±1	 510,0±0,5 410,0±0,5 610,0±0,5
Предельные значения температуры, °С	от -10 до +40	
Обозначение по влажности	CH	

Таблица 2 - Пределы допускаемых погрешностей датчиков класса точности С

Интервалы измерений	Пределы допускаемой погрешности mpe
до 500v включ.	±0,35v
св. 500v до 2000v включ.	±0,70v
св. 2000v	±1,05v

Таблица 3 - Пределы допускаемых погрешностей датчиков класса точности D

Интервалы измерений	Пределы допускаемой погрешности mpe
до 50v включ.	± 0,35v
св. 50v до 200v включ.	± 0,70v
св. 200v	± 1,05v

Таблица 4 - Основные технические характеристики

Наименование характеристики	Значение
Габаритные размеры средства измерений (длина; ширина; высота), мм, не более	107; 87; 139
Масса, кг, не более	5
Напряжение питания постоянного тока, В	от 4 до 24
Средний срок службы, лет	10
Вероятность безотказной работы за 2000 ч	0,9
Маркировка взрывозащиты	0Ex ia IIC T6 Ga Ex ta IIIC T160°C Da 2Ex nA IIC T6 Ge Ex tc IIIC T85°C Dc

Знак утверждения типа
наносится типографским способом на титульный лист паспорта и на маркировочную табличку на корпусе датчика.

Комплектность средства измерений

Таблица 4 - Комплектность средства измерений

Наименование	Обозначение	Количество
Датчик весоизмерительный	PR 6203	1 шт.
Паспорт	-	1 экз.
Методика поверки	МП 2301-0323-2021	1 экз.

Лист № 4
Всего листов 4

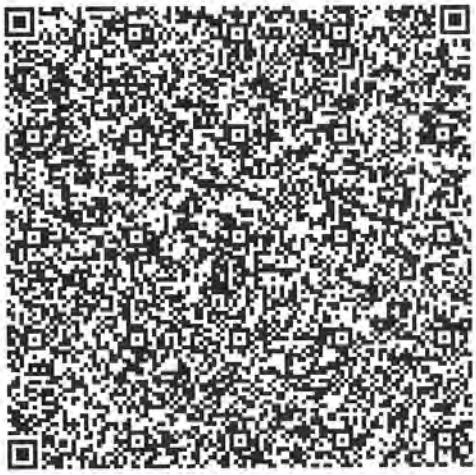
Сведения о методиках (методах) измерений
приведены в разделе «Использование по назначению» паспорта.

Нормативные и технические документы, устанавливающие требования к датчикам весоизмерительным PR 6203

Приказ Федерального агентства по техническому регулированию и метрологии от 29.12.2018 г. № 2818 «Об утверждении Государственной поверочной схемы для средств измерений массы»

ГОСТ 8.631-2013 ГСИ. Датчики весоизмерительные. Общие технические требования. Методы испытаний

Техническая документация фирмы «Minebea Intec GmbH», Германия



Руководитель Федерального агентства по техническому регулированию и метрологии

Подлинник электронного документа, подписанного ЭП, хранится в системе электронного документооборота Федеральное агентство по техническому регулированию и метрологии.

СВЕДЕНИЯ О СЕРТИФИКАТЕ ЭП

Сертификат: 0288B28700A0AC3E9843FA50B54F406F4C
Кому выдан: Шалаев Антон Павлович
Действителен: с 29.12.2020 до 29.12.2021

А.П.Шалаев

М.п

«03» августа 2021г.

12.13 R60/2000-A-NL1-18.12

OIML Certificate

OIML Member State
The Netherlands

Number R60/2000-A-NL1-18.12 revision 1
Project number 1902356
Page 1 of 3

Issuing authority	NMi Certin B.V. Person responsible: C. Oosterman
Applicant and Manufacturer	Minebea Intec GmbH Meiendorfer Strasse 205 A D-22145 Hamburg Germany
Identification of the certified type	A **compression load cell**, with strain gauges, Type : PR 6203
Characteristics	See next page

This OIML Certificate is issued under scheme A.

This Certificate attests the conformity of the above identified Type (represented by the sample(s) identified in the OIML Test Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

OIML R 60 - Edition 2000 (E) for accuracy class C

This Certificate relates only to the metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML International Recommendation above-identified. This Certificate does not bestow any form of legal international approval.

Important note: Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate was issued, partial quotation of the Certificate and of the associated OIML Test Report(s) is not permitted, although either may be reproduced in full.

Issuing Authority **NMi Certin B.V., OIML Issuing Authority NL1**
4 May 2018

C. Oosterman
Head Certification Board

NMi Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
the Netherlands
T +31 78 6332332
certin@nmi.nl
www.nmi.nl

This document is issued under the provision that no liability is accepted and that the applicant shall indemnify third-party liability.

The notification of NMi Certin B.V. as Issuing Authority can be verified at www.oiml.org

INSPECTION RvA I 122

OIML Certificate

OIML Member State
The Netherlands

Number R60/2000-A-NL1-18.12 revision 1
Project number 1902356
Page 2 of 3

The conformity was established by the results of tests and examinations provided in the associated OIML Test Reports:

- No. NMi-1901376-01 dated 30 August 2017 that includes 68 pages;
- No. NMi-1901376-02 revision 1 dated 11 September 2017 that includes 68 pages;
- No. NMi-1901376-03 dated 30 August 2017 that includes 68 pages;
- No. NMi-1901376-04 dated 30 August 2017 that includes 74 pages;
- No. NMi-1901376-05 dated 30 August 2017 that includes 68 pages;
- No. NMi-1901376-06 dated 30 August 2017 that includes 9 pages.

Characteristics of the load cell:

Maximum capacity (E_{max})	0,5 t	1 t	2 t	3 t up to 20 t	20 t up to and including 100 t
Minimum dead load	0 kg				
Accuracy Class	C				
Rated Output	2,0 mV/V				
Maximum number of load cell intervals (n) [1]	1000		3000	6000	
Ratio of minimum LC Verification interval [1] $Y = E_{max} / v_{min}$	2500	5000	10000	15000	20000
Ratio of minimum dead load output return [1] $Z = E_{max} / (2 * DR)$	1000		10000		
Input impedance	650 Ω ± 6,0 Ω				
Temperature range	-10 °C / + 40 °C				
Fraction p_{LC}	0,7				
Humidity Class	CH				
Safe overload	150 % of E_{max}				
Output impedance	610 Ω ± 0,5 Ω/610 Ω ± 1 Ω [2] 510 Ω ± 0,5 Ω/510 Ω ± 1 Ω [2] (for 60 t only) 410 Ω ± 0,5 Ω/410 Ω ± 1 Ω [2] (for 75 t only)				
Recommended excitation	10 V AC / DC				
Excitation maximum	24 V AC / DC				
Transducer material	Stainless steel				
Atmospheric protection	Hermetically welded				

Remarks:

1. The characteristics for n_{max}, Y and Z can be reduced separately.
2. The tolerance of the output impedance is ± 1 Ω for C1 accuracy class.

Each load cell produced is provided with an accompanying document with information about its characteristics.

OIML Certificate

OIML Member State
The Netherlands

Number R60/2000-A-NL1-18.12 revision 1
Project number 1902356
Page 3 of 3

The above identified Type (represented by the sample(s) identified in the OIML Test Report) have been found to comply with the additional national requirements established by the United States of America (NIST Handbook 44 and NCWM Publication 14), included in the MAA Declaration of Mutual Confidence:

- R 60 DoMC-01 rev.0, Additional requirements from the United States;
- R 60 DoMC-02 rev.0, Additional requirements from the United States.

Revision History

This revision replaces the previous version.

Revision	Date	Change(s)
Initial	30 April 2018	Original issue
1	4 May 2018	Typing error in page numbers.

101

12.14 TC11162

Test Certificate
Parts Certificate

Number **TC11162** revision 2
Project number 1902356
Page 1 of 1

Issued by	NMi Certin B.V.
In accordance with	WELMEC 8.8 Issue 2, WELMEC 2.4 Issue 2, OIML R 60 (2000), EN 45501:2015.
Producer	Minebea Intec GmbH Meiendorfer Strasse 205 A D-22145 Hamburg Germany
Measuring instrument	A **compression load cell**, with strain gauges tested as a part of a weighing instrument. Brand : Minebea Intec GmbH Designation : PR 6203 Further properties are described in the annexes: - Description TC11162 revision 2; - Documentation folder TC11162-1. An overview of performed tests is given in the annex: - Description TC11162 revision 2.
Remarks	This revision replaces the earlier versions, except for its documentation folder.
Issuing Authority	**NMi Certin B.V.** 30 April 2018 C. Oosterman Head Certification Board

NMi Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
The Netherlands
T +31 78 6332332
certin@nmi.nl
www.nmi.nl

INSPECTION
RvA I 122

Description

Number **TC11162** revision 2
Project number 1902356

1 General information about the load cell

All properties of the load cell, whether mentioned or not, shall not be in conflict with the standards mentioned in this certificate.

This certificate is the positive result of the applied voluntary, modular approach, for a component of a measuring instrument, as described in WELMEC 8.8. The complete measuring system must be covered by an EC type-approval certificate, an EC-type examination certificate or an EU-type examination certificate.

1.1 Essential parts

Number	Pages	Description	Remark
11162/0-01	1	Outline drawing PR 6203 (500 kg - 75 t)	Mechanical
11162/0-02	1	Outline drawing PR 6203 (100 t)	Mechanical
11162/0-03	1	Circuit diagram	Electrical

Cable:
- If the load cell is provided with a 4-wire system:
  - The cable length is mentioned in the accompanying load cell document / on the label;
  - The cable length shall not be modified.
- If the load cell is provided with a 6-wire system (="Remote-sensing"):
  - The cable length is not limited.

The cable is shielded; the shield is connected to the load cell.

Description

Number **TC11162** revision 2
Project number 1902356
Page 2 of 3

1.2 Essential characteristics

Maximum capacity (E_{max})	0,5 t	1 t	2 t	3 t up to 20 t	20 t up to and including 100 t
Minimum dead load	0 kg				
Accuracy Class	C				
Rated Output	2,0 mV/V				
Maximum number of load cell intervals (n) [1]	1000		3000	6000	
Ratio of minimum LC Verification interval [1] $Y = E_{max} / v_{min}$	2500	5000	10000	15000	20000
Ratio of minimum dead load output return [1] $Z = E_{max} / (2 * DR)$	1000		10000		
Output impedance	610 Ω ± 0,5 Ω/610 Ω ± 1 Ω [2] 510 Ω ± 0,5 Ω/510 Ω ± 1 Ω [2] (for 60 t only) 410 Ω ± 0,5 Ω/410 Ω ± 1 Ω [2] (for 75 t only)				
Input impedance	650 Ω ± 6,0 Ω				
Temperature range	-10 °C / + 40 °C				
Fraction p_{LC}	0,7				
Humidity Class	CH				
Safe overload	150 % of E_{max}				
Recommended excitation	10 V AC / DC				
Excitation maximum	24 V AC / DC				
Transducer material	Stainless steel				
Atmospheric protection	Hermetically welded				

Remarks:
1. The characteristics for n_{max}, Y and Z can be reduced separately.
2. The tolerance of the output impedance is ± 1 Ω for C1 accuracy class.

1.3 Essential shapes

Number	Pages	Description	Remark
11162/0-01	1	Outline drawing PR 6203 (500 kg - 75 t)	Mechanical
11162/0-02	1	Outline drawing PR 6203 (100 t)	Mechanical

Description

Number **TC11162** revision 2
Project number 1902356

The descriptive markings plate is secured against removal by sealing or will be destroyed when removed and contains at least the information and markings as described in OIML R 60 (2000) and:
- This certificate number TC11162 (in the countries where it is mandatory);
- Producers name or mark.

2 Seals

The connecting cable of the load cell or the junction box is provided with possibility to seal.

3 Conditions for conformity assessment

Each load cell produced is provided with an accompanying document with information about its characteristics.

The compatibility of load cells and indicator is established by the manufacturer by means of the compatibility of modules form, contained in WELMEC 2, 2015 clause 10, at the time of putting into use.

Other parties may use this certificate without the written permission of the producer (WELMEC 8.8).

4 Reports

An overview of performed tests is given in the reports:
- No. NMi-1901376-01 dated 30 August 2017 that includes 68 pages;
- No. NMi-1901376-02 revision 1 dated 11 September 2017 that includes 68 pages;
- No. NMi-1901376-03 dated 30 August 2017 that includes 68 pages;
- No. NMi-1901376-04 dated 30 August 2017 that includes 74 pages;
- No. NMi-1901376-05 dated 30 August 2017 that includes 68 pages;
- No. NMi-1901376-06 dated 30 August 2017 that includes 9 pages.

A report can be a test report, an evaluation report, a type evaluation report and/or a pattern evaluation report.

12.15 17-111

Certificate Number: 17-111
Page 1 of 3

NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Load Cell
Compression
Model: PR 6203 Series
n_{min}: 2000 to 10 000, Class III, Multiple Cell
2000 to 10 000, Class IIIL, Multiple Cell
Capacity: 500 kg to 100 000 kg
Accuracy Class: III/IIIL

Submitted By:
Minebea Intec GmbH
Meiendorfer Strasse 205 A
221 45 Hamburg
Germany
Tel: +49.40.67960-238
Fax: +49.40.67960-500
Contact: Juergen Stolte
Email: juergen.stolte@minebea-intec.com
Web site: www.minebea-intec.com

Standard Features and Options

- The specific load cell models, capacities and v_{min} and n_{max} values covered by this Certificate are listed in the table on Page 2.
- Nominal Output: 2.0 mV/V
- Stainless Steel
- 4 and 6Wire Design
- Minimum Dead Load: 0 kg

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of "NIST Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

James Cassidy
Chairman, NCWM, Inc.

Kristin Macey
Chairman, National Type Evaluation Program Committee
Issued: September 14, 2017

1135 M Street, Suite 110 / Lincoln, Nebraska 68508

The National Conference on Weights and Measures (NCWM) does not approve, recommend or endorse any proprietary product or material, either as a single item or as a class or group. Results shall not be used in advertising or sales promotion to indicate explicit or implicit endorsement of the product or material by the NCWM.

Minebea Intec GmbH

Load Cell / PR 6203 Series

Application: The load cells may be used in multiple cell applications Class III and IIIL consistent with the model designations, number of scale divisions, and parameters specified in this certificate. Load cells of a given accuracy class may be used in applications with lower accuracy class requirements provided the number of scale divisions, the v_{min} value, and temperature range are suitable for the application. The manufacturer may market the load cell with fewer divisions (n_{max}) and with greater v_{min} values than those listed on the certificate. However, the load cells will come with the appropriate n_{max} and v_{min} for which the load cell may be used.

Specific Capacities, n_{max} and v_{min} Values:

Model	Capacity	Class III Multiple Cell		Class IIIL Multiple Cell	
		v_{min} (kg)	n_{max}	v_{min} (kg)	n_{max}
PR 6203 Series * load cells tested	500 kg*	0.20	2000	0.20	2000
	1000 kg*	0.20	2000	0.20	2000
	2000 kg*	0.20	5000	0.20	10 000
	3000 kg *	0.20	10 000	0.20	10 000
	5000 kg	0.33	10 000	0.20	10 000
	10 000 kg	0.67	10 000	0.22	10 000
	20 000 kg*	1.00	10 000	0.33	10 000
	25 000 kg	1.25	10 000	0.42	10 000
	30 000 kg	1.50	10 000	0.50	10 000
	40 000 kg	2.00	10 000	0.67	10 000
	50 000 kg	2.50	10 000	0.83	10 000
	60 000 kg	3.00	10 000	1.00	10 000
	75 000 kg	3.75	10 000	1.25	10 000
	100 000 kg	5.00	10 000	1.67	10 000

Identification: An adhesive identification badge located on the cell, states manufacturer name, model, serial number, accuracy class and rated capacity. Other pertinent information will be specified on the Calibration Certificate accompanying the cell.

Test Conditions: A 500 kg, 1000 kg, 2000 kg, 3000 kg and a 20 000 kg capacity load cell were tested by the NMi Certain B.V. at The Netherlands facility. Testing was conducted in accordance with the OIML DoMC Mutual Acceptance Arrangement, signed by the NCWM as a utilizing participant for load cell testing. Testing was conducted using deadweights as the reference standard. The load cells were tested over a temperature range of -10 °C to 40 °C with tests run on each cell at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The barometric pressure test to determine sensitivity of the load cell design to changes in barometric pressure was conducted. The data were analyzed for multiple load cell applications. OIML R60 selection criteria were used to determine cells tested.

Evaluated By: S.J. Koeman, M.M.J. Meijer (NMi)

Type Evaluation Criteria Used: NIST, Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices, 2017. NCWM, Publication 14: Weighing Devices, 2017.

Conclusion: The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

Information Reviewed By: J. Truex (NCWM)

Certificate Number: 17-111
Page 3 of 3

Minebea Intec GmbH

Load Cell / PR 6203 Series

Example of Device:

12.16 10034

NEW YORK STATE OF OPPORTUNITY. Agriculture and Markets

10B Airline Drive
Albany, New York 12235
800-554-4501
www.agriculture.ny.gov

Certificate of Approval
for Weighing and Measuring Devices

New York State Certificate Number: 10034
Effective Date: November 2, 2017

NTEP Certificate of Conformance Number: 17-111

For:
Load Cell
Compression
Model: PR 6203 Series
n_{max}: 2000 to 10 000, Class III, Multiple Cell
2000 to 10 000, Class IIIL, Multiple Cell
Capacity: 500 kg to 100 000 kg
Accuracy Class: III/IIIL

Submitted By:
Minebea Intec GmbH
Meiendorfer Strasse 205 A
22145 Hamburg
Germany
Tel: +49.40.67960-238
Fax: +49.40.67960-500
Contact: Juergen Stolte
Email: juergen.stolte@minebea-intec.com
Web site: www.minebea-intec.com

This certifies that the items specified in the above National Type Evaluation Program (NTEP) Certificate of Conformance are hereby approved for sale or use in the State of New York.

The NTEP Certificate of Conformance, as issued by the National Conference on Weights and Measures, is accepted under the terms of 1NYCRR Part 220.1. Evaluation results and device characteristics necessary for inspection and use in commerce are stated in the NTEP Certificate of Conformance. Copies of the NTEP Certificate of Conformance are available on request and are available for inspection at the Bureau's Metrology Office at 6 Harriman Campus Road, Albany, NY 12206.

Michael Sikula, Director
NYS Bureau of Weights and Measures

WM-23 (rev. 02/15) Duplicate Original NTEP

Published by
Minebea Intec GmbH | Meiendorfer Strasse 205 A | 22145 Hamburg, Germany
Phone: +49.40.67960.303 | Email: info@minebea-intec.com
www.minebea-intec.com

Minebea intec
The true measure