

Installation Manual

Cable Junction Box PR 6130/08



Translation of the Original Installation Manual

9499 053 00800

Edition 4.1.0

01/24/2024

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

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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

▲ CAUTION

Warning of personal injury.

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 cable junction box is designed for tank and hopper weighing applications.

It cannot be operated in potentially explosive atmospheres.

Product operation, commissioning and maintenance must be performed by trained and qualified personnel who are aware of and able to deal with the related hazards and take suitable measures for self-protection.

The device 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. The use of this product signifies recognition of the stipulations listed above.

The following table shows the load cells that should and should not be used for different applications.

Load cells to be used	Load cells not to be used
PR 6201/L, /N, /D1, /C3, /C4, /C5, /C6	PR 6201/LE, /LA, /NE, /D1E, /C3E, /C4E, /C5E, /C6E
PR 6201/NDB, /LDB	PR 6201/NDBE, /LDBE
PR 6202/C1, /C3, /C4	PR 6202/C1E, /C3E, /C4E
Inteco®/D1, /C3, /C6	Inteco®/D1E, /C3E, /C6E
	PR 6204 Pendeo® Process
PR 6207/D1, /C3	
	PR 6211/D1
PR 6212/C1	PR 6212/C1E, /LT
	PR 6221/, all types
	PR 6224 Pendeo® Truck
PR 6241/D1, /C3, /C6	PR 6241/D1E, /C3E, /C6E
Contego®/D1, /C3	Contego®/D1Ex, /C3Ex
PR 6246/D1, /C3, /C6	PR 6246/D1E, /C3E, /C6E
PR 6251/L	PR 6251/LE, /LA
Novego®/C3	Novego®/C3E

Load cells to be used	Load cells not to be used
MP 58(T)/C3MR	MP 58(T)/C3MR E
	MP 55, all types
MP 77/C3MR	MP 77/C3MR E
MP 79(T)/C3MR	MP 79(T)/C3MR E
PR 40/C3MR, /C6	PR 40/C3MRE, /C6E
PR 43/C3MR, /C6	PR 43/C3MRE, /C6E
PR 47/C3MR, /C6	PR 47/C3MRE, /C6E
PR 53/C3MR	PR 53/C3MRE
PR 54/C3MR	PR 54/C3MRE
PR 55/C3MR	PR 55/C3MRE
PR 57/C3MR	PR 57/C3MRE
PR 58/C3MR	PR 58/C3MRE
PR 76/N, /C3	
PR 77/C3MR, /C6	PR 77/C3MRE, /C6E
PR 79(T)/C3MR	PR 79(T)/C3MRE

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 device visually for signs of mechanical damage.

2.5 Repairs and maintenance

2.5.1 General information

Repairs are subject to inspection and must be carried out at Minebea Intec.

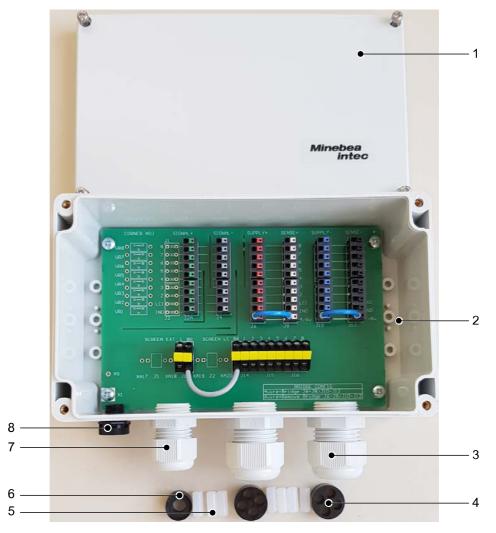
In case of defect or malfunction, please contact your local Minebea Intec dealer or service center for repair.

When returning the device for repair, please include a precise and complete description of the problem.

Maintenance work may only be carried out by a trained technician with expert knowledge of the hazards involved and the required precautions.

3 Specifications

3.1 Equipment supplied



No.	Description
1	Cover
2	Box incl. electronics
3	Cable gland M25 (2×)
4	4-seal insert M25 (2×)
5	Locking pin 6 mm (7×)
6	Reduction sealing ring M20 (for ≤8 mm)
7	Cable gland M20
8	Pressure compensation element
The fol	lowing items are not shown:
9	Drilling template
10	Quick guide
10	Quick guide

3.2 Technical Data

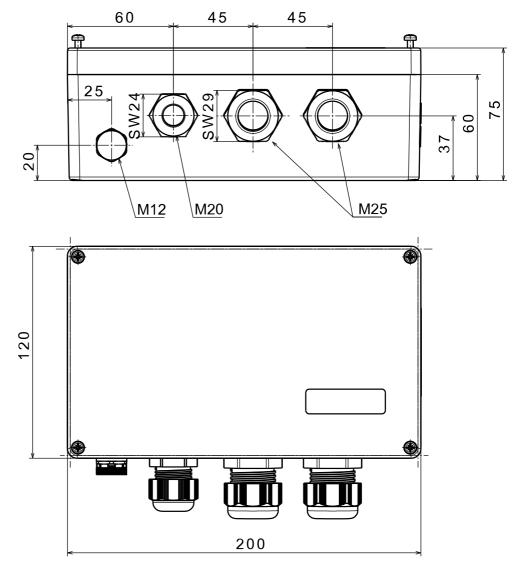
Protection classes	in compliance with IEC 529 or DIN EN 60529 IP66:
	Dust-proof and leak-proof against strong water jets
Installation position	Cable entry from below
Quantity of load cells	max. 8
Material of the junction box	Polycarbonate
Color of the junction box	gray, similar to RAL 7035
Net weight	0.65 kg
Shipping weight	0.85 kg
Service temperature area	-30°C+70°C
Storage temperature range	-30°C+80°C
Cable screw connections	Plastic cable screw connections Polyamide PA6 V-2
Insulation impedance (in service temperature range at 95% air humidity and $U_{DC} = 500$ V)	>1000 MΩ

3.3 Electromagnetic Compatibility (EMC)

All data in compliance EN 61326 industrial section

Housing	High frequency electromagnetic fields (803000 MHz)	EN 61000-4-3	10 V/m
	Electrostatic discharge (ESD)	EN 61000-4-2	6/8 kV
Signal and control	Fast transients (burst)	EN 61000-4-4	1 kV
lines	Peak voltages (surge) 1.2/50 μs	EN 61000-4-5	1 kV
	Conducted disturbances by high frequency coupling (0.1580 MHz)	EN 61000-4-6	10 V

3.4 Dimensions



all dimensions in mm

4 Installation and connection information

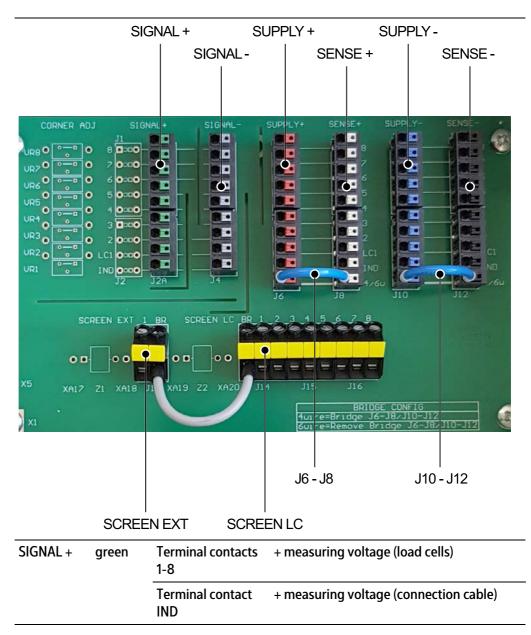
4.1 General information

- Only use the cable glands provided by the manufacturer.
- Install the junction box so that the cable glands are on the bottom.
- Do not open the junction box when connected to the voltage supply.

Note:

At ambient temperatures >45°C, cables that are suitable for at least 85°C must be used.

4.2 Terminals and jumpers



SIGNAL -	gray	Terminal contacts 1-8	- measuring voltage (load cells)
		Terminal contact IND	- measuring voltage (connection cable)
SUPPLY +	red	Terminal contacts 1-8	+ supply voltage (load cells)
		Terminal contact IND	+ supply voltage (connection cable)
		Terminal contact 4/6w	+ sense (connection cable – white)
SUPPLY -	blue	Terminal contacts 1-8	- supply voltage (load cells)
		Terminal contact IND	- supply voltage (connection cable)
		Terminal contact 4/6w	- sense (connection cable – black)
SCREEN EXT	yellow	Terminal contact 1	Screen (connection cable)
SCREEN LC	yellow	Terminal contacts 1-8	Screen (load cells)
SCREEN EXT and SCREEN LC	yellow	Terminal contacts BR	Screen
J6-J8		Jumper	Connects the load cell supply line to the
J10-J12		Jumper	[–] sense line. Both jumpers must be opened when 6-wire load cell cables are used.

4.3 Cable gland

The cable glands each have one sealing ring.

The M20 cable gland can be fitted with a reduction sealing ring if cables ≤ 8 mm are used (see Chapter 4.5).

The M25 cable gland must be fitted with a four-seal insert to be able to feed in up to four load cell cables.

The cable wires are connected to the terminals inside the device.

NOTICE

Property damage is possible.

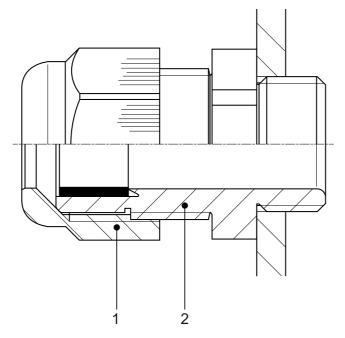
▶ If a seal insert is not used, it must be sealed with a supplied locking pin.

NOTICE

Property damage is possible.

• Regularly check the fitted cable gland for tightness and re-tighten it, if necessary.

4.4 Attaching the cable gland



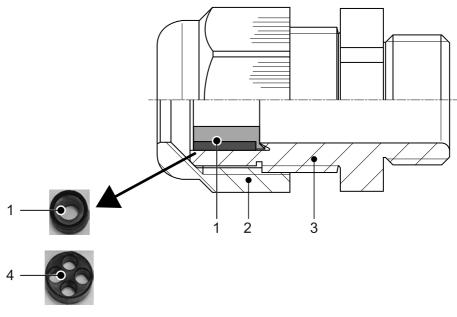
- 1. Remove the parts from the packaging.
- 2. Screw the cable gland (2) into the cable junction box and tighten at the hex.

Note:

It is essential that the following tightening torques are observed: M20: 4 Nm M25: 6 Nm

3. Screw the cap nut (1) onto the cable gland and tighten slightly.

4.5 Fitting the reduction sealing ring/4-seal insert



- 1. Unscrew the cap nuts (2).
- 2. Remove the existing sealing ring from the metal sleeve (3).
- 3. Insert the reduction sealing ring (1) in the M20 cable gland (for cables ≤ 8 mm).

Note:

It is essential to first insert the side with the sealing lip in the metal sleeve!

- 4. Insert the 4-seal insert (4) in the M25 cable gland.
- 5. Tighten the cap nuts (2) again.

5 Cable connections

5.1 General information

Cable entry must be from below.

Fit the wires and screen of the connection cable with wire end ferrules as per DIN 46228-1:

- 4× 0.75 mm² (red, blue, white, black)
- 2× 0.56 mm² (green, gray)

This is not necessary for the load cell cables.

Connect the wires to the terminals according to the color coding .

Connect the screens on the other side of the connection cable with the equipotential bonding terminal of the downstream device (see instrument manual) as described in Chapters 5.3 and 5.4.

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.

5.2 Connecting cables

To connect the junction box to the device, connection cable PR 6135/.. must be used; max. length: 300 m.

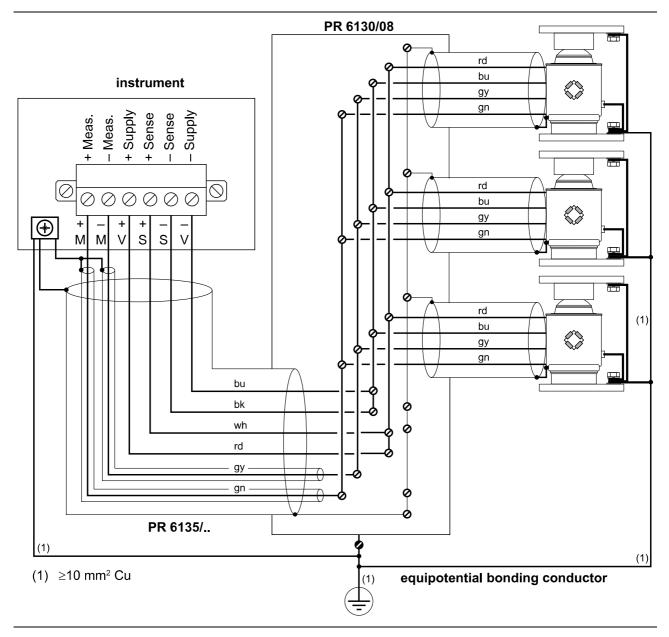
5.3 Cable connections

Note:

All components are only shown schematically.

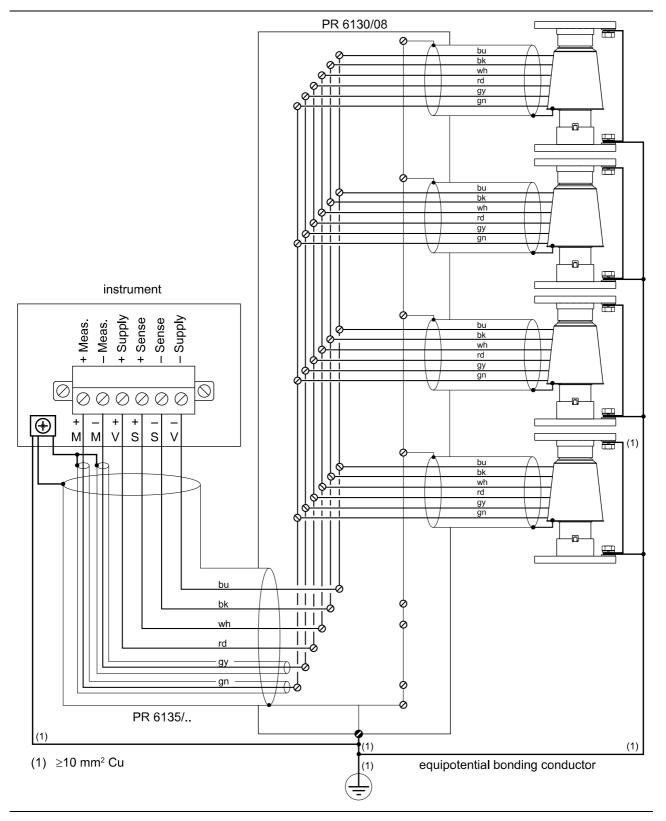
Color code

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



Connection example: load cells with 4-wire cable

Connection example: load cells with 6-wire cable



5.4 Equipotential bonding conductor

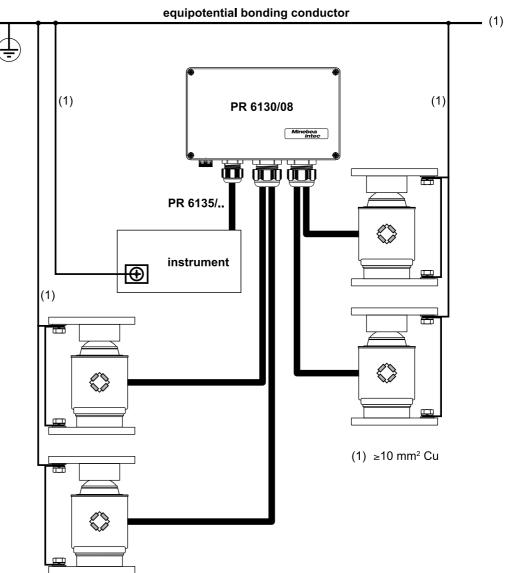
NOTICE

It is especially important that the ground is connected correctly to the components and the cable junction box.

You must also ground the device separately and ensure the power supply is properly shielded against the effects of lightning. Simply connecting the protective grounding conductor is not enough!

If the installation is not carried out according to our instructions, this voids the warranty. In particular, the entire installation, including the power supply, must be sufficiently protected against lightning.

Connection example



6 Maintenance/repairs/soldering work/cleaning

6.1 Maintenance

Maintenance work may only be carried out by a trained technician with expert knowledge of the hazards involved and the required precautions.

6.2 Repairs

Repairs are subject to inspection and must be carried out at Minebea Intec. In case of defect or malfunction, please contact your local Minebea Intec dealer or service center for repair.

When returning the device for repair, please include a precise and complete description of the problem.

6.3 Soldering work

Soldering work on the device is neither required nor permitted.

6.4 Cleaning

NOTICE

Property damage caused by unsuitable cleaning utensils/agents.

Damage to the device.

- Prevent moisture from penetrating the interior.
- Do not use aggressive cleaning agents (solvents or similar agents).
- For use in the food industry, use a cleaning agent suitable for that particular working environment.
- ▶ Use soft sponges, brushes and cloths.
- 1. Unplug device from mains supply, disconnect any data cables.
- 2. Clean the device with a cloth lightly moistened with a soap solution.
- 3. Wipe down the device with a soft, dry cloth after cleaning.

7 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

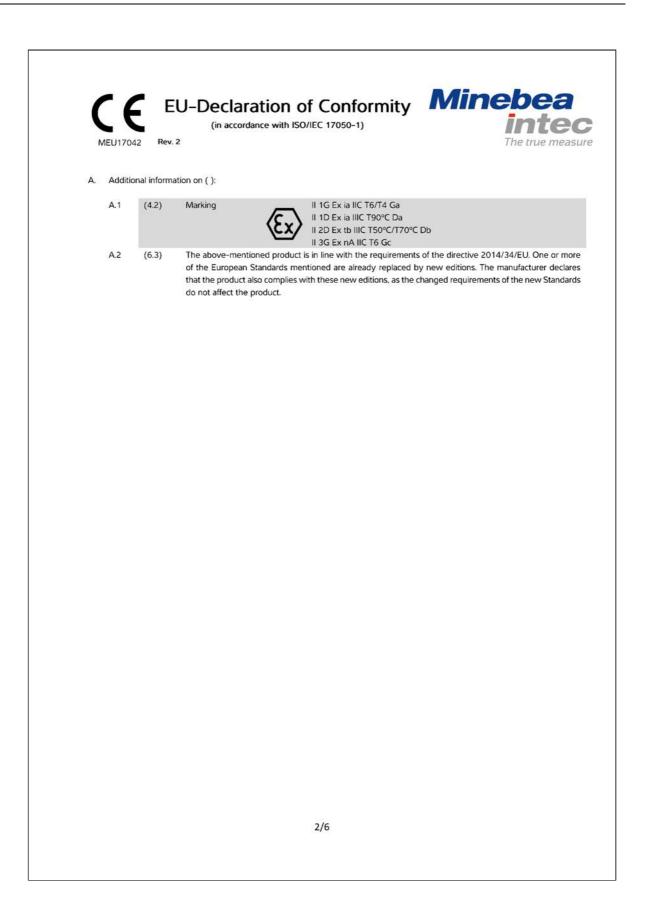
We reserve the right not to accept products that are contaminated with hazardous substances (ABC contamination).

8 Certificates

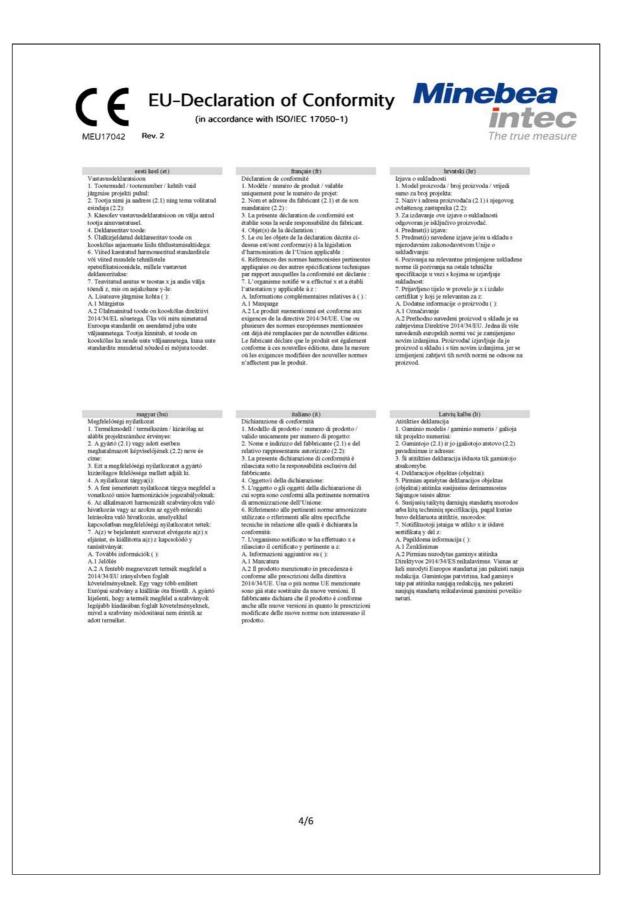
Ser. no.	Description	Document no.	see Chapter
1	EU-Declaration of Conformity	MEU17042	8.1

8.1 MEU17042

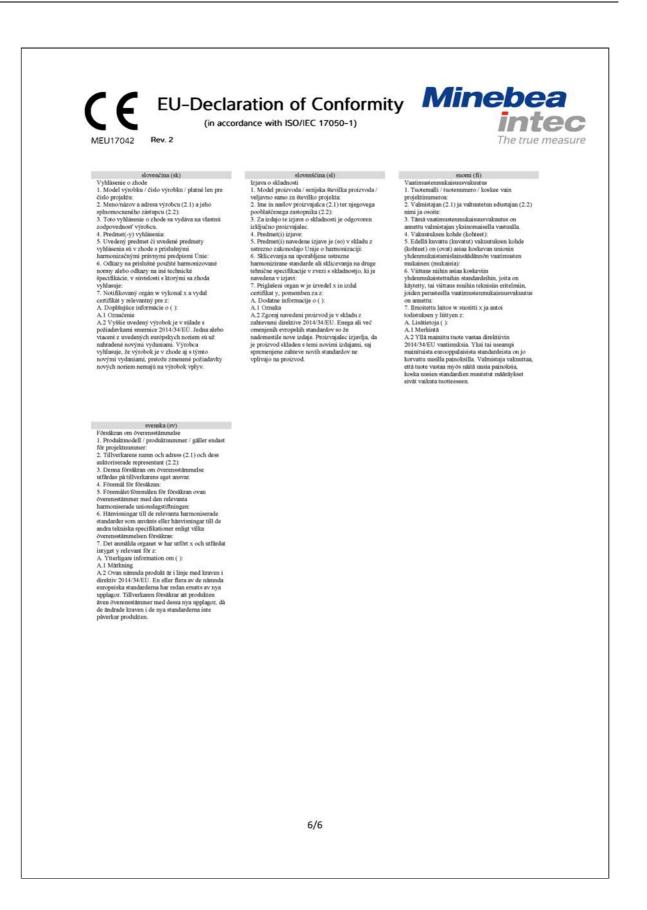
		EU	-Declaratio	on of Confo	ormity Min	iche
			(in accordance v	with ISO/IEC 17050-1)		int
3	MEU1704	2 Rev. 2				The true r
1.	Product	t model / pro	duct number / solely val	id for project number:		
			tion Box / PR 6130 / -			
2.	Name a	ind address o	f the manufacturer (2.1)	and his authorized repr	esentative (2.2):	
	2.1	and the second s	itec GmbH, Meiendorfe	er Straße 205 A, 2214	5 Hamburg, Germany	
	2.2	/				
3.	This de	claration of co	onformity is issued unde	r the sole responsibility	of the manufacturer.	
4.	Object(s) of the decl	aration:			
	4.1		, PR 6130/3			
	4.2	PR 6130/6	-1279			
5.	The obj	iact(s) of the	declaration described at	ove is in conformity with	h the relevant Union harmoniz	ration legislation
Э.	me obj	certa) or the	(4.1)	(4.2)		actorn registation.
	5.1	2014/30/		(6.1)		
	5.2	2011/65/		(6.2)		
	5.3	2014/34/	EU	(6.3)		
6.	Peferen	cos to the re	levant harmonized stan	dards used or reference	s to the other technical specif	ications in relation t
0.		nity is declare		aaraa aaca or reierence	s to the other technical speci	
	6.1	2014/30/E		13		
	6.2	2011/65/E				
7.	The not	owned a cost to react	performed x and issued x	the certificate y relevan	t for z: y	z
	7.1	0344	EC-Type Examination	Certificate	DEKRA 13ATEX0133 X	(4.2)
			Draduction Quality Acc	essment Notification	PTB 02 ATEX Q010	(4.2)
	7.2	0102	Production Quality Ass		PIB 02 ATEX QUID	
	nebea Inte			Bdt		.AC
	nebea Inte mburg, 11	ec GmbH	<u>p.p</u>	Bdt		Oliver Freitag CE Certification











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