



Radio Transmission



For Touch Probes



For Tool Setting Probes



For Bore Gauges



For Special Measuring Systems

Installation instructions

Type **RC66**

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Translation of the original German document.

The language version of the manufacturer (DE) is relevant for the technical content.

Subject to technical change without notice.

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1. Introduction

Please read and observe these instructions and the other applicable documents!

1.1 Legend – Warnings, marks, symbols



WARNING!

This information indicates a dangerous situation that, if not avoided, may result in death or serious injury.

► ... and shows you how you can avoid it.



CAUTION!

This information indicates a dangerous situation that, if not avoided, may result in mild to medium injury.

► ... and shows you how you can avoid it.

NOTICE

This information warns about an immediate threat of property damage.

► ... and shows you how you can avoid it.

- ✓ The check mark indicates the required preconditions.
- ▷ The white triangle prompts you to carry out an action.
- ⇒ The arrow indicates the consequences of your action.
- (1) ... The number in brackets refers to a respective item in an illustration.
- ① Here you will find additional instructions and tips.
- *, x This character in a file name or similar acts as a place holder for the version level, numbering, etc.



LED is lit.



LED flashes.



LED switched off.



Green



Red



Yellow



Blue



Violet



White



Turquoise



Red-green-blue alternating

1.2 Abbreviations and technical terms

BG	BLUM measuring device – bore gauge.	(BoreGauge)
DIGILOG	BLUM technology – combination of analogue value determination and digital processing.	
MG	BLUM multi-purpose measuring device (pressure, temperature, position).	(MultipurposeGauge)
Probe	General designation of any BLUM measuring device.	
RG	Measurement of surface roughness.	(RoughnessGauge)

2. Safety

2.1 Intended use

The BLUM measuring component RC66 is exclusively developed and intended:

- For use within the machine room of a processing centre.
- For use within the machine room of a milling machine.
- for communication between the wireless measuring device and the interface.
- for use with one or more wireless BLUM measuring devices.
- for use with a BLUM Interface IF20.
- for use with a BLUM Interface IF59.
- for use with the BLUM software *GeKo Programmiertool*.
- for use with the BLUM software *BLUM Bootloader*.
- For installation by trained specialist personnel or a trained BLUM service employee.
- for operation by trained technical personnel.

2.2 Further applicable documents

- Measuring system data sheets (for any measuring devices, receivers, interfaces, extension modules and accessory products involved).
- Measuring system operating instructions (as appropriate: measuring devices involved).
- Measuring system installation instructions (as appropriate: receivers, interfaces, extension modules involved).
- Wiring diagrams *Wiring*.
- Installation instructions *SETUP* (as appropriate: software, technology cycles involved).
- Programming instructions *APPL* (as appropriate: software, technology cycles involved).
- *APPL* instructions (if applicable, associated software – *LC-VISION*, *BLUM Bootloader*, *GeKo programming tool*, etc.).
- Documentation from the component manufacturer (any hardware involved – industrial PC, etc.).
- Documentation of the machine manufacturer.
- Documentation of the control manufacturer.

2.3 General safety instructions



WARNING!

Risk of electric shock due to improper work on live systems.

- ▶ Always de-energise live systems before installation or assembly work.
- ▶ Work on live systems may be carried out by trained electricians only.
- ▶ Always observe the relevant safety regulations.



WARNING!

Danger of accidents due to unpredictable machine contact due to non-functioning safety equipment.

- ▶ Never switch off or bypass the machine's safety equipment (lock, safety door, etc.).

NOTICE

Malfunctions in the measuring system resulting from inadequately shielded cable connection.

- ▶ Always route the connecting cable directly from the receiver to the interface.
- ▶ Only use BLUM extension cables for increased requirements (**BLUM BUS** label).
Maximum cable length = 60 m.
- ▶ Always connect the cable shield to ground.

NOTICE

Damage and malfunctions resulting from improper installation of cables and hoses.

- ▶ Always ensure reliable strain relief.
- ▶ Always observe permitted bending radii.
- ▶ Always ensure reliable protection against flying chips in the working area (protective hose/spring, cover, etc.).
- ▶ Always deburr bushings and provide them with edge protection.
- ▶ Always lay measuring system cables and control lines for motors in separate ducts.

NOTICE

Damage to and malfunction of the measuring system resulting from faulty grounding due to coated DIN rail, etc.

- ▶ Always ensure reliable grounding of the measuring system.

NOTICE

Damage to the measuring components due to improper assembly.

- ▶ Use BLUM original spare parts only.
- ▶ Use the included special BLUM tools wherever appropriate (installation tools, interlocking disc, etc.).
- ▶ Always adhere to the specified tightening torque.

NOTICE

Property damage caused by malfunction due to faulty data.

- ▶ Operate BLUM measuring systems exclusively with BLUM software.
- ▶ Only install BLUM software that has been programmed to match the machine control.
- ▶ Always limit the measurement set overtravel in the BLUM software.
- ▶ Only change the machine settings after consulting with the machine manufacturer or the customer.

NOTICE

Damage to the measurement components due to contact with corrosive liquids.

- ▶ Never use coolant containing solvents (acetone, alcohols, benzines, etc.).
- ▶ Only use coolant with a pH value in the range of 4.5...9.5.
- ▶ Never use cleaning agents containing acetone.
- ▶ Always exercise caution when using cleaning agents containing solvents (alcohols, benzines, etc.) or a high acidic/alkaline pH value – avoid long periods of exposure.
- ▶ Never use abrasive cleaning agents (cleanser, scouring powder, etc.).

3. System overview

3.1 Measuring system

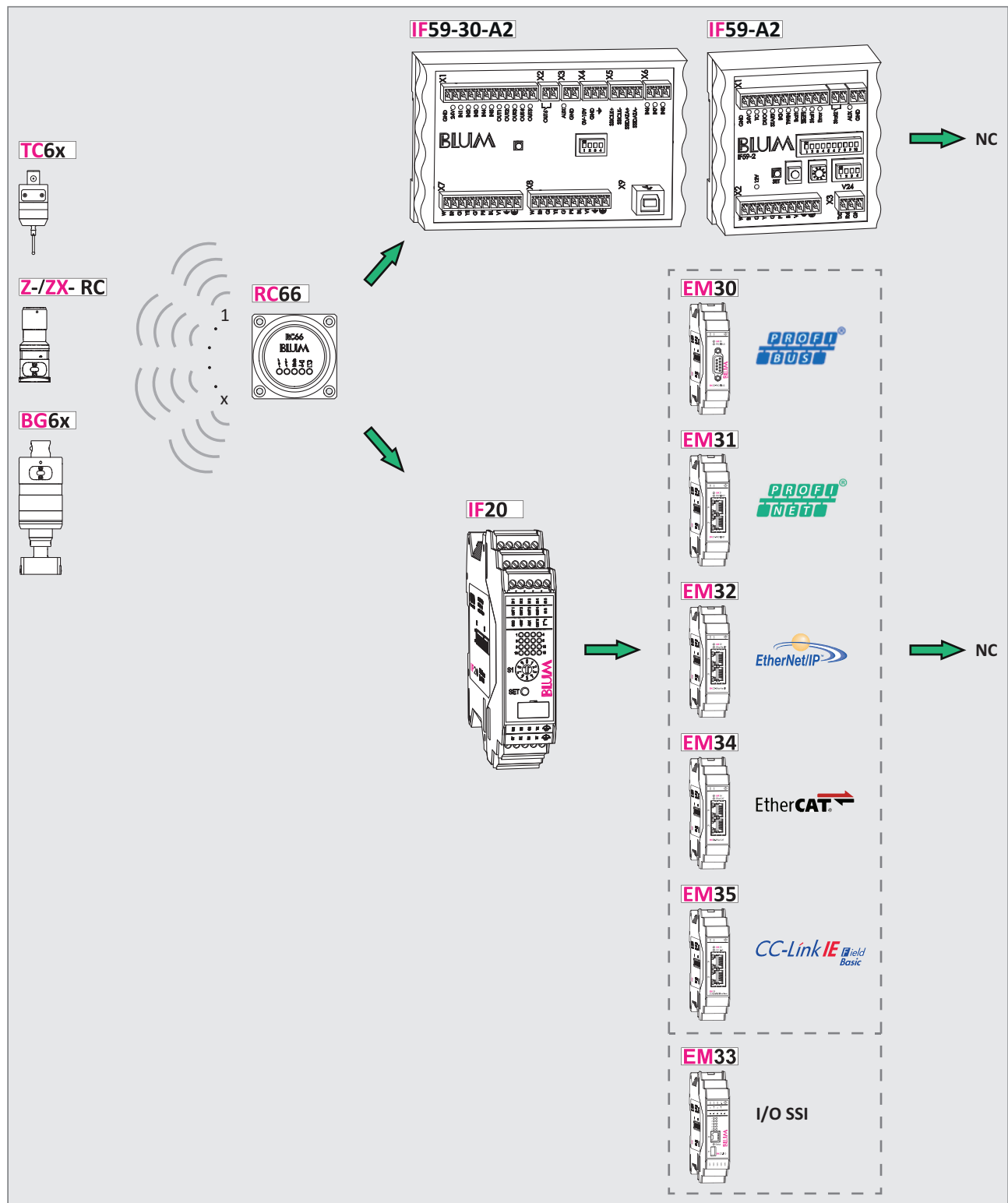


Fig. 3-1 Overview of compatible components (examples).

3.2 Description

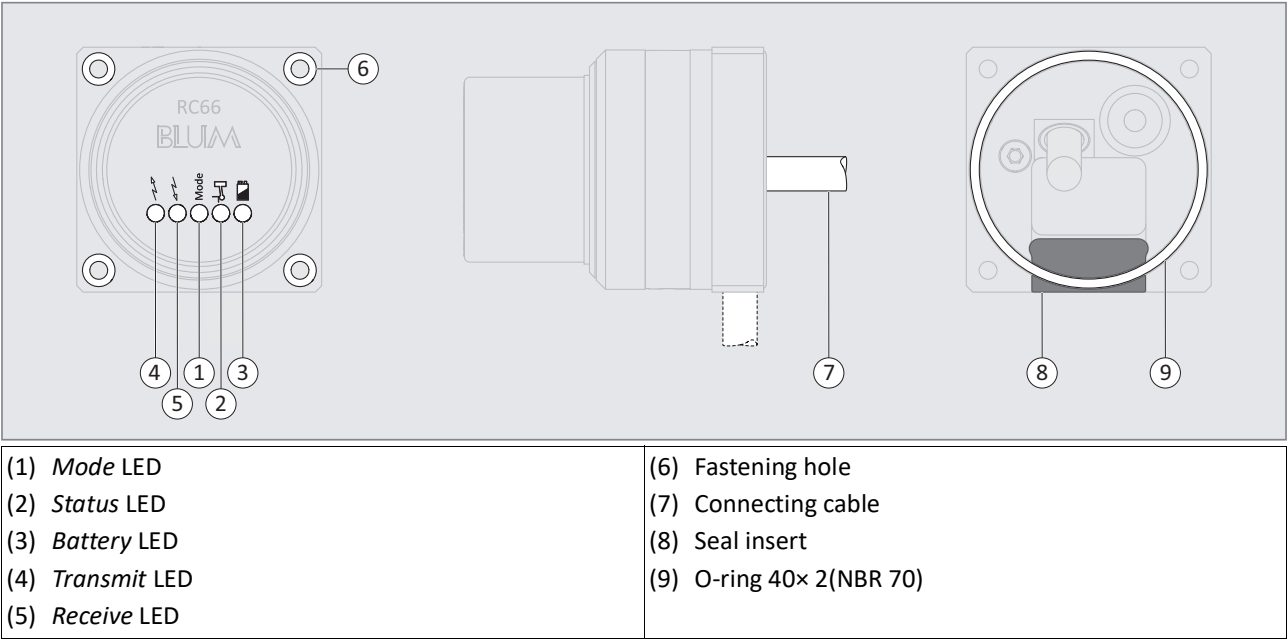


Fig. 3-2 Device description RC66.

3.3 Display elements

Mode LED	
	Standby
	TC, Z-, ZX- – Probe 1
	TC, Z-, ZX- – Probe 2 ... Probe 6
	DIGILOG, RG – Probe 1 ... Probe 6
	BG – Probe 1 ... Probe 16 KOMflex – Probe 1 ... Probe 16
	Pairing
Status LED	
	TC, Z-, ZX- – Measuring device home position. BG – Connection established. KOMflex – Connection established. Pairing successful.
	TC, Z-, ZX- – Measuring device deflected. BG – Collision MG – Collision KOMflex – Connection failed. Pairing unsuccessful.
	TC, Z-, ZX- – Connection interrupted. BG – Connection being established/terminated KOMflex – Connection being established/terminated
	Analogue data
	Pairing not yet performed.

Battery LED

Battery is good.
Pairing successful.



Battery low.
Pairing unsuccessful.



No battery data.



Pairing not yet performed.

Receive LED

Valid data.



Invalid/faulty data.



No data.

Transmit LED

Send data.



Activate/deactivate.

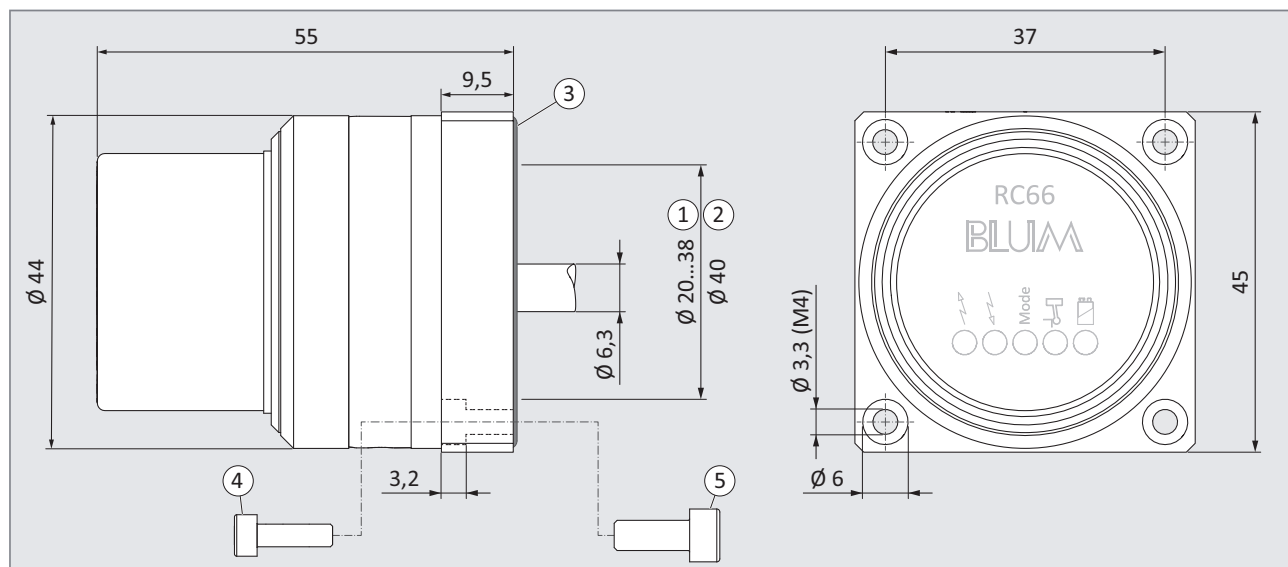


No data.

3.4 Technical data

Protection class	IP68
Operating voltage U_B (stabilised DC voltage)	12 ... 13 V / 100 mA via interface
Signal transmission	Radio
Frequency band	2.4 ... 2.5 GHz
Max. transmission power	0 dBm
Transmission range	15 m – see 3.5 Area of work
Min. bending radius cable	60 mm (application: flexible)
Max. cable length	50 m
Storage temperature	-20 ... +70 °C
Operating temperature	+5 ... +50 °C

3.4.1 Dimensions



(1) Machine wall opening

(2) O-ring 40x 2(NBR 70)

(3) 4x holding screws M3x10 (ISO 4726)

(4) 4x holding screws M4x10 (ISO 4726)

Fig. 3-3 Dimensions [mm] RC66.

3.5 Area of work

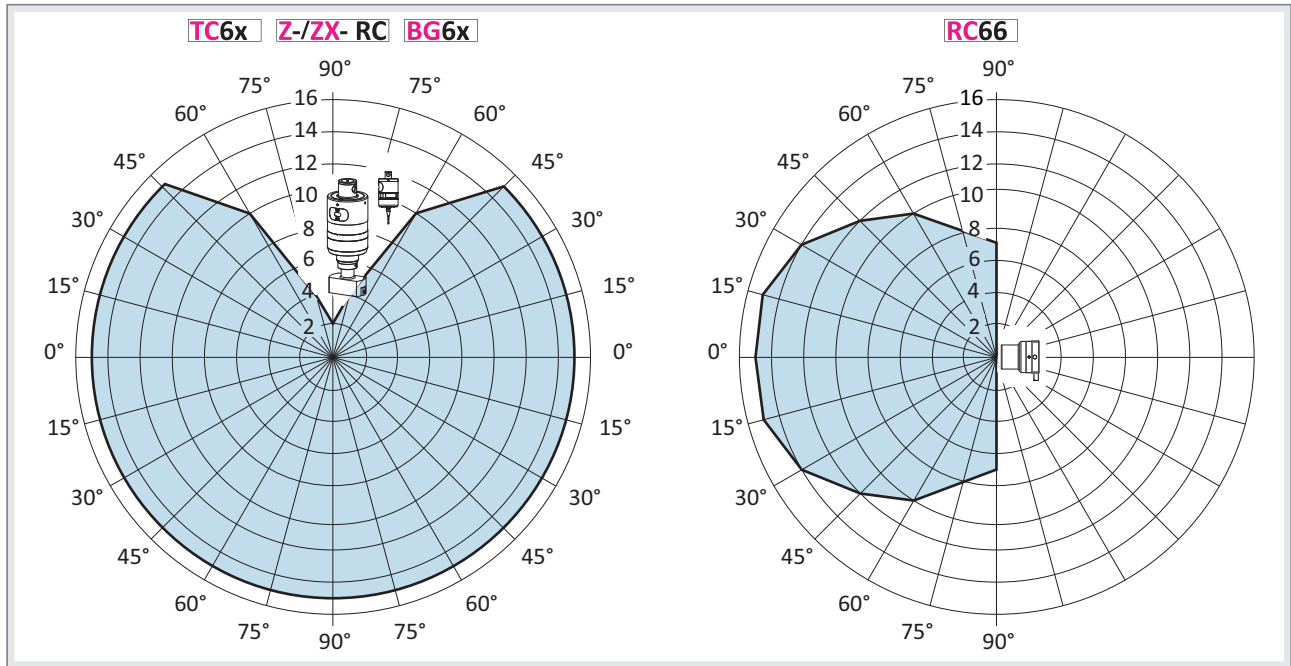


Fig. 3-4 Wireless communication range.

4. Mounting

4.1 Selecting the installation position

- ✓ The installation position has no effect on other machines – see 3.5 *Area of work*.
- ✓ The measuring device is reached – see 3.5 *Area of work*.
- ✓ The receiver is optimally protected against coolant and flying chips.
- ▷ Test the desired installation position before installation.
- ▷ Use the drilling template included.

4.2 Mounting variants

4.2.1 Horizontally facing cable

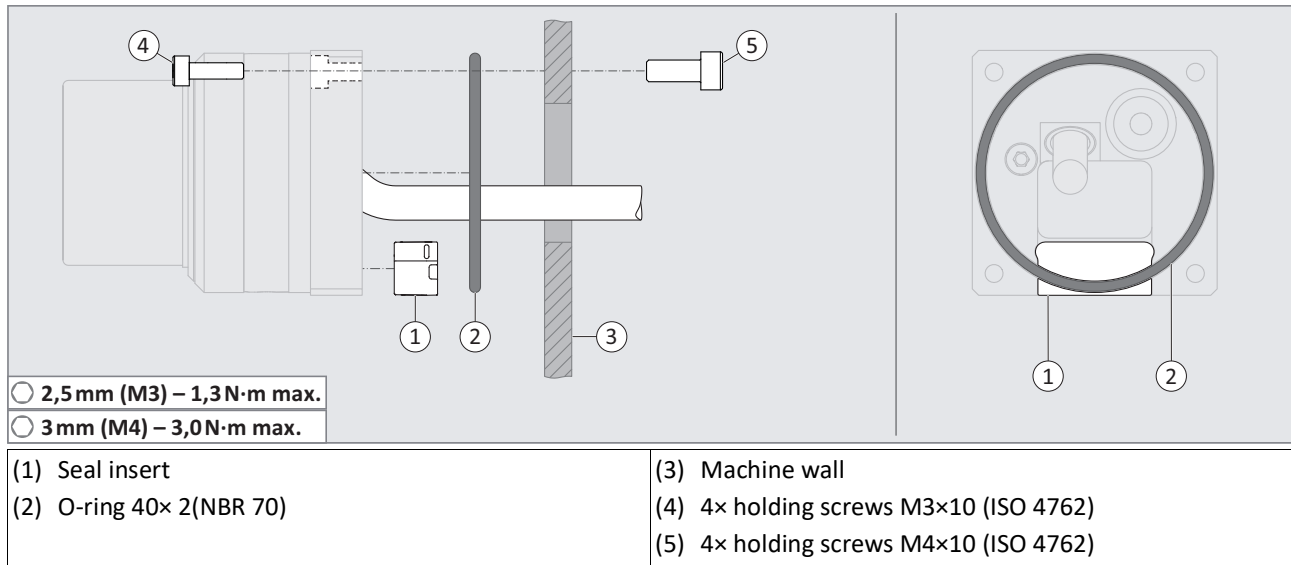


Fig. 4-1 RC66 – Installation with horizontally facing cable.

4.2.2 Cable (outgoing) downward

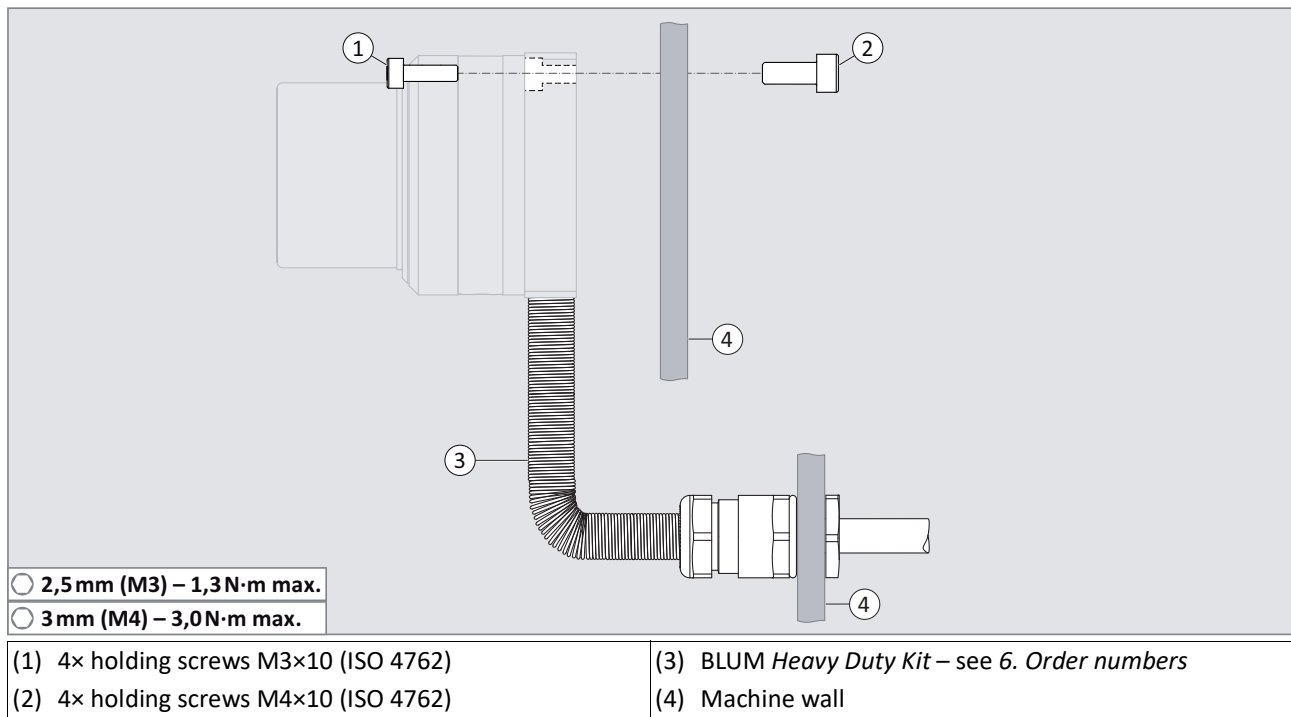


Fig. 4-2 RC66 – Installation with cable facing downward.

4.2.3 Front kit

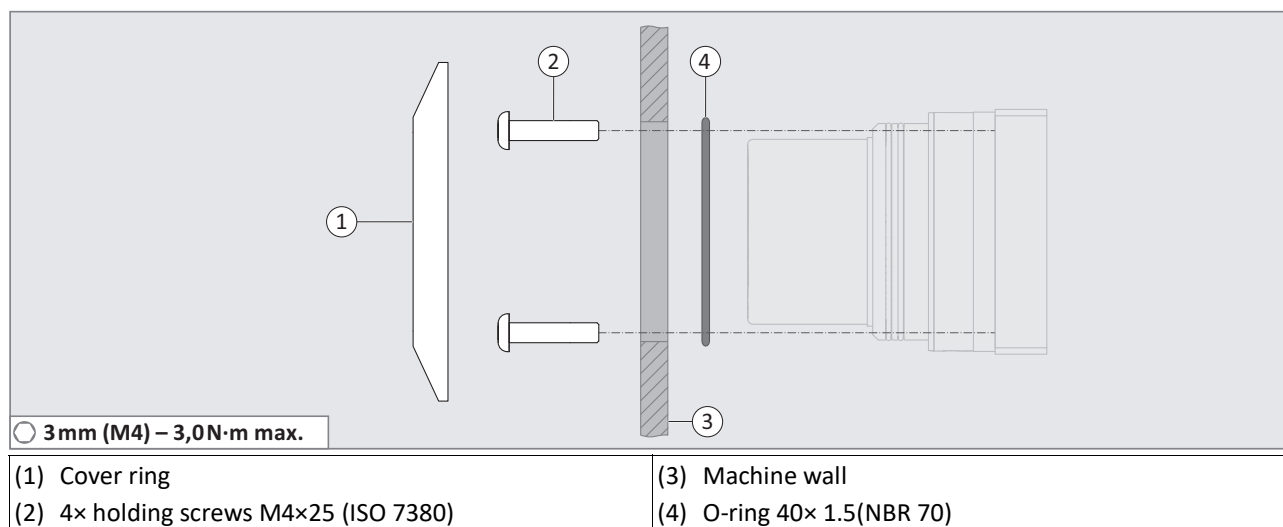


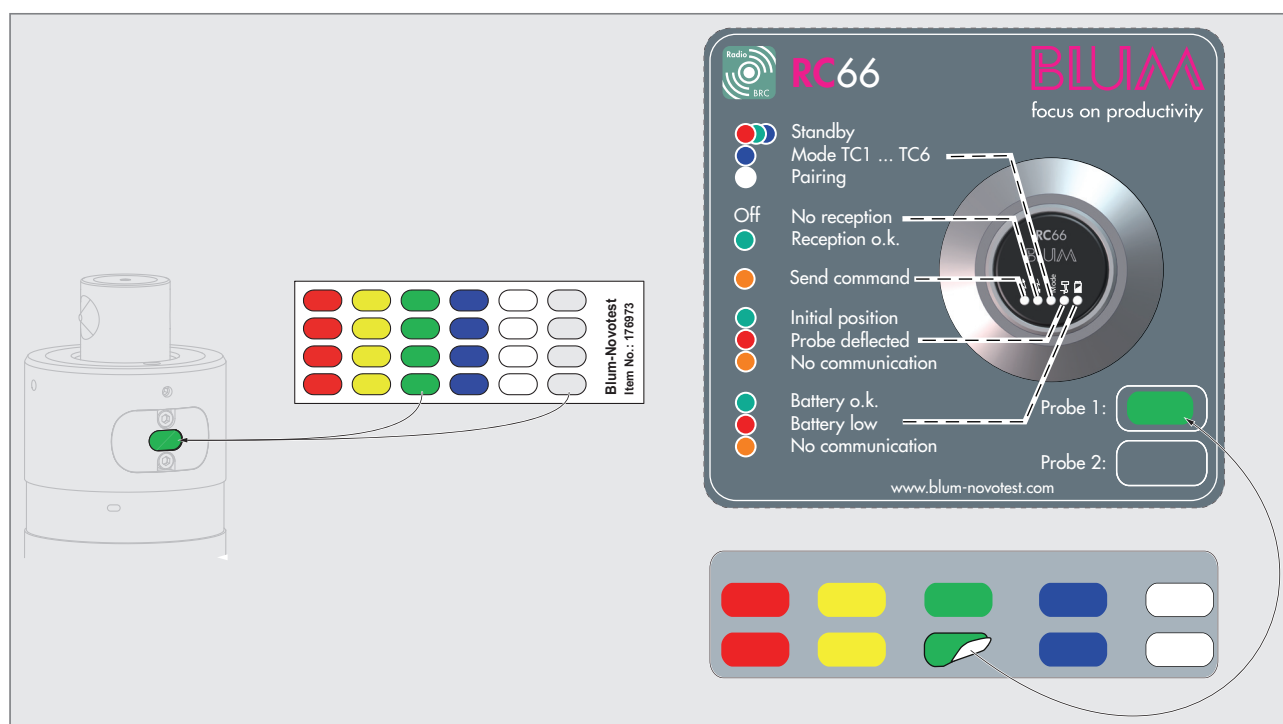
Fig. 4-3 RC66 – Installation with BLUM Front Kit.

4.3 Electrical connection

- ① The electrical connection is described in the installation instructions of the associated interface.

4.4 Device marking

- ① When using different BLUM measuring devices, colour marking of the devices can be helpful to prevent mix-ups. Always use transparent protective adhesive labels as well.



5. Maintenance

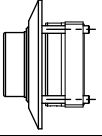
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 - ▶ Only use coolant with a pH value in the range of 4.5...9.5.
 - ▶ Never use cleaning agents containing acetone.
 - ▶ Always exercise caution when using cleaning agents containing solvents (alcohols, benzines, etc.) or a high acidic/alkaline pH value – avoid long periods of exposure.
 - ▶ Never use abrasive cleaning agents (cleanser, scouring powder, etc.).
-
- ▷ Clean the receiver regularly.
 - ▷ Remove chips regularly.

6. Order numbers

Use original parts and accessories by Blum-Novotest only.

Front Kit RC66	143002	
Heavy Duty Kit Protection spring 1m incl. threaded connection For cable	142680	

7. Shipping instructions / storage

NOTICE

Damage to the device caused by improper packaging.

- ▶ Preferably send and store the measuring components in their original packaging.
- ▶ Package the measuring components in such a way that they are protected against impacts and contamination.
- ▶ Ensure that the measuring device is not deflected inside the packaging.

Please complete this repair order, answering all questions in detail, and attach it to the system. It will be more cost effective for both parties if we have all the information and will ensure a prompt repair service.

Blum-Novotest GmbH

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tel +49 751 6008-0, fax +49 751 6008-156

Company:	
Department	
Contact person:	
Address:	
Tel.:	
Fax:	
E-Mail:	
Measuring system type, serial no.:	
Machine type, manufacturer:	

Description of defect:

8. EC Declaration of Conformity

As per the EU Directives:

- 2014/53/EU as amended on 16 April 2014 (Radio Equipment Directive, RED)
- 2011/65/EU as amended on 08 June 2011 (Restriction of Hazardous Substances in Electrical and Electronic Equipment, RoHS), including the delegated directive (EU) 2015/863 as amended on 31 March 2015 (RoHS 3)

We hereby confirm that the components named below satisfy the relevant harmonisation regulations and we declare that we are solely responsible for the issue of this Declaration of Conformity.

The required technical documentation has been prepared. We undertake to send specific information concerning the components to competent offices in individual member states in writing if ordered to do so with good reason. The industrial property rights of Blum-Novotest GmbH will remain unaffected.

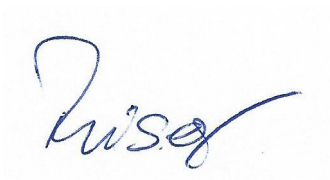
Component name	Radio receiver
	RC66

Applied regulations and standards:

EC regulations:	2014/53/EU
	2011/65/EU (additionally 2015/863/EU)
Applied harmonised standards:	EN 62368-1:2014/AC:2015/A11:2017
	EN 300 328 V2.2.2:2019-07
	EN 301 489-17 V3.2.4:2020
	EN 301 489-1 V2.2.3:2019

Authorised representative for technical information:	Blum-Novotest GmbH
	Kaufstraße 14
	88287 Grünkraut, Germany

Grünkraut, 18/08/2021



Wolfgang Reiser – Technical Manager Measuring Components

9. Radio approval

- ① The label indicating the radio approval is attached to the device or included as a sticker – in this case, attach the correct sticker to the device.

The device is compliant with standard IEEE 802.15.4a.

European Union:		– see 8. EC Declaration of Conformity		
Eurasian Economic Union:				
Japan:		“This device has been granted a designation number by Ministry of Internal Affairs and Communications under „Ordinance concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment (特定無線設備の技術基準適合証明等に関する規則)” Article 2-1-19.		
USA:		This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.		
Canada:		This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device. Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes: (1) Cet appareil ne doit pas causer d'interférences. (2) Cet appareil doit accepter toutes les interférences, y compris celles susceptibles de provoquer un fonctionnement indésirable de l'appareil.		
Taiwan:		Article 12 Without permission, any company, firm or user shall not alter the frequency, increase the power, or change the characteristics and functions of the original design of the certified lower power frequency electric machinery. Article 14 The application of low power frequency electric machineries shall not affect the navigation safety nor interfere a legal communication, if an interference is found, the service will be suspended until improvement is made and the interference no longer exists.		
Brazil:		TC60: 	TC62: 	RC66: 
Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.				
China:				
Republic of Korea:				

10. Service

Head office

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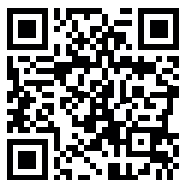
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