

Instruction handbook

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be in motion **be in motion**



b maXX 5000

Coupler modules

BM5-O-CDC DC link

BM5-O-CSB Signal bus

E 5.13033.01

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1

GENERAL

1.1 Information on this Instruction handbook

The Instruction handbook **Coupler modules CDC and CSB** is an addition to the Instruction handbooks **b maXX 3000**, **b maXX 4000**, **b maXX 5000** or **b maXX 5500**.

The basic prerequisite for safe working is compliance with all the safety and handling instructions stated in the Instruction handbooks mentioned above.

Additionally, the valid accident prevention regulations and general safety regulations applicable to the scope of application the device must be complied with.

Read this Instruction handbook and the Instruction handbooks of the coupled devices **b maXX 3000**, **b maXX 4000**, **b maXX 5000** or **b maXX 5500** particularly the safety notes chapter, completely before beginning any work on the device. This Instruction handbook is part of the product and must be kept accessible to personnel at all times in the immediate vicinity of the device.

1.2 Key to symbols

Warning notes

Warning notes are identified by symbols in this Instruction handbook. The notes are introduced by signal words that express the extent of the danger.

It is imperative that these notes be complied with and are conscientiously regarded in order to prevent accidents, personal injury and material damage.



DANGER!

...this indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING!

...this indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION!

...this indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



NOTICE!

...indicates a hazardous situation which, if not avoided, may cause material damage.

Recommendations



NOTE!

...highlights useful hints and recommendations, as well as information for the efficient and trouble-free use.

1.3 Limitation of liability

All specifications and notes in these instruction handbook were compiled taking into account the applicable standards and regulations, the state of the art and our knowledge and experience of many years.

The manufacturer assumes no liability for damages due to:

- non-compliance with the instruction handbook
- usage for other than the intended purpose
- usage by untrained personnel

The actual scope of delivery can vary in case of optional equipment, laying claim to additional order options, or on account of the latest technical changes to the explanations and representations described herein.

The user bears the responsibility for performing service and initial operation in accordance with the safety regulations of the applicable standards and all other relevant governmental or local regulations concerning the dimensioning and protection of conductors, grounding, disconnectors, overcurrent protection, etc.

The person who carried out the mounting or installation is liable for any damage incurred when assembling or connecting the device.

1.4 Copyright protection

The instruction handbook must be treated confidentially. It is to be used exclusively by personnel who work with the device. The consignment of the instruction handbook to third persons without the written permission of the manufacturer is prohibited.

**NOTE!**

The specific contents, text, drawings, images and other representations are copyrighted and subject to industrial property rights. Any prohibited usage is punishable by law.

1.5 Other applicable documents

Components of other manufacturers are integrated into the device. For these purchased parts, hazard assessments have been performed by the respective manufacturers. The compliance of the design construction with the applicable European and national regulations has been declared for the components by the respective manufacturers.

1.6 Spare parts



WARNING!

False or flawed spare parts can lead to damage, malfunction or complete failure, thus endangering safety.

Therefore:

- Only use original spare parts of the manufacturer.

Procure spare parts through an authorized dealer or directly from the manufacturer.

1.7 Disposal

Insofar as no take-back or disposal agreement has been made, please disassemble units correctly and properly recycle the constituent parts.

See also **b maXX 5000** 5.12008, chapter Disposal.

1.8 Guarantee provisions

The guarantee provisions are stated in a separate document of the sales documents.

The devices described herein may only be operated in accordance with the stipulated methods, procedures and conditions. Anything else not presented here, including the operation of devices in mounted positions, is not permitted and must be cleared with the plant on a case-by-case basis. If the devices are operated in any other manner than as described within this Instruction handbook, then all guarantee and warranty rights are rendered null and void.

1.9 Customer service

Our customer service is available to provide you with technical information.

Info on the responsible contact persons is available at all times via telephone, fax, mail or the Internet.

1.10 Used terms

In this handbook the term „Coupler module DC link CDC“ or „Coupler module Signal bus CSB“ is used for the Baumüller product „BM5-O-CDC-000“ or „BM5-O-CSB-000“. A list of the abbreviations used can be found in **b maXX 5000**, Appendix A: Abbreviations.

1.11 List of associated documentations

Instruction handbook

	Doc No.	Part No. German	Part No. English
Instruction handbook b maXX 3000	5.11018	441838	441839
Instruction handbook b maXX 4000	5.12008	444495	444496
Instruction handbook b maXX 5000	5.09021	439682	439683
Instruction handbook b maXX 5500	5.13008	446683	446684

Instruction handbook Coupler module

	Doc No.	Part No. German	Part No. English
Instruction handbook Coupler module CDC and CSB	5.13033	456699	456700

2

SAFETY

This section provides an overview of all of the important safety aspects for optimum protection of personnel as well as for the safe and problem-free operation.

2.1 Contents of the Instruction handbook

Each person who is tasked with performing work on or with the device must have read and understood this Instruction handbook and the Instruction handbooks of the coupled devices **b maXX 3000**, **b maXX 4000**, **b maXX 5000** or **b maXX 5500** before working with the device. This also applies if the person involved with this kind of device or a similar one, or has been trained by the manufacturer.

2.2 Changes and modifications to the device

In order to prevent hazards and to ensure optimum performance, no changes, additions or modifications may be undertaken on the device that have not been explicitly approved by the manufacturer.

2.3 Usage, compliant with the intended purpose

2.3 Usage, compliant with the intended purpose

A **Coupler module** is considered as being used compliant with its intended purpose if all notes and information of these Instruction handbook and the Instruction handbooks of the coupled devices **b maXX 3000**, **b maXX 4000**, **b maXX 5000** or **b maXX 5500** are adhered to.



Danger arising from usage for an unintended purpose!

Any usage that goes beyond the intended purpose and/or any non-compliant use of the device can lead to dangerous situations.

Therefore:

- Only use the **Coupler module** compliant with its intended purpose.
- The **Coupler module CDC** must be mounted on a **b maXX 5000** always (see [►Mounting and Installation◄](#) from page 27).
- The **Coupler module CSB** must be mounted on a well earthed DIN rail on the back side of the switching cabinet (see [►Mounting and Installation◄](#) from page 27).
- Observe all specifications of these Instruction handbook and the Instruction handbooks of the coupled devices **b maXX 3000**, **b maXX 4000**, **b maXX 5000** or **b maXX 5500**.
- Ensure that only qualified personnel work with/on the **Coupler module CDC** or **CSB**.
- When configuring, ensure that the coupled devices **b maXX 3000**, **b maXX 4000**, **b maXX 5000** or **b maXX 5500** are always operated within its specifications.
- The **Coupler module CDC** or **CSB** may only be operated in a technically flawless condition.

2.4 Responsibility of the operating company

The **Coupler module CDC** or **CSB** is used in commercial areas. Thus, the proprietor of the device is subject to the legal work safety regulations.

Along with the notes on work safety in these Instruction handbook and the Instruction handbook of the coupled devices **b maXX 3000**, **b maXX 4000**, **b maXX 5000** or **b maXX 5500**, the safety, accident prevention and environmental protection regulations valid for the area of application of this device must be complied with. Whereby:

- The operating company must inform himself about the applicable work health and safety regulations and ascertain, in a hazard assessment, any additional hazards that could arise from the special working conditions in the use area of the device. These must then be implemented in the form of instruction handbook for operation of the device.
- All Instruction handbooks must be kept accessible to personnel working with the device at all times in the immediate vicinity of the device.
- The specifications of the instruction handbook must be adhered to completely and without exception.
- The device may only be operated in a technically faultless and operationally safe condition.

2.5 Training of the personnel

**WARNING!****Risk of injury due to insufficient qualifications!**

Improper handling can lead to significant personal injury and material damage.

Therefore:

- Certain activities can only be performed by the persons stated in the respective chapters of these instruction handbook.

In these instruction handbook, the following qualifications are stipulated for various areas of activity:

- **Operating personnel**

- The drive system may only be operated by persons who have been specially trained, familiarized and authorized.
- Troubleshooting, maintenance, cleaning, maintenance and replacement may only be performed by trained or familiarized personnel. These persons must be familiar with the instruction handbook and act accordingly.
- Initial operation and familiarization may only be performed by qualified personnel.

- **Qualified personnel**

- Electrical engineers authorized by Baumüller Nürnberg GmbH, and qualified electricians of the customer or a third party who have learned to install and maintain Baumüller drive systems and are authorized to ground and identify electrical power circuits and devices in accordance with the safety engineering standards of the company.
- Qualified personnel have had occupational training or instruction in accordance with the respective locally applicable safety engineering standards for the upkeep and use of appropriate safety equipment.

2.6 Special hazards

In the following section, the remaining marginal risks will be stated that have been identified as a result of the hazard analysis.

Observe the safety notes listed here and the warning notes in the further chapters of this instruction handbook to reduce health risks and dangerous situations.

Electrical current



DANGER!

Risk of fatal injury from electrical current!

There is an immediate risk of fatal injury if live electrical parts are contacted. Damage to the insulation or individual components can be life-threatening.

Therefore:

- Switch off the electrical power immediately in case of damage to the power supply insulation.
- Only allow work on the electrical system to be performed by qualified personnel.
- Switch off the current when any kind of work is being performed on the electrical system and ensure safety before switching on again.

Danger from residual energy



DANGER!

Risk of fatal injury from electrical current!

Stored electric charge.

Discharge time of the rack system = discharge time of the device with the longest DC link discharge time in the rack system.

Refer to the Instruction handbooks of the coupled devices **b maXX 3000**, **b maXX 4000**, **b maXX 5000** or **b maXX 5500**, chapter Electrical data.

Therefore:

- Do not touch electrically live parts before taking into account the discharge time of the capacitors.
- Pay attention to the corresponding notes on the device.
- If additional capacitors are connected to the DC link, the DC link discharge can take a much longer time. In this case, the necessary waiting period must itself be determined or a measurement made as to whether the equipment is de-energized. This discharge time must be posted, together with an IEC 60417-5036 (2002-10) warning symbol, on a clearly visible location of the control cabinet.

2.7 Conduct in case of danger or accidents

- Preventive measures**
- Always be prepared for accidents or fire!
 - Keep first-aid equipment (e.g. first-aid kits, blankets, etc.) and fire extinguishers readily accessible.
 - Familiarize personnel with accident alarm, first aid and rescue equipment.

- And if something does happen: respond properly.**
- Stop operation of the device immediately with an EMERGENCY Stop.
 - Initiate first aid measures.
 - Evacuate persons from the danger zone.
 - Notify the responsible persons at the scene of operations.
 - Alarm medical personnel and/or the fire department.
 - Keep access routes clear for rescue vehicles.

2.8 Signs and labels

The following symbols and information signs are located in the working area. They refer to the immediate vicinity in which they are affixed.



WARNING!

Risk of injury due to illegible symbols!

Over the course of time, stickers and symbols on the device can become dirty or otherwise unrecognizable.

Therefore:


- Maintain all safety, warning and operating labels on the device in easily readable condition.



Electrical voltage

Only qualified personnel may work in work areas that identified with this.

Unauthorized persons may not touch working materials marked correspondingly.

	<p>DANGER! Risk of fatal injury from electrical current! See also ▶Danger from residual energy◀ on page 14</p>
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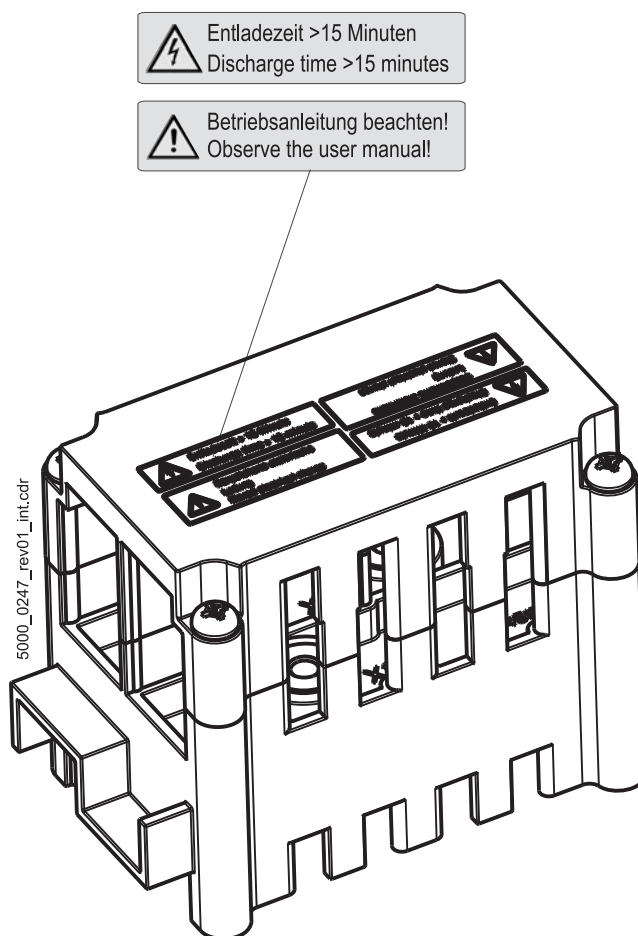


Figure 1: Labels Coupler module CDC

TECHNICAL DATA

3.1 Dimensions

3.1.1 Dimensions Coupler module DC link CDC

The following drawings show the main dimensions of the devices in millimeters [mm]. The space requirements in the control cabinet are also determined based on these drawings.

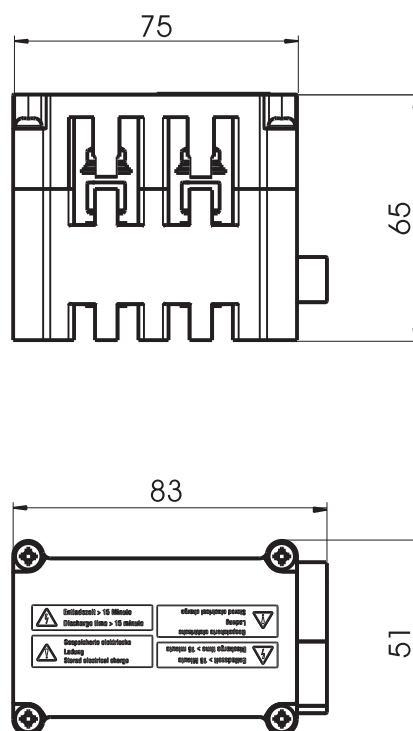


Figure 2: Dimensions CDC

3.1 Dimensions

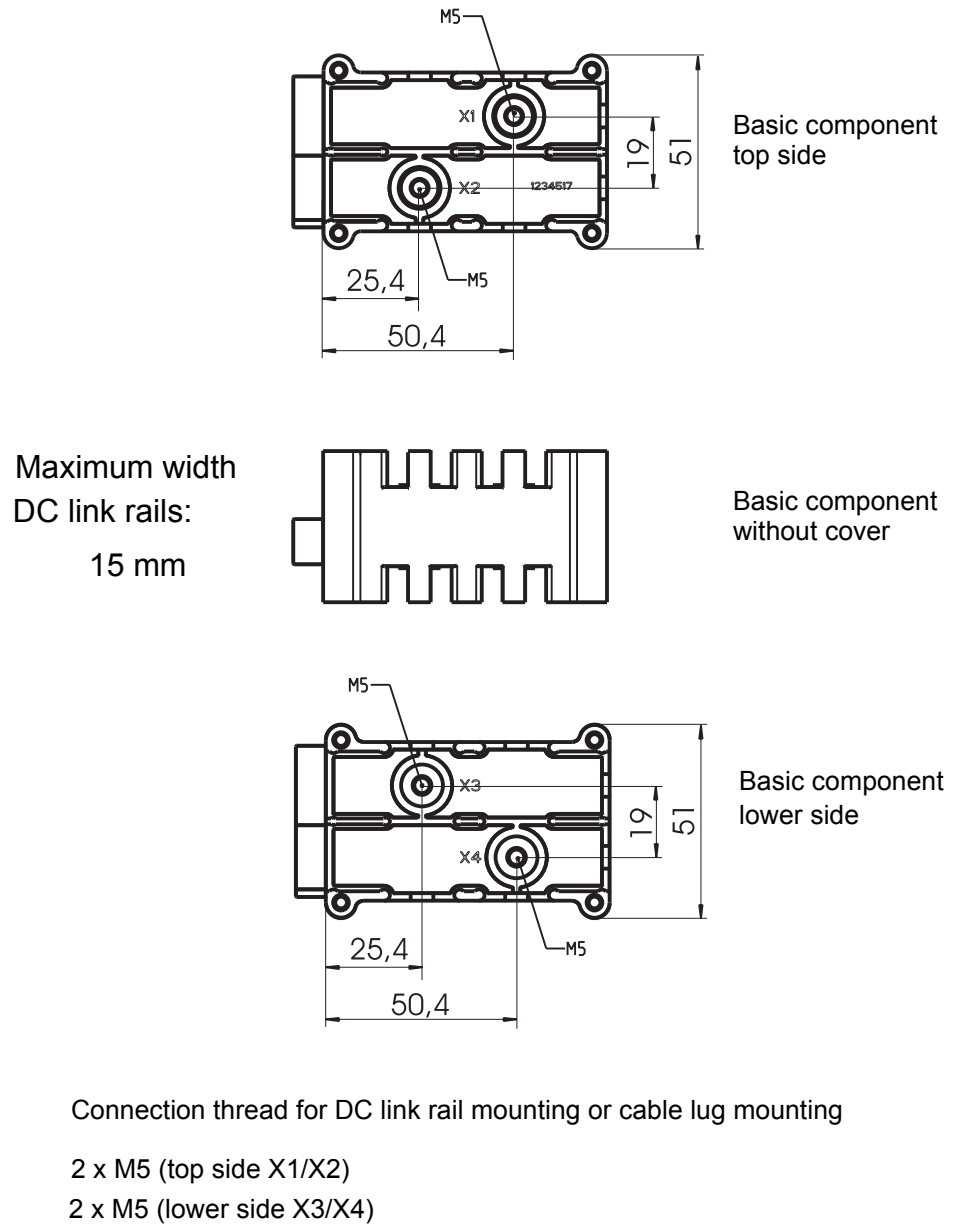


Figure 3: Dimensions basic component CDC

3.1.2 Dimensions Coupler module Signal bus CSB

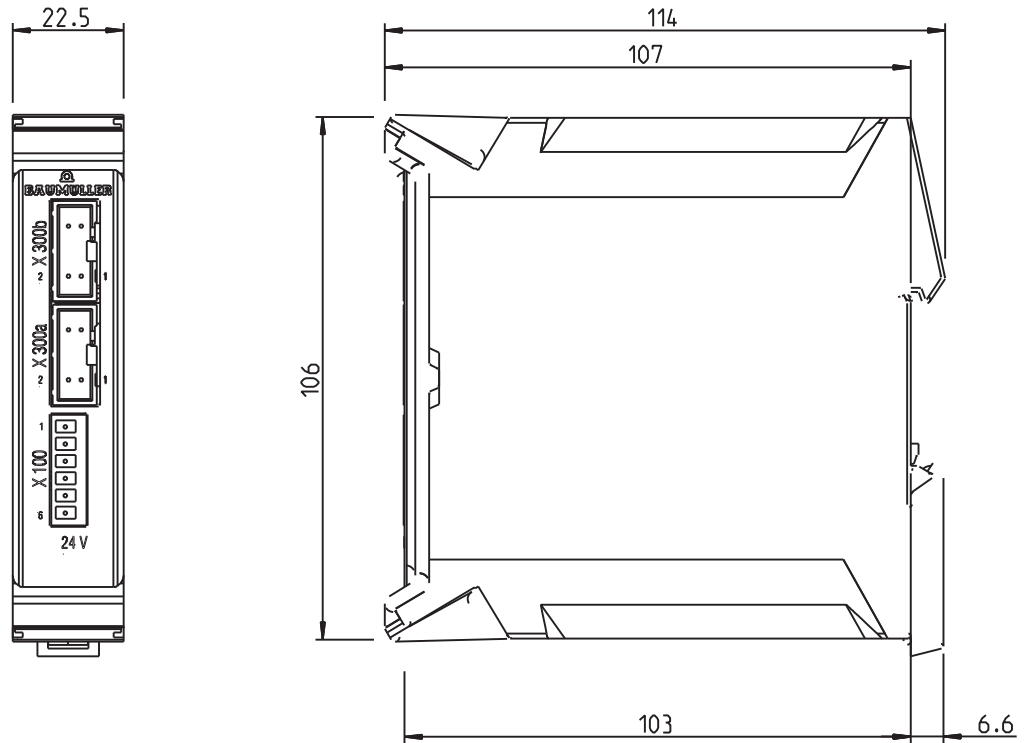


Figure 4: Dimensions CSB

3.2 Operating conditions

3.2 Operating conditions

The operating conditions are valid of the **b maXX 5000**.

Transport temperature range	- 25 °C to + 70 °C
Transport climate class (K) EN 60721-3-2	2 K 3
Storage temperature range	- 25 °C to + 55 °C
Storage climate class EN 60721-3-1	1 K 4



NOTICE!

Normally only a non-conductive dirt buildup occurs. Any conductive dirt buildup, whether short-term or permanent, is prohibited and could lead to destruction of the device. The customer is responsible for destruction resulting from dirt buildup of conductive materials or matter.

3.3 Electrical data

Coupler module DC link CDC

Maximum load DC link connection ¹⁾	130 A
IP Code, type of protection	IP10

¹⁾ Make sure when selecting the connected devices that the maximum load of the Coupler module CDC is not exceeded.

Coupler module Signal bus CSB

IP Code, type of protection	IP20
-----------------------------	------

DESIGN AND OPERATION

4.1 Design

The **b maXX 5000** series consists of an (active) mains rectifier unit and one or more axis units. The possible number of axis units depends on the connected load of the DC link of the mains rectifier unit or is limited by the signal bus to a maximum of 12 axis units.

**NOTE!**

Proper operation of the **b maXX axis units** can only be ensured with Baumüller **mains rectifier units** or **basic units**.

The **Coupler module DC link CDC** connects

- a mains rectifier/axis unit **b maXX 5000** with one or several axis units **b maXX 5000** below via a DC link rail,

or

- an axis unit **b maXX 5000** with a basic unit **b maXX 4000/b maXX 5000/b maXX 5500** via a DC link connection consisting of a cable lug and a cable,

or

- a mains rectifier **b maXX 5000** with an axis unit **b maXX 3000/b maXX 4000/b maXX 5000** via a DC link connection consisting of a cable lug and a cable.

The **Coupler module signal bus CSB** connects

- the Power supply on bus of the **b maXX 4000** with the signal bus of a **b maXX 3000/b maXX 5000/b maXX 5500**.

4.2 Identification of the device

Coupler module DC link CDC

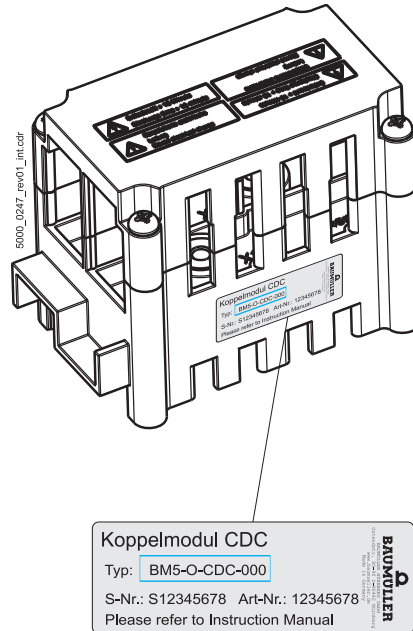


Figure 5: Affixing of the type plate Coupler module DC link CDC

Coupler module Signal bus CSB

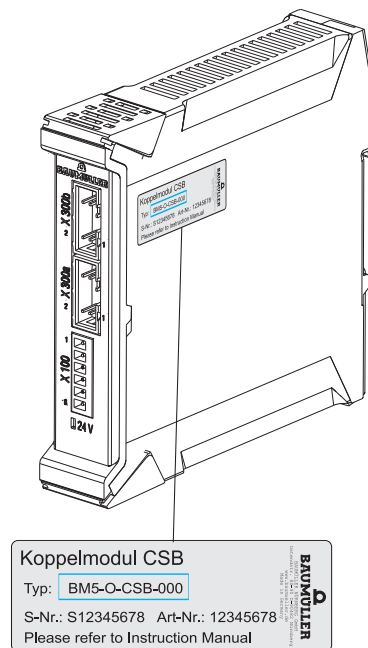


Figure 6: Affixing of the type plate Coupler module Signal bus CSB

4.2.1 Type code

Coupler module DC link CDC

The type code has the format: BM5-O-CDC-000.

<u>BM5</u> -O-CDC-000	Device generation b maXX 5000
BM5- <u>O</u> -CDC-000	Option module
BM5-O- <u>CDC</u> -000	Coupler module DC link
BM5-O-CDC- <u>000</u>	Design

Coupler module Signal bus CSB

The type code has the format: BM5-O-CSB-000.

<u>BM5</u> -O-CSB-000	Device generation b maXX 5000
BM5- <u>O</u> -CSB-000	Option module
BM5-O- <u>CSB</u> -000	Coupler module Signal bus
BM5-O-CSB- <u>000</u>	Design

4.3 Display and operating elements

**Coupler module
DC link CDC** No display and operating elements

**Coupler module
Signal bus CSB** LED 24 V ready

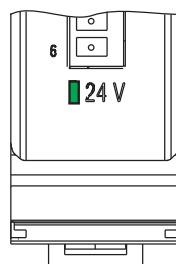


Figure 7: LED Coupler module Signal bus CSB

- lights green, if 24 V power supply is available
- Power consumption max. 1 A

TRANSPORT AND PACKAGING

5.1 What to observe when transporting

For initial transport of the device, it is packed at the manufacturer's plant. If the device is to be further transported, ensure that the following conditions are met throughout the entire transport:

- Climate class 2 K 3 as per EN 60721-3-2
- Temperature range - 30 °C up to + 70 °C
- Vibration, shock, continuous shock class 2 M 1 as per EN 60721-3-2

5.2 Transport inspection

Upon receiving the delivered goods, immediately examine them for completeness and transport damage.

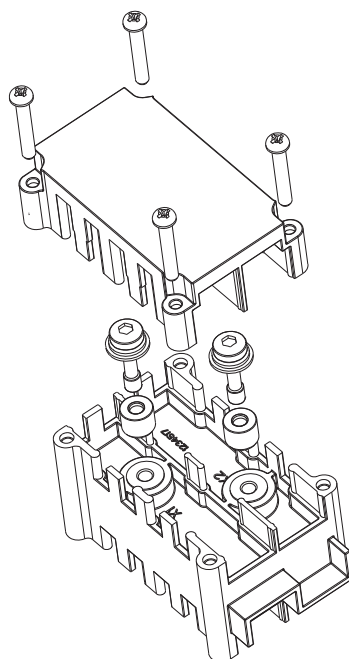


Figure 8: Scope of supply Coupler module DC link CDC

5.3 Unpacking

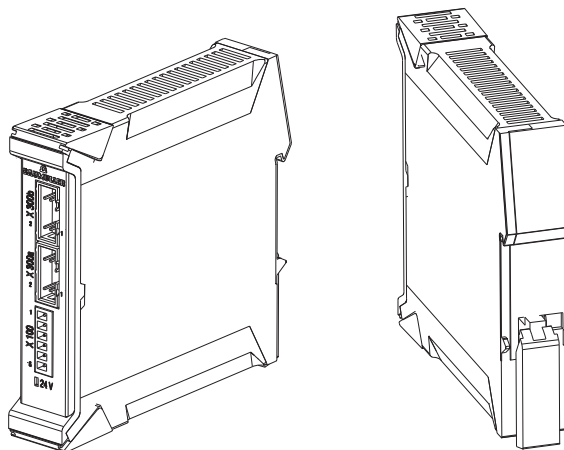


Figure 9: Scope of supply Coupler module Signal bus CSB

If there is outwardly visible transport damage, proceed as follows:

- Do not accept the delivery or conditionally accept it with reservations.
- Note the extent of the damage on the transport documents or on the delivery note of the transport agent.
- Immediately file a complaint with the freight carrier. Have the complaint confirmed in writing and immediately contact the responsible representative of Baumüller Nürnberg GmbH.



NOTE!

The device may not be operated if there is visible transport damage!

5.3 Unpacking

If no transport damage is visible:

- Open the packaging of the device.
- Verify the delivery scope based on the delivery note.

File a claim with the responsible Baumüller representative if the delivery is incomplete.



NOTE!

Claim each individual deficiency as soon as it has been detected. Damage claims can only be validly asserted within the claim registration period.

5.4 Disposal of the packaging

- When disposing of the packaging, comply with the national regulations valid.

MOUNTING AND INSTALLATION

This chapter describes the installation of the **Coupler modules CDC and CSB**.

6.1 Safety notes



DANGER!

Risk of fatal injury from electrical current!

There is an immediate risk of fatal injury if live electrical parts are contacted.

Therefore:

- Switch off the current when any kind of work is being performed on the electrical system and ensure safety before switching on again.
- Pay attention to the corresponding notes on the equipment.
- Do not touch electrically live parts before taking into account the discharge time of the capacitors.



WARNING!

Danger due to faulty installation and initial commissioning!

Installation and initial commissioning require qualified personnel with adequate experience. Faulty installation can lead to life-threatening situations or substantial material damage.

Therefore:

- Only allow installation and initial commissioning to be performed by employees of the manufacturer or by other qualified personnel.

6.2 Requirements on the electrical connection

6.2 Requirements on the electrical connection

To fulfill the standard EN 60 204-1 (Electrical equipment of machines) the cables recommended there must be used. The connectors may not become loose - because of the danger of short-circuits, external voltages etc.



NOTICE!

The danger is: **electrical voltage**

- 1 Make sure, the specified supply data to be found in technical data are complied with and the connections are made according the specifications.
- 2 Avoid short-circuits



NOTE!

Please, observe an EMC-compatible laying of the connection cables, see Instruction handbook **b maXX 5000**, chapter [Installation requirements with regard to EMC](#).

6.3 IP Code

IP Code	
Coupler module CDC	IP 10
Coupler module CSB	IP 20



DANGER!

Risk of fatal injury from electrical current!

There is an immediate risk of fatal injury if live electrical parts are contacted.

Therefore:

- The device must be in operated inside of a control cabinet that provides protection against direct contact of the devices and at least meets the requirements of EN 61800-5-1, Chapter 4.2.3.3.

6.4 Mounting and installation Coupler module DC link CDC



DANGER!

Risk of fatal injury from electrical current!

Electrically live parts are life-threatening.

Therefore:

- Make certain that the parts to be mounted (e.g. mains cables) and the mounting areas are de-energized for the entire duration of mounting the device.

- Route all cables in an EMC-compatible manner.
- Connect DC link rail/cables.
(Observe the permissible torques!)

Torque neck collar screw: min. 2.2 Nm
max. 3.0 Nm

- For all connections, attention is to be paid to strain relief

6.4.1 Mounting of the DC link rail on a b maXX 5000

Observe the following items when mounting the DC link rail:

- Position of the chamber-bevel (detail Y) on bottom
Position of the screw thread (detail Z) on top.
The correct mounting of the distance bushings makes it easier to disassemble the unit in case of service and ensures the captivity of the distance bushings.
- Neck collar screw (1)
- DC link rail (2)
- Distance bushing (3)
- b maXX 5000 DC link terminal (4)

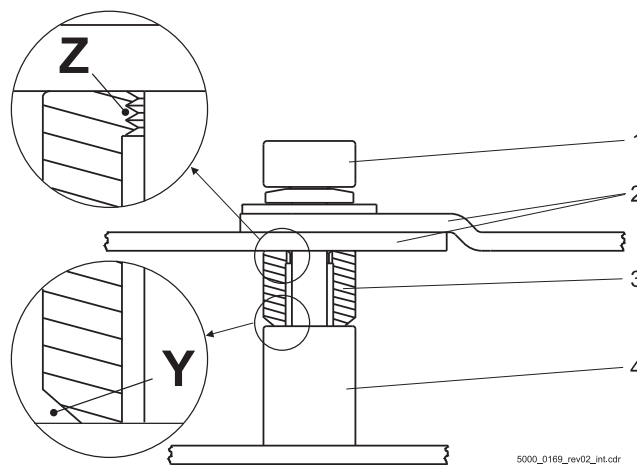


Figure 10: Correctly mounted DC link rail

6.4 Mounting and installation Coupler module DC link CDC

- Distance bushing and neck collar screw
It is recommended to assemble the neck collar screw and the distance bushing to the DC link rail before mounting the DC link rail. The correctly mounting of the distance bushings makes it easier to disassemble the unit in case of service and ensures the captivity of the distance bushings.

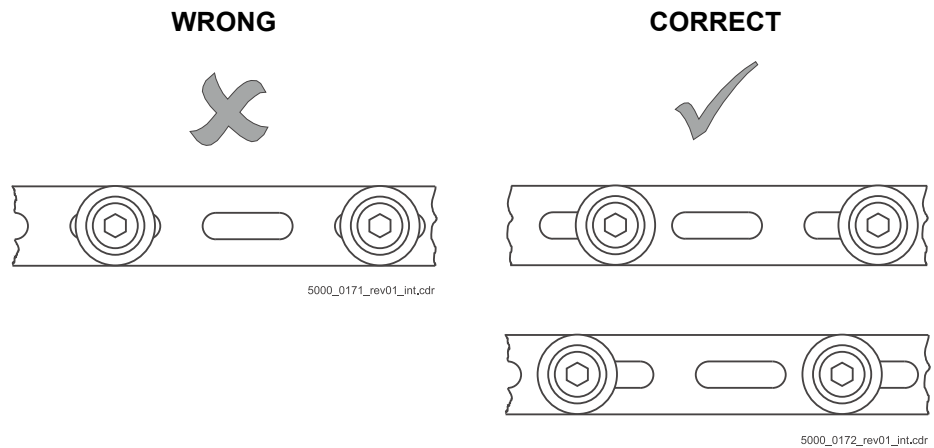


Figure 11: Mounting of the neck collar screw

- DC link rail
Observe the correct mounting of the DC link rail. There should no mechanical stress affect to the drill hole.

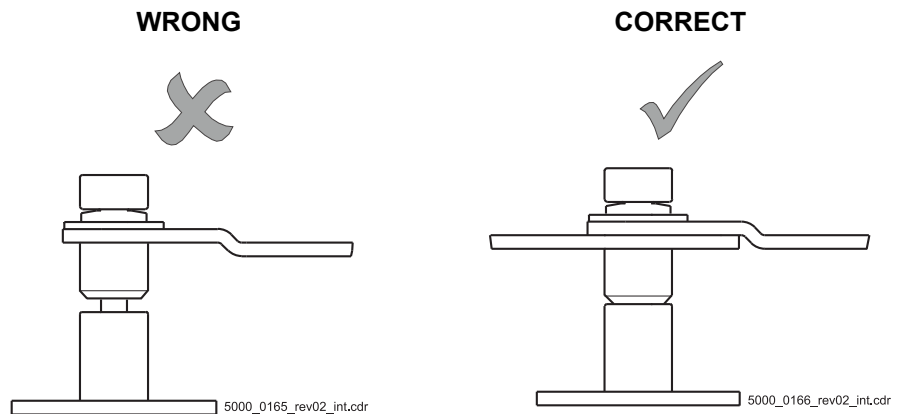


Figure 12: Mounting of the DC link rail



NOTE!

When using a Coupler module CDC a maximum excess length from the end of the DC link rail to the **b maXX 5000** side of 60 to 70 mm is permitted. The DC link rail must not be outside the Coupler module CDC.

6.4.2 Connection types Coupler module CDC

The Coupler module CDC can be used for different connection types.



NOTE!

The Coupler module CDC must be installed via DC link rails directly beside a **b maXX 5000** ▶[Connection b maXX 5000 with b maXX 5000 via DC link rail](#)◀ from page 35 or ▶[Connection b maXX 5000 via cable lug and cable](#)◀ from page 39.

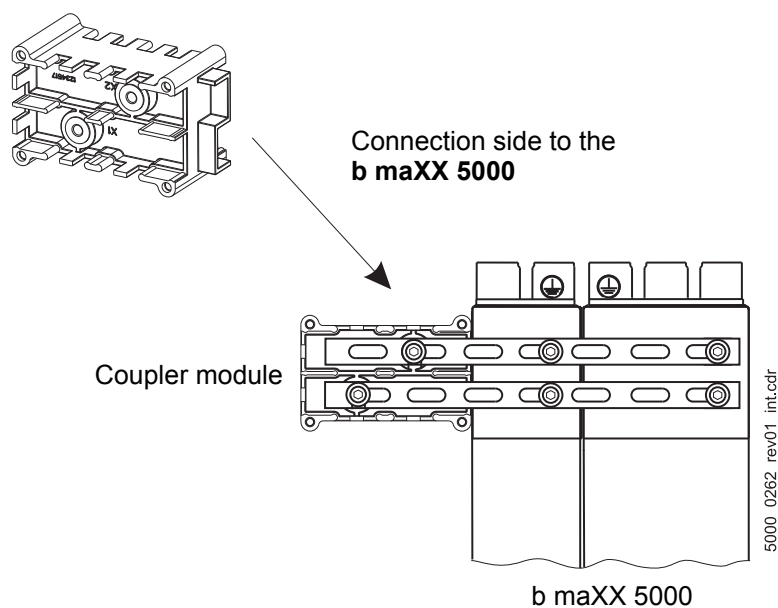
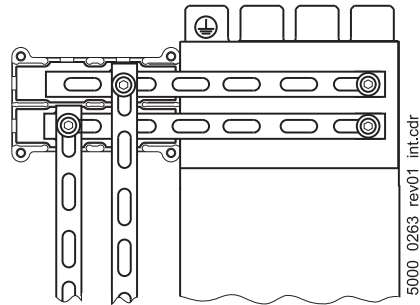


Figure 13: Coupler module CDC mounted on a **b maXX 5000**

- DC link connection via DC link rails
 - Connection downwards



- Connection upwards

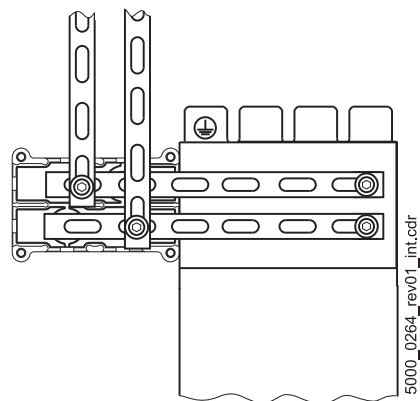


Figure 14: Coupler module CDC, connection via DC link rail

- DC link connection via cable lugs

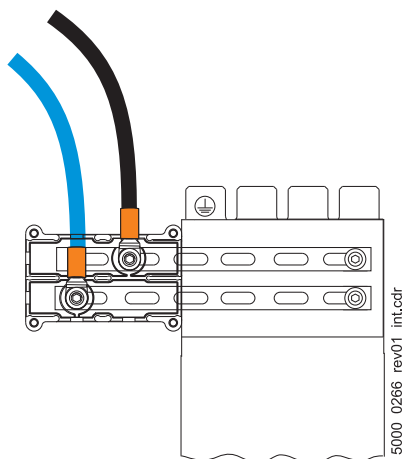


Figure 15: Coupler module CDC connection cable lug, cable outlet upwards

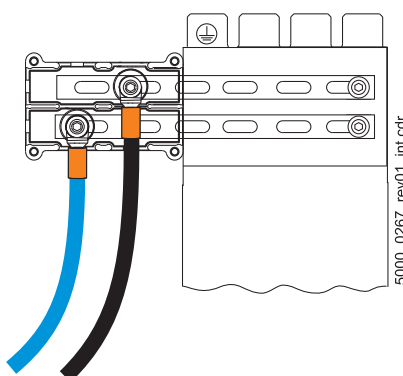


Figure 16: Coupler module CDC connection cable lug, cable outlet downwards

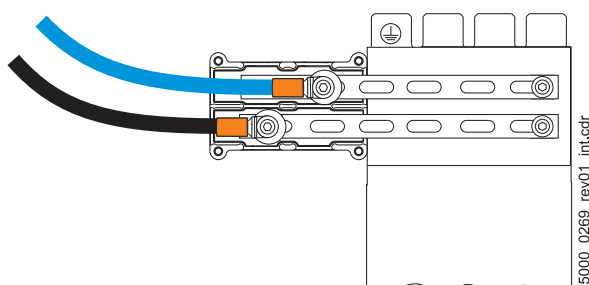


Figure 17: Coupler module CDC connection cable lug, cable outlet on sidewise

6.4 Mounting and installation Coupler module DC link CDC



NOTE!

The cables must be laid in different directions if several cable lugs are connected to a single connection. A maximum of 2 cable lugs for a single connection are permitted.

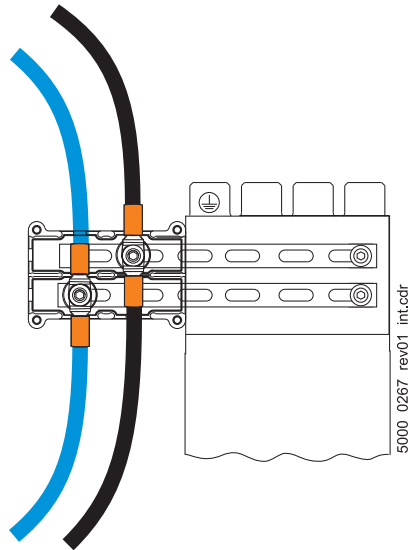


Figure 18: Coupler module CDC connection cable lug, example cable outlet upwards and downwards

6.4.3 Connection b maXX 5000 with b maXX 5000 via DC link rail

It is possible to mount axis units **b maXX 5000** below/above a mains rectifier unit **b maXX 5000** using a Coupler module CDC.



NOTE!

The **b maXX 5000** mains rectifier units /axis units must be mounted in the control cabinet, before mounting the Coupler modules CDC (see Instruction handbook **b maXX 5000** (5.09021), chapter mounting).

The mounting/installation consists the following steps:

- 1 Open cover **b maXX 5000**
- 2 Mount primary DC link rails of **b maXX 5000**, see [▶Mounting of the DC link rail on a b maXX 5000◀](#) from page 29
- 3 Shorten the primary DC link rails of the upper and lower devices to permissible length (excess length on the side of ca. 60 to 70 mm) additional available DC link rails, see [▶Accessories and spare parts◀](#) on page 45)
- 4 Shorten the vertical secondary DC link rails to the next unit to length. The DC link rails must not outside the Coupler modules CDC on the top/bottom side.

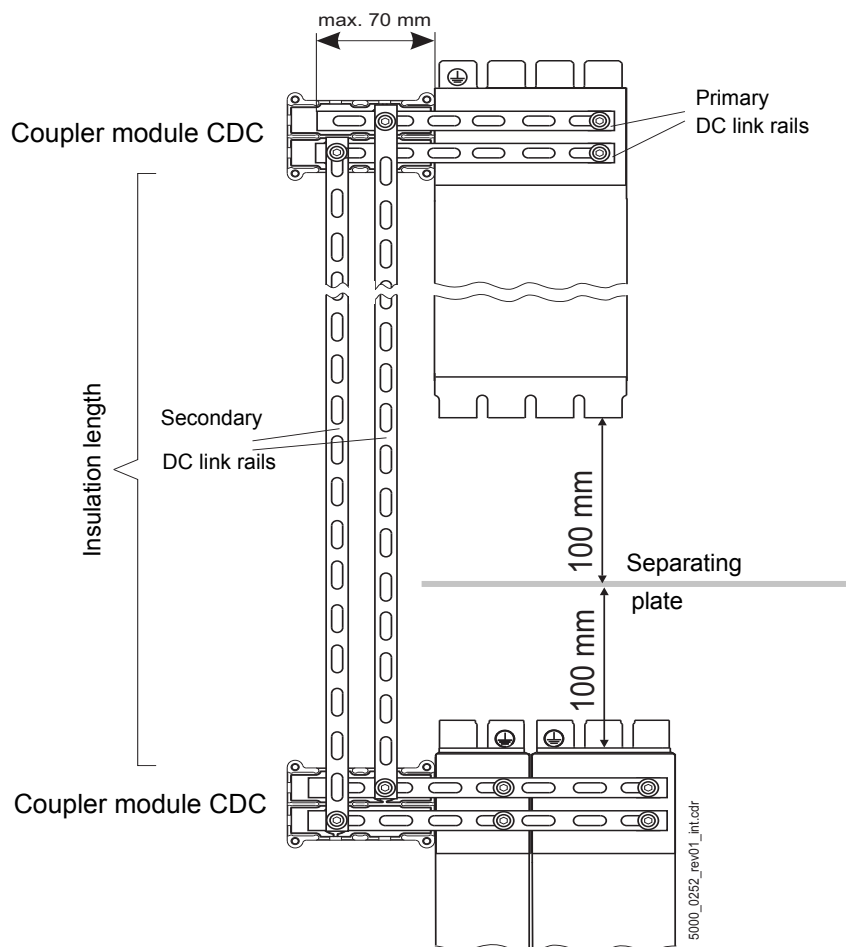


Figure 19: Cooling, b maXX 5000 connected with b maXX 5000

6.4 Mounting and installation Coupler module DC link CDC



NOTE!

For cooling the given distances should be adhered. The user must ensure e.g. by means of a separating plate that the air inlet temperature of the upper device is not higher than 40 °C (with derating 55 °C).

- 5 Mount the Coupler module basic component on the upper and lower **b maXX 5000** and connect with vertical DC link rail.



WARNING!

Danger due to faulty installation

Attention must be paid to correct polarity!
Connect 1C1 upper device and 1C1 lower device, 1D1 upper device and 1D1 lower device, avoid short circuit!

Observe the permissible torques!

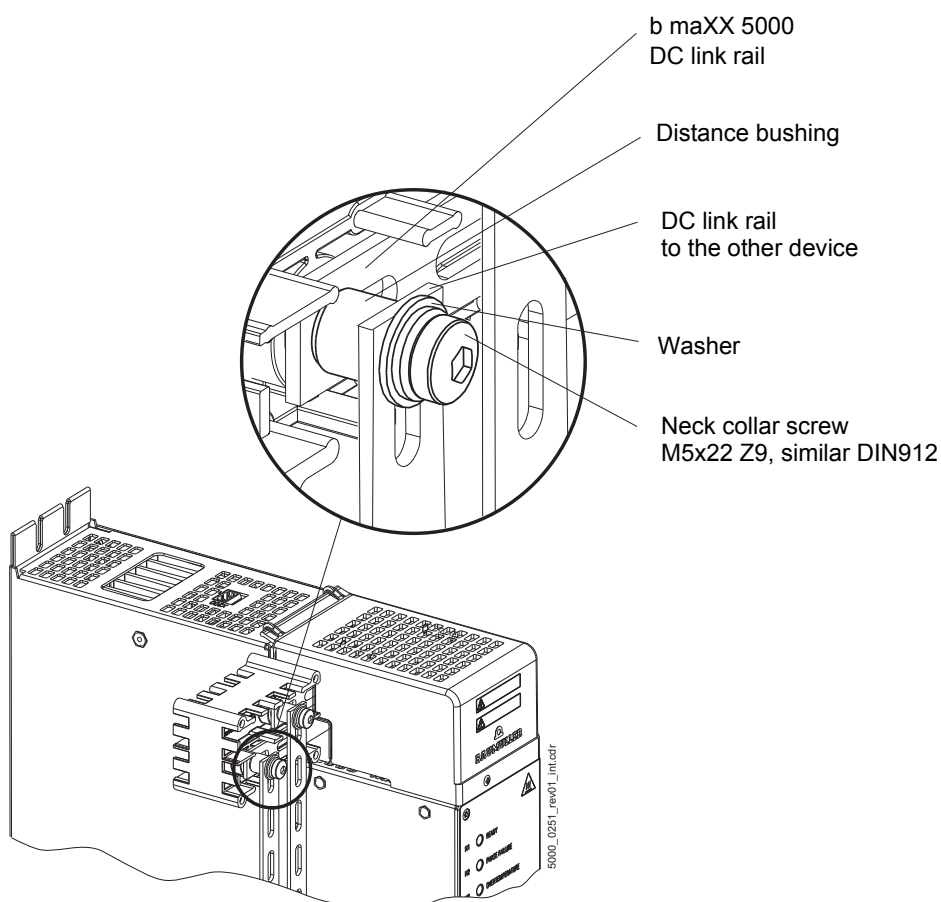


Figure 20: Connection b maXX 5000 with b maXX 5000 via DC link rail



NOTE!

It is recommended to attach the neck collar screws, the washers and the distance bushing to the DC link rail before mounting the vertical DC link rail to the devices.

6 Insulate DC link rails!



DANGER!

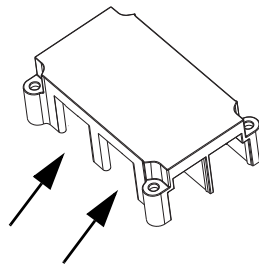
Risk of fatal injury from electrical current!

There is risk of fatal injury in case of contact with live components.

Therefore:

The vertical DC link rails must be protected against contact outside the Coupler modules CDC.

7 Break away the protection against contact only on the side of the vertical DC link rail using fingers (wear gloves) or an universal pliers.



8 Fix the Coupler module cover

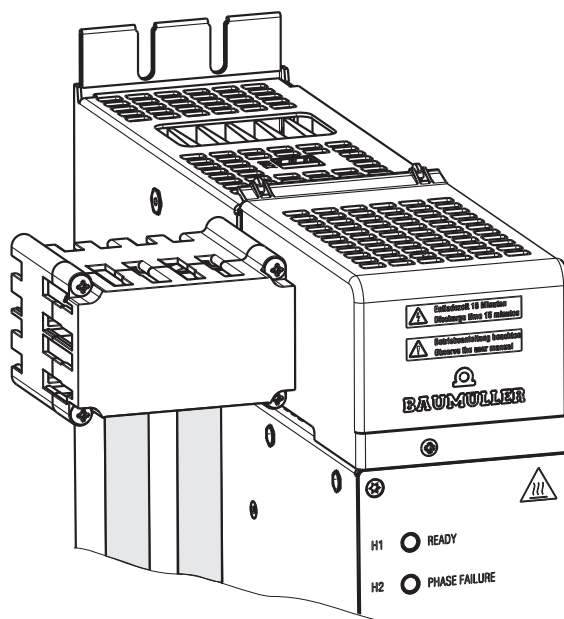


Figure 21: Connection DC link rail b maXX 5000, Coupler module CDC closed

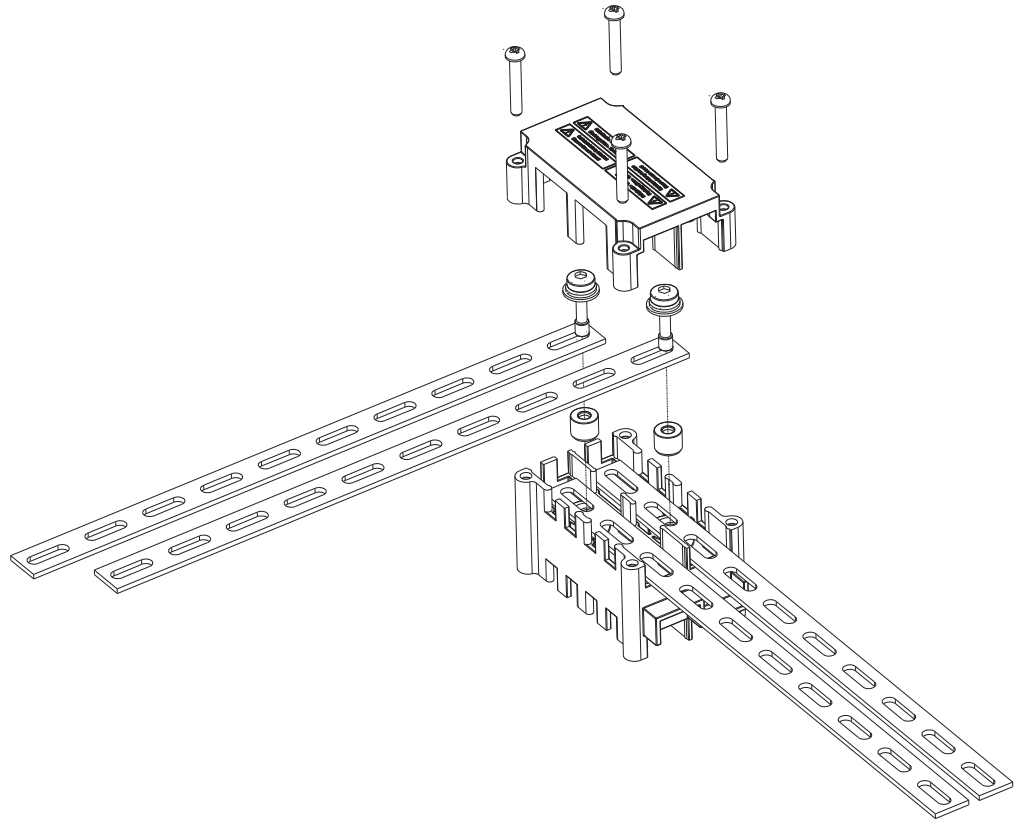


Figure 22: Overview DC link rail connection b maXX 5000

6.4.4 Connection b maXX 5000 via cable lug and cable

With the Coupler module CDC it is possible to connect

- axis units **b maXX 5000** with a basic unit
b maXX 4000/b maXX 5000/b maXX 5500
- mains rectifier units **b maXX 5000** with axis units
b maXX 3000/b maXX 4000/b maXX 5000/b maXX 5500.



NOTE!

The **b maXX 5000** mains rectifier unit /axis unit must be mounted in the control cabinet, before mounting the Coupler modules CDC (see Instruction handbook **b maXX 5000** (5.09021), chapter mounting).

The mounting/installation consists the following steps:

- 1 Open cover **b maXX 5000**
- 2 Mount **b maXX 5000** DC link rails,
see [▶Mounting of the DC link rail on a b maXX 5000◀](#) on page 29
- 3 Shorten the primary DC link rails of the **b maXX 5000** to permissible length (excess length on the side of ca. 60 to 70 mm) additional available DC link rails, see [▶Accessories and spare parts◀](#) on page 45)
- 4 The size of the cable and cable lugs must be dimensioned accordingly

6.4 Mounting and installation Coupler module DC link CDC



NOTICE!

The danger is: **electrical voltage.**

Select the size of the cable cross section according to the maximum expected load.

b maXX 5000	Min. connection cross section	Max. connection cross section	Connection method	Torque
Coupler module CDC	1.5 mm ²	25 mm ²	Cable lug for M5	min. 2.2 Nm max. 3 Nm

Device side	Min. connection cross section	Max. connection cross section	Connection method	Torque
b maXX 3000	1.5 mm ²	2.5 mm ²	Screw terminal	min. 0.4 Nm max. 0.5 Nm
BM441X	1.5 mm ²	2.5 mm ²	Plug connector	-
BM442X	1.5 mm ²	4.0 mm ²	Screw terminal	min. 0.5 Nm max. 0.6 Nm
BM443X, generation 1	1.5 mm ²	10 mm ²	Screw terminal	min. 1.2 Nm max. 1.5 Nm
BM443X, generation 2 BM463X	4 mm ²	25 mm ²	Screw terminal	min. 2 Nm max. 2.3 Nm
BM444X BM464X BM554X	10 mm ²	50 mm ²	Screw terminal	min. 6 Nm max. 8 Nm
BM445X BM465X BM475X BM555X BM575X	1.5 mm ²	25 mm ²	Cable lug for M8	min. 10 Nm max. 13 Nm
BM446X BM466X BM476X BM556X BM576X	1.5 mm ²	25 mm ²	Cable lug for M10	min. 12 Nm max. 25 Nm
BM447X BM477X BM557X BM577X	1.5 mm ²	25 mm ²	Cable lug for M10	min. 12 Nm max. 25 Nm
b maXX 5000	1.5 mm ²	25 mm ²	Cable lug for M5	min. 2.2 Nm max. 3 Nm

- 5 Mount the Coupler module basic components on the **b maXX 5000** and connect the corresponding cable lug M5 of the connection cable.

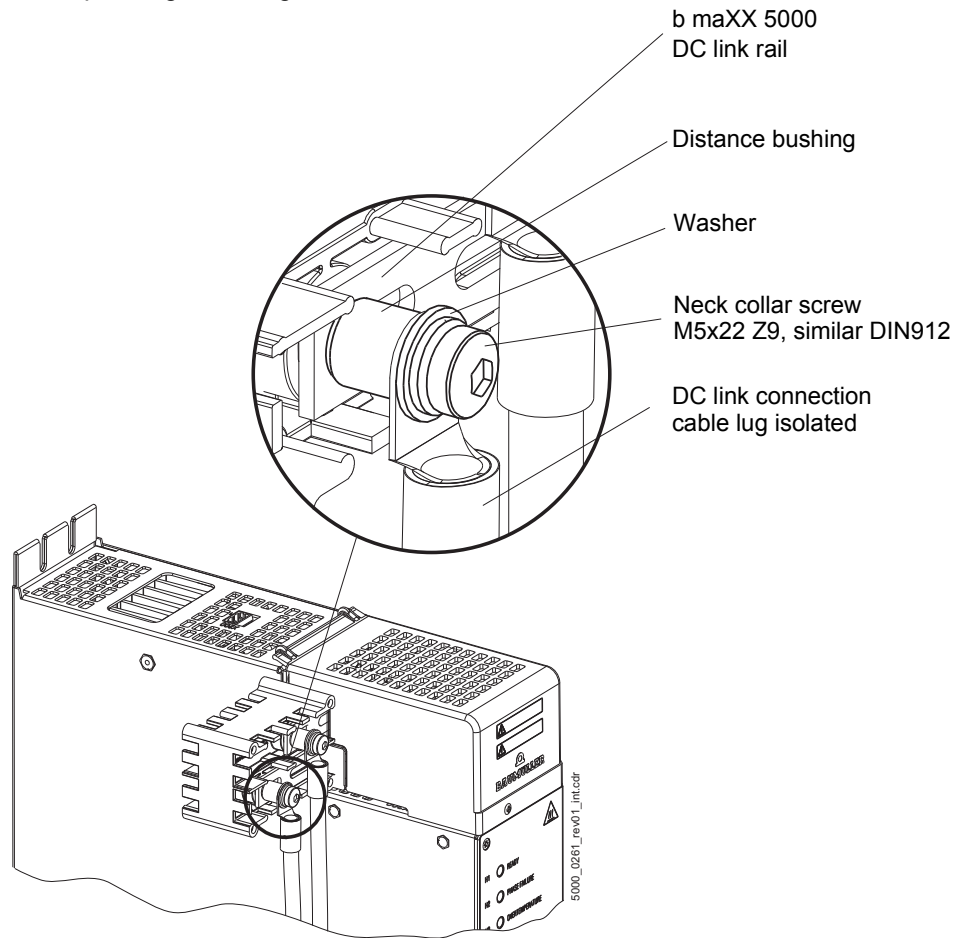


Figure 23: Connection b maXX 5000 via cable lug and cable (cable outlet downwards)



NOTE!

It is recommended to attach the neck collar screws, the washers and the distance bushing to the cable lug M5 before mounting it to the **b maXX 5000**.

6.4 Mounting and installation Coupler module DC link CDC

6 Connect the cable with next device!

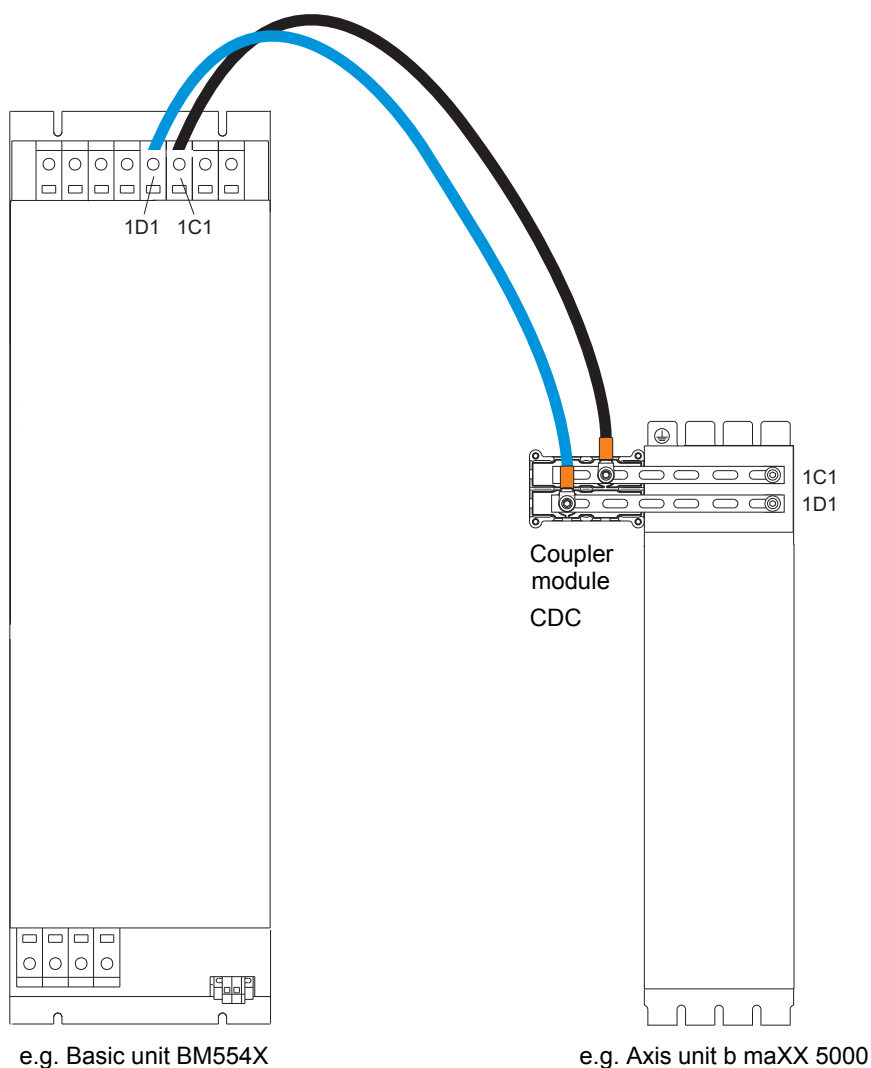


Figure 24: Connection b maXX 5000 axis unit with BM554X (cable outlet downwards)



WARNING!

Danger due to faulty installation

Attention must be paid to correct polarity!

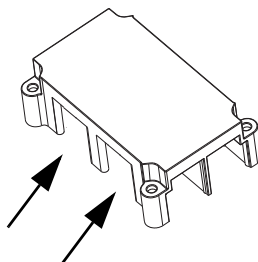
Observe the permissible torques!



NOTE!

Comply with the distances for cooling!

- 7 Break away the protection against contact only on the side of the cable lug using fingers (wear gloves) or an universal pliers.



- 8 Fix the Coupler module cover

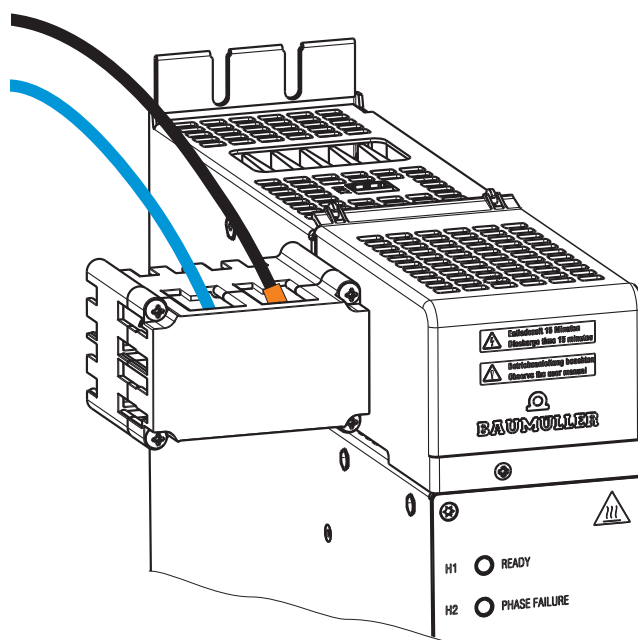


Figure 25: Connection b maXX 5000 via cable lug and cable, Coupler module closed

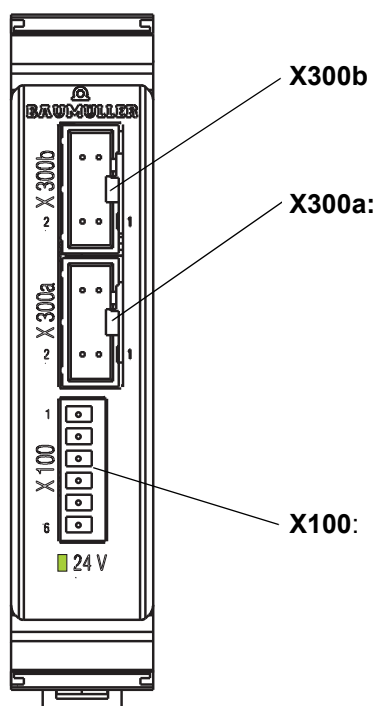
6.5 Mounting and Installation Coupler module Signal bus CSB

6.5.1 Mounting Coupler module Signal bus CSB

The **Coupler module CSB** must be mounted on a well earthed DIN rail on the back side of the switching cabinet

6.5.2 Installation Coupler module Signal bus CSB

Connections

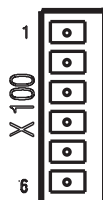


Connection for
b maXX 3000/5000/5500 Signal bus X300
 max. 12 units
 max. cable length 3 m

also see Instruction handbook
b maXX 5000/5500, chapter Installation

Connection for
b maXX 4000 Signal bus X100
 max. cable length 1 m

also see Instruction handbook
b maXX 4400/4500/4600,
 chapter Installation



X100-1: +24V (SELV/PELV) ¹⁾
 X100-2: +24V (SELV/PELV) ¹⁾
 X100-3: Power supply on (bus) (SELV/PELV) ²⁾
 X100-4: Chopper resistor on (SELV/PELV) ²⁾
 X100-5: M24V (SELV/PELV) ¹⁾
 X100-6: M24V (SELV/PELV) ¹⁾

ACCESSORIES AND SPARE PARTS

**Coupler module
DC link CDC**

DC link rails

Length	Part No.
1 m x 15 mm x 2 mm	424188

List of spare parts CDC

Number		Part No.
1	Coupler module basic component	443392
1	Coupler module cover	443393
2	Distance bushing DC link Ø10x8,2	424129
2	Neck collar screw M5x22 Z9-2 (similar DIN912)	420020
4	Ejot-PT screws Ø4x25	387201

**Coupler module
Signal bus
CSB**

Connection cable Signal bus b maXX 4400/4500/4600

on demand

Connection cable Signal bus b maXX 3000/5000/5500

on demand





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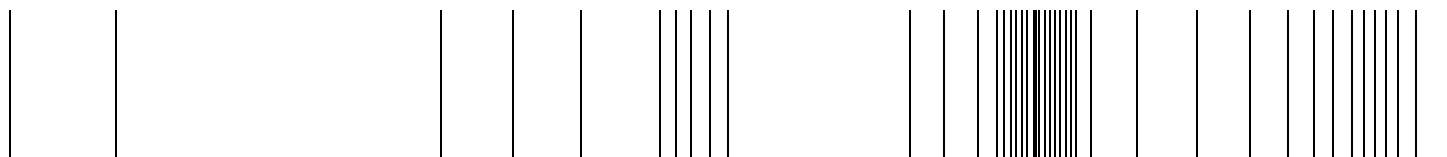
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Overview of Revisions

Version	Status	Changes
5.13033.01	23-Jan-2015	Creation

be in motion



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