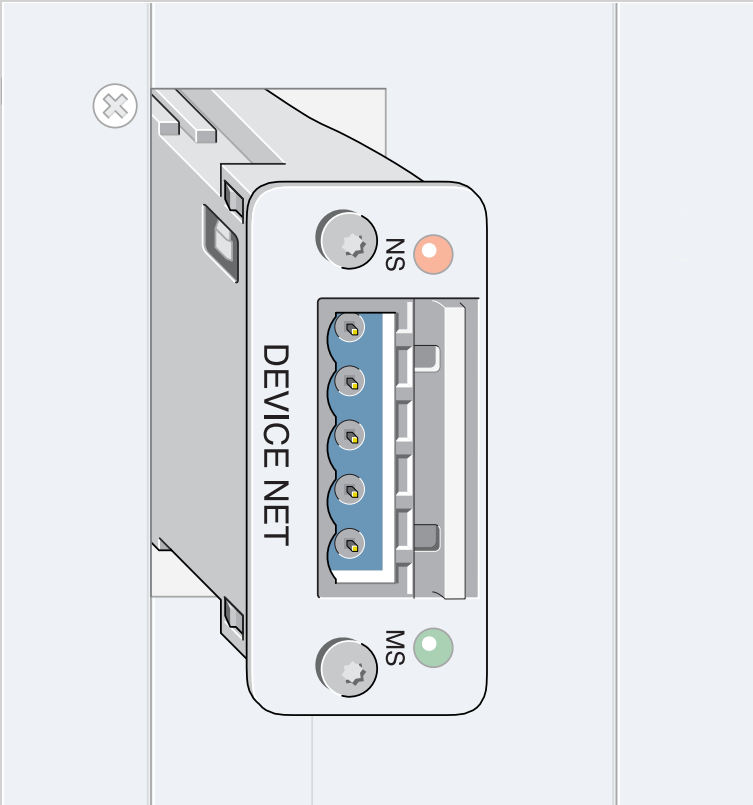


# IMdev

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The data specified above only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that our products are subject to a natural process of wear and aging.

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This document was written in German.

## 1 About this document

# 1 About this document

These instructions contain important information on the safe and appropriate assembly, transport, commissioning, operation, maintenance, disassembly and simple troubleshooting of the IMdev interface module.

Read these instructions completely, especially chapter “2 General safety instructions” on page 17, before working with the IMdev interface module.

### Related documents

The IMdev interface module is a system component.

Also observe the instructions for the other system components.

Also observe the generally applicable, legal or otherwise binding regulations of the European or national legislation and the rules for the prevention of accidents and for environmental protection applicable in your country.

## 2 General safety instructions

The IMdev interface module has been manufactured according to the accepted rules of current technology. There is, however, still a danger of personal injury or damage to equipment if the following general safety instructions and the warnings before the steps contained in these instructions are not complied with.

- Read these instructions completely and thoroughly before working with the IMdev interface module.
- Keep these instructions in a location where they are accessible to all users at all times.

- Always include the operating instructions when you pass the IMdev interface module on to third parties.

### Intended use

The IMdev interface module is a component in terms of the machine directive 98/37/EC (partial machine). The IMdev interface module is no ready-for-use machine in terms of the machine directive. The product is exclusively intended for being integrated in a machine or system or for being assembled with other components to form a machine or system.

The product may be commissioned only if it is integrated in the system for which it is designed and the machine/system fully complies with the EC machine directive. Observe the operating conditions and performance limits specified in the technical data.

The IMdev interface module is a work appliance and not designed for private use.

Intended use includes having read and understood these instructions, especially the chapter “2 General safety instructions”.

The IMdev interface module is intended for installation in components for the Tightening System 350.

### Improper use

Any use of the IMdev interface module other than described in chapter “Intended use” is considered as improper.

### Personnel qualifications

Assembly, commissioning and operation, disassembly, service (including maintenance and repair) require basic electrical and mechanical knowledge, as well as knowledge of the appropriate technical terms. In order to ensure operating safety, these activities may therefore only be carried

## 2 General safety instructions

out by qualified technical personnel or an instructed person under the direction and supervision of qualified personnel.

Qualified personnel are those who can recognize possible hazards and institute the appropriate safety measures due to their professional training, knowledge, and experience, as well as their understanding of the relevant conditions pertaining to the work to be done. Qualified personnel must observe the rules relevant to the subject area.


### Safety instructions in this document


In this manual, there are safety instructions before the steps whenever there is a danger of personal injury or damage to the equipment. The measures described to avoid these hazards must be observed.

Safety instructions are set out as follows:


	 <b>SIGNAL WORD</b>
	<b>Type of RISK!</b>
	Consequences <b>Precautions</b>

- **Safety sign (warning triangle):** draws attention to the risk
- **Signal word:** identifies the degree of hazard
- **Type of risk:** identifies the type or source of the hazard
- **Consequences:** describes what occurs when the safety instructions are not complied with
- **Precautions:** states how the hazard can be avoided

	This warning symbol cautions against dangers to your health. Observe all the safety instructions that follow this symbol to avoid possible injuries or death.
---	---

	This warning symbol cautions against dangers to your health caused by electrical voltage or currents. Observe all the safety instructions that follow this symbol to avoid possible injuries or death.
---	--

The signal words have the following meaning:

 <b>CAUTION</b>
<b>CAUTION</b> indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury or damage to equipment.

### Adhere to the following instructions

#### General safety instructions

Observe the regulations for accident prevention and environmental protection for the country where the product is used and at the workplace.

Exclusively use Rexroth products in good technical order and condition.

Check the product for visible defects, for example damage to the printed card, components, housing, and plug connectors or missing screws.

Only use the product within the performance range provided in the technical data.

Persons who assemble, operate, disassemble or maintain Rexroth products must not consume any alcohol, drugs or pharmaceuticals that may affect their ability to respond.

The warranty only applies to the delivered configuration.

### 3 Delivery contents

The warranty will not apply if the product is incorrectly assembled, or handled or not used as intended.

Do not expose the product to any mechanical loads under any circumstances. Do not place any objects on it.

#### **During assembly**

Make sure the relevant system component is not under pressure or voltage before assembling the product or when connecting and disconnecting plugs. Protect the system against being switched on.

Lay cables and lines so that they cannot be damaged, are in accordance with the bending radiuses, and no one can trip over them.

Before commissioning, make sure that all the plug connectors are installed correctly, undamaged, and that all screws are tightened.

#### **During commissioning**

Before commissioning, let the product acclimate itself for several hours before commissioning, otherwise water may condense in the housing.

Make sure that all electrical connections are either used or covered. Commission the product only if it is installed completely.

#### **During cleaning**

Cover all openings with the appropriate protective equipment in order to prevent detergents from penetrating the system.

Never use solvents or aggressive detergents. Only clean the product using a slightly damp, lint-free cloth. Only use water to do this and, if necessary, a mild detergent.

#### **Disposal**

Dispose of the product in accordance with the currently applicable national regulations in your country.

## 3 Delivery contents

The delivery contents include:

- 1 IMdev interface module
- 1 operating instructions for the IMdev interface module

## 4 Product description

### **Performance description**

A tightening system is controlled by this interface. It enables a cyclical data exchange via DeviceNet in accordance with the DeviceNet Specification Volume I Release 2.0 Errata 5 and Volume II Release 2.0 Errata 5.

The IMdev interface module is supplied with power via the components in the System 350. The module is BUS powered.

## 4 Product description

### Device description

The following data rates (baud rate in kbit/s) are supported: 125 (default), 250, 500 and auto detection.

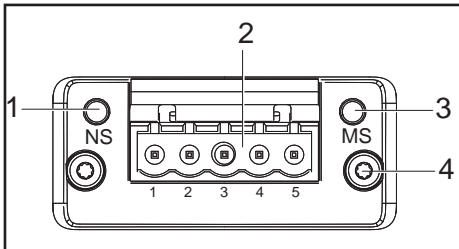


Fig. 1: IMdev interface module, front view

- 1 NS LED (network status)
- 2 Interface
- 3 MS LED (module status)
- 4 Screws

### Interface

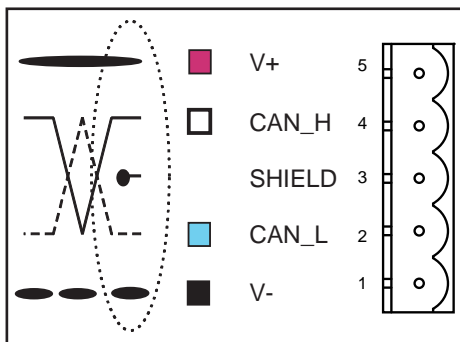


Fig. 2: Open connector, spacing 5.08 mm, five-pin, pins

### Connection assignment

Table 1

Pin	Signal	Description/ Function	Wire color
1	V-	Negative bus voltage	Black
2	CAN_L	CAN low	Blue
3	Shield	Protective ground	Blank
4	CAN_H	CAN high	White
5	V+	Positive bus voltage	Red

### Suitable connection plugs

Table 2

Type	Supplier
Plug part with bolt flange, double-row, type: TMSTBP 2.5/5-STF-5, 08 ABGY AU, article no. 1853201	Phoenix Contact
Plug part with T-contour and bolt flange, single-row, type: MSTB 2.5/5-STF-5, 08 ABGY AU, article no. 1882832	Phoenix Contact

An ID label should be affixed to the plugs to identify the colors of the connections:

Table 3

Type	Supplier
Identification label, 4 colors, self-adhesive type SK 5.08/3.8 DN, article no. 1965458	Phoenix Contact

## 5 Transport and storage

### Display elements

The NS LED indicates the network status.

**Table 4**

LED display	Meaning
Off	After the device has been started and during the test for double MAC IDs; no voltage or connection in the network
Green	Network available, connection to master established, data exchange has taken place
Flashing green (1 Hz)	Network available, but no connection to master established; device waits for the master to set up a connection
Red	Error in the interface module, critical connection error, device has detected a network error (double MAC ID or bus off)
Flashing red (1 Hz)	Communication has failed, severe communication error

The MS LED indicates the module status.

**Table 5**

LED display	Meaning
Off	No voltage
Green	Ready for operation
Flashing green (1 Hz)	Missing or incomplete configuration
Red	The IMdev interface module can only be made ready for operation through measures performed by the user.
Flashing red (1 Hz)	Fault is self-acknowledged by the IMdev interface module after it has been remedied.

## 5 Transport and storage

For storing and transporting the product always observe the ambient conditions specified in the technical data (see "Technical data" on page 27).

## 6 Assembly


## 6 Assembly


When installing the product always observe the ambient conditions specified in the technical data (see "Technical data" on page 27).

### Required tool

- TX9 screwdriver

### Assembling the IMdev interface module

	<b>! CAUTION</b>
	<p><b>Risk of injuries and damage to property!</b></p> <p>Assembly of the IMdev interface module requires basic mechanical and electrical knowledge.</p> <ul style="list-style-type: none"> <li>▶ Only qualified personnel are authorized to assemble the IMdev interface module (see "Personnel qualifications" on page 17).</li> <li>▶ Measures to prevent electrostatic discharge (ESD protection) must be undertaken to protect the module and system components during all assembly work.</li> </ul>

	<b>! CAUTION</b>
	<p><b>Risk of injuries when assembling under voltage!</b></p> <p>If you do not switch off the power supply before assembling the IMdev interface module, you may get injured or the device or system components may be damaged.</p> <ul style="list-style-type: none"> <li>▶ Always switch off the power supply to the relevant system component before assembling the IMdev interface module.</li> </ul>

1. Always switch off the power supply to the relevant system component before assembling the IMdev interface module.
2. Insert the IMdev interface module into the appropriate slot (A) on the system component until it catches (example in Fig. 3).
3. Tighten the torx screws on the front until the front panel is flush. The printed board is locked by turning the screw. This lock is only fully functional once the interface has been properly tightened (see Fig. 4).



6 Assembly

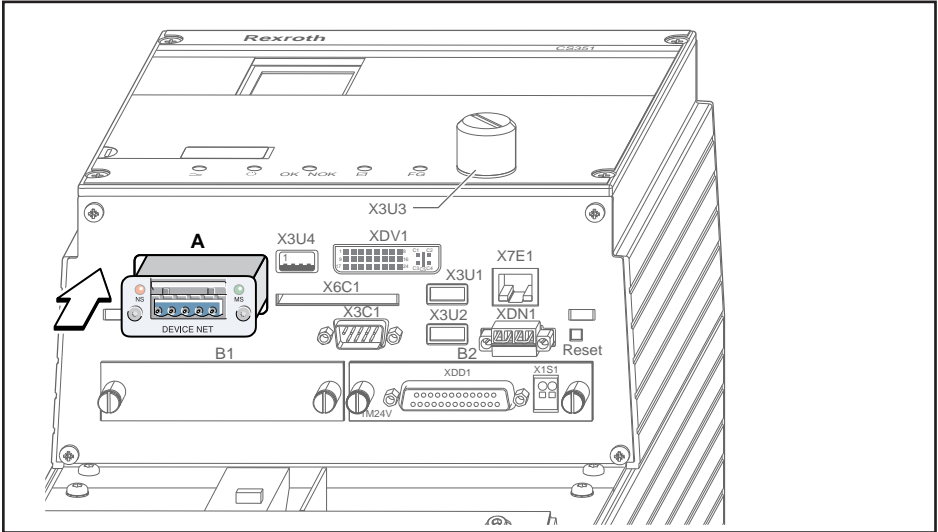


Fig. 3: Example: Slot A on the CS351 Compact System

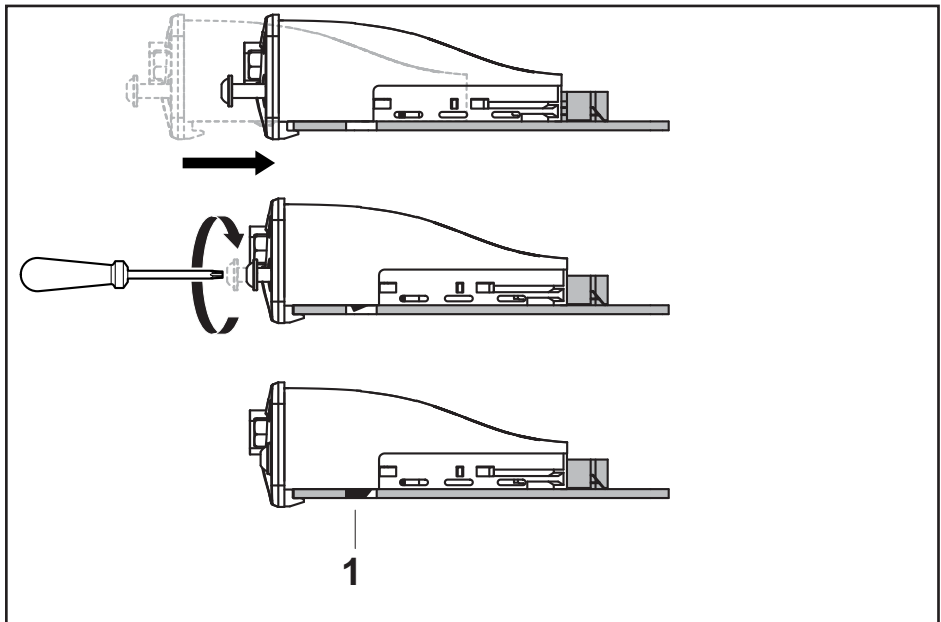



Fig. 4: Lock effect

1 Lock

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## 7 Commissioning

## 7 Commissioning

	<b>⚠ CAUTION</b>
	<p><b>Risk of injuries and damage to property!</b></p> <p>Commissioning of the IMdev interface module requires basic mechanical and electrical knowledge.</p> <ul style="list-style-type: none"> <li>▶ Only qualified personnel are authorized to commission the system (see “Personnel qualifications” on page 17).</li> <li>▶ Do not install cables while the network is active.</li> </ul>

- The BS350 is required for commissioning.
- Before commissioning, check that all plug-in connections have the correct seat.
- In the delivery state, the IMdev starts with MAC ID 63 and a data transmission rate of 125 kbit/s. The operating states can be displayed via the diagnosis in the BS350 under System test → DeviceNet.
- The EDS file for the DeviceNet module can be immediately created after DeviceNet configuration with the BS350 (System → Tightening channel configuration).

## 8 Operation


An external 24 V BUS supply is required to operate the IMdev (not included in the delivery contents).

The following modes are supported:

- Polling
- Change of state (COS)
- Cyclical
- Bit strobe
- Explicit
- Idle/running

## 9 Maintenance and repair

## Cleaning and care

	<b>⚠ CAUTION</b>
	<p><b>Any dirt or liquids penetrating the device lead to malfunctions!</b></p> <p>Safe function of the IMdev interface module is no longer ensured.</p> <ul style="list-style-type: none"> <li>▶ Always provide for absolute cleanness when working on the IMdev interface module.</li> </ul>

## Maintenance

The IMdev interface module is maintenance-free if used as intended.

## Spare parts

The addresses for our national representatives can be found at [www.boschrexroth.com](http://www.boschrexroth.com) and in the address directory in chapter “16 Service and sales” on page 28.

## 10 Decommissioning

## 10 Decommissioning

For details about how to disassemble or replace your IMdev interface module please refer to chapter "11 Disassembly and replacement" on page 25.

## 11 Disassembly and replacement

### Required tools

- TX9 screwdriver

### Disassembling the IMdev interface module

<b>⚠ CAUTION</b>	
	<b>Disconnecting the IMdev interface module while under voltage</b>
	<p>Damage to the IMdev interface module!</p> <p>► Make sure that the relevant system components are not under voltage before removing the IMdev interface module.</p>

Proceed as follows to disassemble the IMdev interface module:

1. Make sure the relevant system components are not under voltage.
2. Loosen the front torx screws. The IMdev interface module may only be removed once the lock has been completely released (see Fig. 5).
3. Assemble a dummy panel, if necessary.

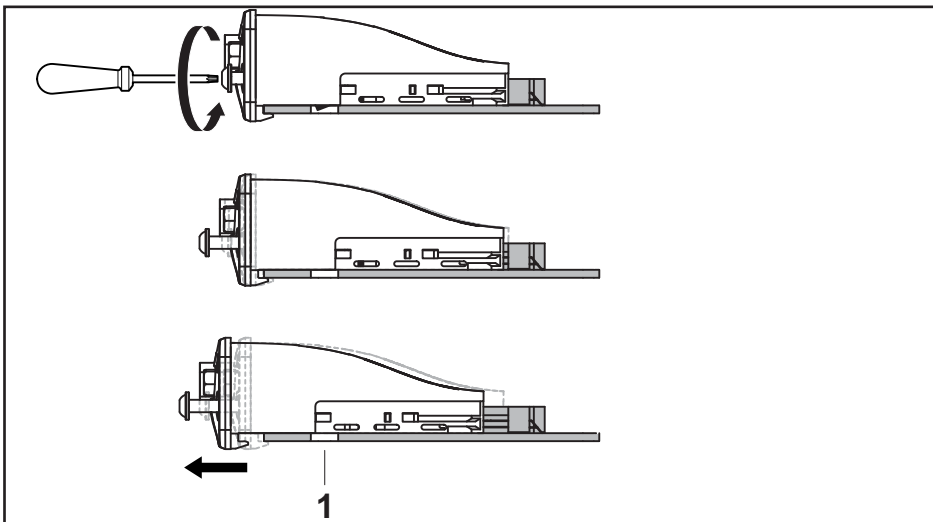


Fig. 5: Releasing the lock

- 1 Lock

## 12 Disposal

## 12 Disposal

### Environmental protection

Careless disposal of the IMdev interface module could lead to pollution of the environment.

Therefore dispose of the device in accordance with the currently applicable regulations in your country.

You can also send the device to Bosch Rexroth for disposal.

## 13 Extension and conversion

Do not convert the IMdev interface module.

## 14 Troubleshooting

Malfunctions and information on errors are displayed in the tightening system, e.g. in the BS350.

The NS LED indicates the network status.

**Table 6 NS LED malfunction table**

LED display	Meaning
Red	Error in the interface module, critical connection error, device has detected a network error (double MAC ID or bus off)
Flashing red (1 Hz)	Communication has failed, severe communication error

The MS LED indicates the module status.

**Table 7 MS LED malfunction table**

LED display	Meaning
Flashing green (1 Hz)	Missing or incomplete configuration
Red	The IMdev interface module can only be made ready for operation through measures performed by the user.
Flashing red (1 Hz)	Fault has been self-acknowledged after the IMdev interface module has remedied it.

If you should not be able to remedy an occurring defect, please contact one of the addresses that you can find under [www.boschrexroth.com](http://www.boschrexroth.com) or in the address directory in chapter "16 Service and sales" on page 28.

15 Technical data

## 15 Technical data

**Table 8**

General data	IMdev
Order number	0 608 830 267
Dimensions (width x height x depth)	50.1 x 22.3 x 61.3 mm
Weight	31 g
Application temperature range	Designed for operation in System 350 components
Storage temperature range	-20°C up to 70°C
Permissible application humidity	20% - 90%, non-condensing
Permissible storage humidity	20 - 95%
Protection class in acc. with EN 60529/IEC529	IP 20 (~NEMA 1) when installed
Installation position	Any