

IMpdp

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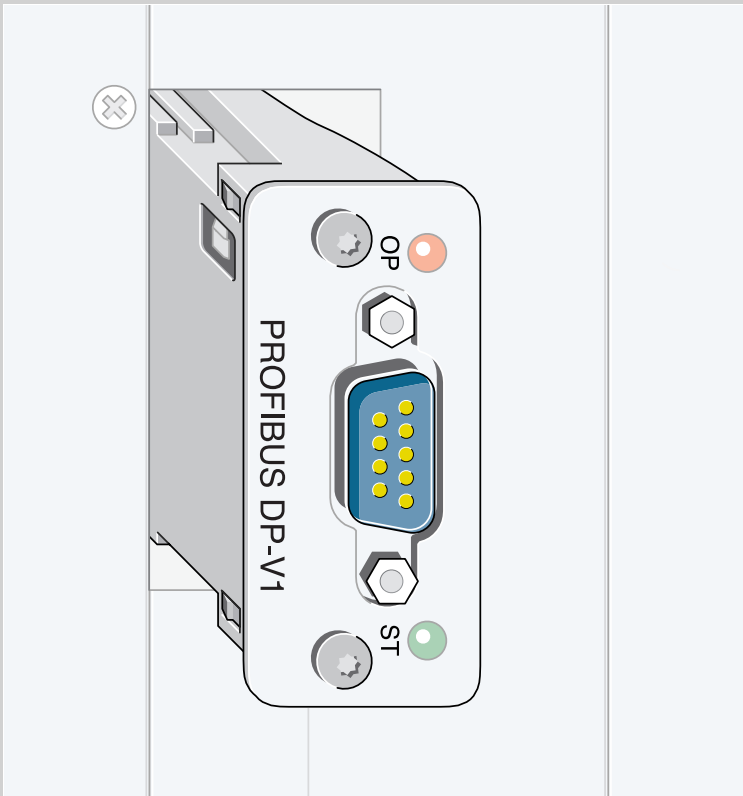


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The data specified above only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation 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, transportation, commissioning, operation, maintenance, disassembly and simple troubleshooting of the IMpdp interface module.

Read these instructions completely, especially the chapter “2 General safety instructions” on page 16, before working with the IMpdp interface module.

Related documents

The IMpdp 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 IMpdp 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 IMpdp 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 IMpdp interface module on to third parties.

Intended use

The IMpdp interface module is a component in terms of the machine directive 98/37/EC (partial machine). 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 its integrated in the machine/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 IMpdp 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 IMpdp interface module is intended for installation in components for the Tightening System 350.

Improper use

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

2 General safety instructions

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:


	 SIGNAL WORD
	Type of RISK!
	Consequences Precautions

- **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.
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	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.
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The signal words have the following meaning:

 CAUTION
CAUTION 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 IMpdp interface module
- 1 operating instructions for the IMpdp interface module

4 Product description

Performance description

A tightening system is controlled by this interface. It enables a cyclical data exchange via Profibus DP in accordance with IEC 61158.

The IMpdp interface module is directly supplied with power via the components in the System 350.

5 Transport and storage

Device description

The following data rates (baud rate in kbit/s) are supported: 9.6; 19.2; 45.45; 93.75; 187.5; 500; 1,500; 3,000; 6,000; 12,000.

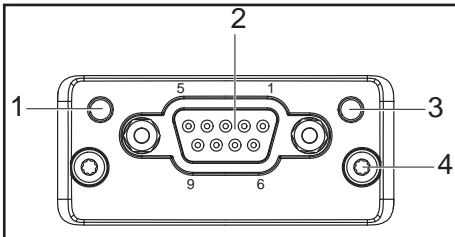


Fig. 1: IMpdp interface module, front view (socket)

- 1 OP LED (operation mode)
- 2 Interface
- 3 ST LED (status)
- 4 Screws

Interface connection assignment

Table 1

Pin	Signal	Description/Function
1	Free	
2	Free	
3	B	Receive/send data plus RxD/TxD (RS-485)
4	RTS	Send request
5	GND bus	Ground
6	+ 5 V bus	5 volt power supply
7	Free	
8	A	Receive/send data minus RxD/TxD (RS-485)
9	Free	Connected to shield
Housing	Shield	Wired with protective ground

Suitable connection plugs

Connection plugs in accordance with Profibus standard IEC 61158.

Display elements

The OP LED indicates the Profibus operating mode.

Table 2

LED display	Meaning
Off	No connection to master or no voltage
Green	Online, connection to master established, data exchange takes place
Flashing green	Online, connection to master established, no data exchange
Flashing red (1 Hz)	Parameterization error
Flashing red (2 Hz)	Profibus configuration error

The ST LED indicates the Profibus status.

Table 3

LED display	Meaning
Off	No voltage or not initialized
Green	Ready for operation
Flashing green	Ready for operation, diagnoses available
Red	Exception error

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 25).

6 Assembly


6 Assembly


When installing the product always observe the ambient conditions specified in the technical data (see "Technical data" on page 25).

Required tools

- TX9 screwdriver

Assembling the IMpdp interface module

	⚠ CAUTION
	<p>Risk of injuries and damage to property!</p> <p>Assembly of the IMpdp interface module requires basic mechanical and electrical knowledge.</p> <ul style="list-style-type: none"> ▶ Only qualified personnel are authorized to assemble the IMpdp interface module (see "Personnel qualifications" on page 16). ▶ Measures to prevent electrostatic discharge (ESD protection) must be undertaken to protect the module and system components during all assembly work.

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

1. Always switch off the power supply to the relevant system component before assembling the IMpdp interface module.
2. Insert the IMpdp interface module into the appropriate slot (A) on the system component until it catches (example in Fig. 2).
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. 3).

6 Assembly

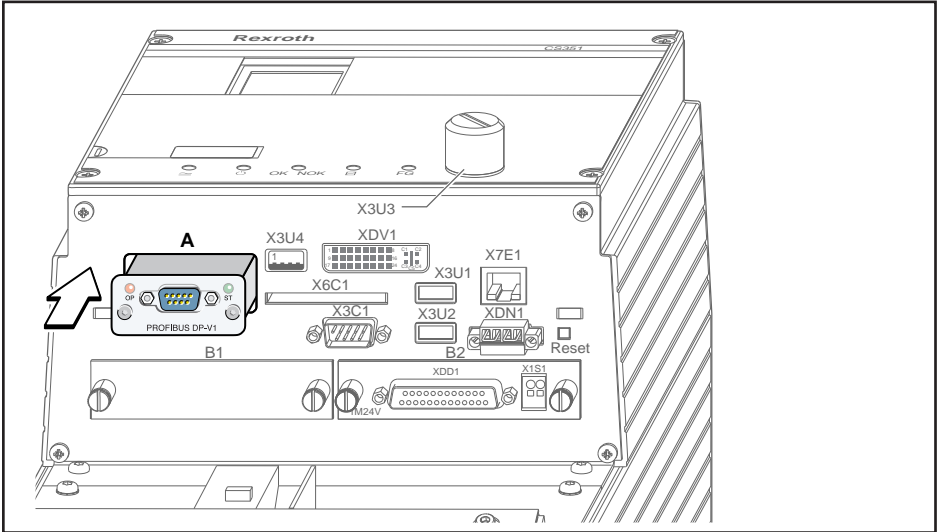


Fig. 2: Example: Slot A on the CS351 Compact System

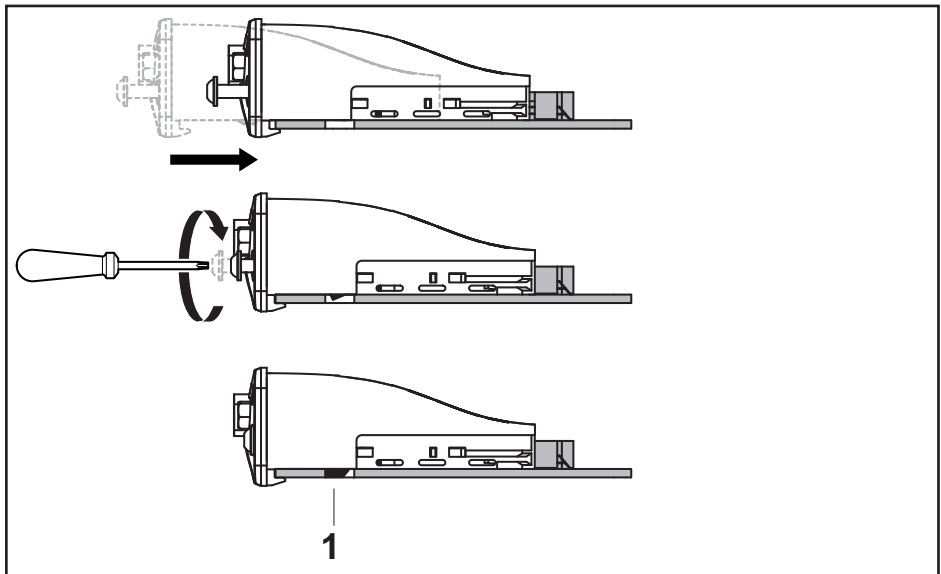



Fig. 3: Lock effect

1 Lock

7 Commissioning

7 Commissioning

	⚠ CAUTION
	<p>Risk of injuries and damage to property!</p> <p>Commissioning of the IMpdp interface module requires basic mechanical and electrical knowledge.</p> <p>► The system may only be commissioned by qualified personnel (see "Personnel qualifications" on page 16).</p>


- Check that all plug-in connections have the correct seat.
- After it has been switched on, the module will start in offline mode, wait for a parameterization telegram and, after parameterization, wait for the configuration telegram. The module changes to online mode after configuration and is then ready for data exchange.
There are parameterization or configuration errors if the module does not change to online mode. The errors can be evaluated by the Profibus master using the standard diagnosis requests.
Further PDP errors can be read out with the BS350 operating system.
- The GSD file (master data) for the Profibus module can be immediately created after Profibus configuration with the BS350 (System → Tightening channel configuration).

8 Operation

Operation is not necessary while running.

9 Maintenance and repair

Cleaning and care

	⚠ CAUTION
	<p>Any dirt or liquids penetrating the device lead to malfunctions!</p> <p>Safe function of the IMpdp interface module is no longer ensured.</p> <p>► Always provide for absolute cleanliness when working on the IMpdp interface module.</p>

Maintenance

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

Spare parts

The addresses for our national representatives can be found at www.boschrexroth.com and in the address directory in chapter "16 Service and sales" on page 26.

10 Decommissioning

For details about how to disassemble or replace your IMpdp interface module please refer to chapter "11 Disassembly and replacement" on page 23.

11 Disassembly and replacement

11 Disassembly and replacement


Required tools

- TX9 screwdriver

Disassembling the IMpdp interface module

Proceed as follows to disassemble the IMpdp interface module:

1. Make sure the relevant system components are not under voltage.
2. Loosen the front torx screws. The IMpdp interface module may only be removed once the lock has been completely released (see Fig. 4).
3. Assemble a dummy panel, if necessary.

 CAUTION
<p>Disconnecting the IMpdp interface module while under voltage</p> <p>Damage to the IMpdp interface module!</p> <p>► Make sure the relevant system component is not under voltage before removing the IMpdp interface module.</p>

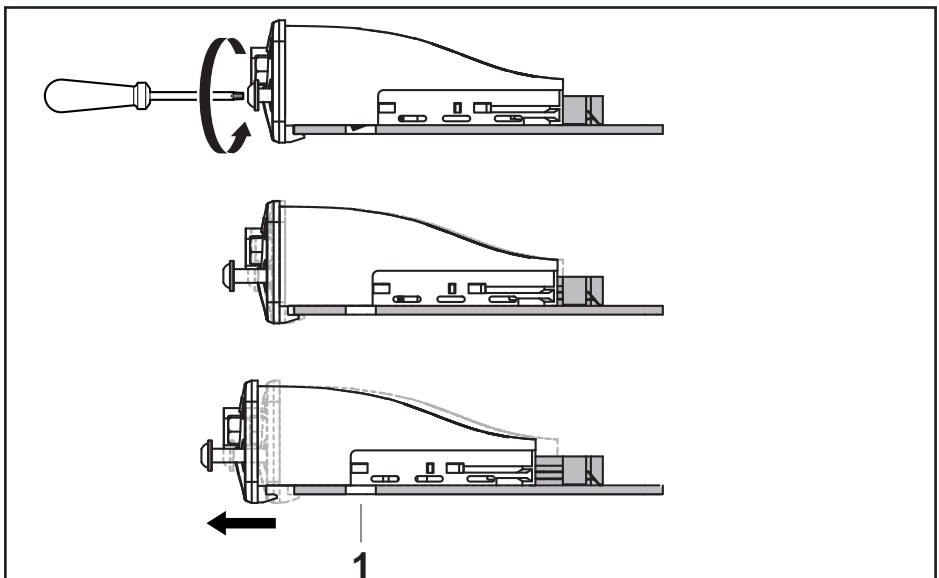


Fig. 4: Releasing the lock

1 Lock

12 Disposal

12 Disposal

Environmental protection

Careless disposal of the IMpdp 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 IMpdp interface module.

14 Troubleshooting

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

The OP LED indicates the Profibus operating mode.

Table 4

LED display	Meaning	Remedy
Flashing red (1 Hz)	Parameterization error	Correct parameterization
Flashing red (2 Hz)	Profibus configuration error	Correct configuration

The ST LED indicates the Profibus status.

Table 5

LED display	Meaning	Remedy
Red	Exception error	

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 or in the address directory in chapter "16 Service and sales" on page 26.

15 Technical data

15 Technical data

Table 6

General data	IMpdp
Order number	0 608 830 266
Dimensions (width x height x depth)	50.1 x 22.3 x 56.8 mm
Weight	30 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