

BM1000

Bus module

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1 About this manual

1.1 Target groups

This installation manual is intended for the operator and for technically qualified personnel with experience in leak detection technology and integration of leak detection devices in leak detection systems. In addition, the installation and use of the unit require knowledge of electronic interfaces.

1.2 Other applicable documents

Installation manual for mass spectrometer module j1qa54
Interface protocols j1ra54

1.3 Presentation of information

1.3.1 Warnings



1.3.2 Text markings

| Marking | Meaning |
|----------------|---|
| ✓ | Requirement for execution of an action |
| ✕ | Tool or aid for an action |
| ▶ | Instruction |
| 1, 2, 3, ... | Several instructions in a fixed order |
| ⇒ | Result of an action |
| SMALL CAPS | Designation of the unit or command/term from the menu |
| Information | Useful tips and information |

2 Safety

2.1 Intended use

The bus module is a device interface between the MSB box of the mass spectrometer module LDS3000 and an external controller, for example.

- ▶ Install, operate and service the unit only in compliance with this manual.
- ▶ Comply with the limits of application (see [Chapter 4.2, page 8](#)).

2.2 User requirements

Safety conscious operation

- ▶ Operate and install the unit only if it is in perfect working order and as intended, in a safety-conscious manner and fully aware of dangers, in compliance with this manual.
- ▶ Fulfill and ensure compliance with the following regulations:
 - Intended use
 - Generally applicable safety and accident prevention regulations
 - International, national and local standards and guidelines
 - Additional provisions and regulations that are specific to the unit
- ▶ Use only original parts or parts approved by the manufacturer.
- ▶ Keep this manual available at the operating site.

Personnel qualifications

- ▶ All work must be performed only by technical specialists who have been trained on the unit.
- ▶ Allow personnel in training to work with the unit only under the supervision of technical specialists.
- ▶ Make sure that the authorized personnel have read and understood this manual and all other applicable documents (see [Chapter 1.2, page 4](#)), especially the information on safety, maintenance and repairs, before starting work.
- ▶ Define responsibilities, authorizations and supervision of personnel.

2.3 User requirements

- ▶ Read, observe and follow the information in this manual and the working instructions created by the owner, especially the safety instructions and warnings.
- ▶ Perform all work based on the complete manual.

3 Shipment, transport, storage

3.1 Checking shipment

Scope of delivery

| Article | Quantity |
|---------------------|----------|
| Bus module | 1 |
| Installation manual | 1 |

- ▶ Check shipment to make sure it is complete.

3.2 Transport

NOTICE

Damage due to unsuitable packaging material

Transport in unsuitable packaging material can damage the unit.

- ▶ Transport the unit only in the original packaging material.
- ▶ Keep original packaging material.

3.3 Storage

- ▶ Always store the unit in compliance with the technical data, see [Chapter 4.3, page 9](#).

4 Description

4.1 Design of the bus module

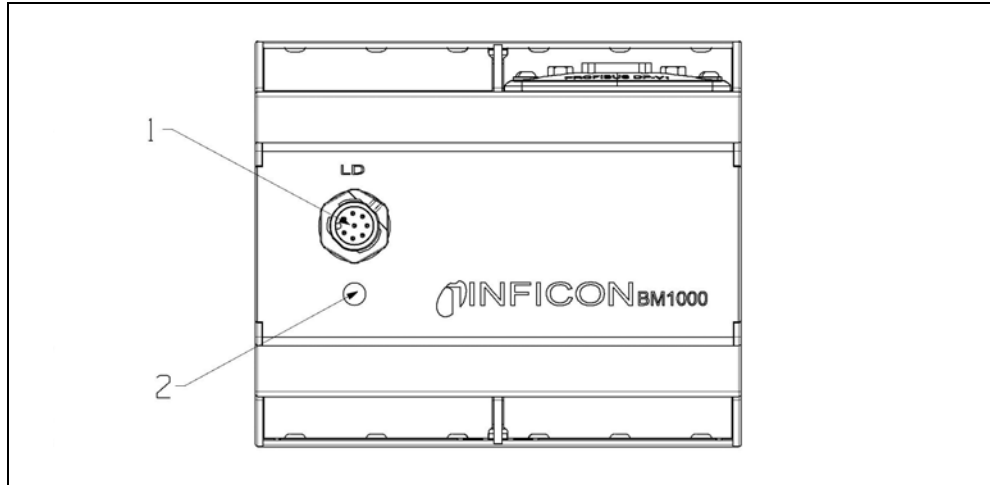


Fig: 1 Front view

1- LD

Connection for the cable to the mass spectrometer module

2- Status LED

| Color | Status | Meaning |
|-------|-----------------|---------------------------|
| Green | Continuously on | Operating voltage present |

4.2 Function

The bus module is a device interface between the MSB box of the mass spectrometer module LDS3000 and an external controller, for example. The bus module is equipped with

- a PROFIBUS module
- ▶ information on the PROFIBUS module: see file ABCC_DPV1_1_32.pdf on included USB flash drive.

Bus modules with other built-in Fieldbus modules are available on request (e.g. CANopen, Modbus-RTU, Modbus-TCP, DeviceNet, CC-Link, EtherNet/IP, Profinet-IO, EtherCAT).

4.3 Technical data

4.3.1 Mechanical data

| | |
|------------------------|------------------------------|
| Dimensions (W x H x D) | 107.6 mm x 89.7 mm x 76.6 mm |
| Weight | 500 g |

4.3.2 Electrical data

| | |
|----------------|---------|
| Supply voltage | 24 V DC |
|----------------|---------|

4.3.3 Ambient conditions

| | | |
|--|------------------|--------------------------------------|
| Permissible ambient temperature (during operation) | | 10 °C ... 45 °C |
| Permissible storage temperature | | -20 °C ... 60 °C |
| Max. relative humidity | < +31 °C | 80% |
| | +31 °C to +40 °C | decreasing linearly from 80% ... 50% |
| | > +40 °C | 50% |
| Type of protection | | IP 20 |
| Pollution degree | | II |
| Max. altitude above sea level | | 2000 m |

5 Installation and removal

5.1 Installation of the bus module

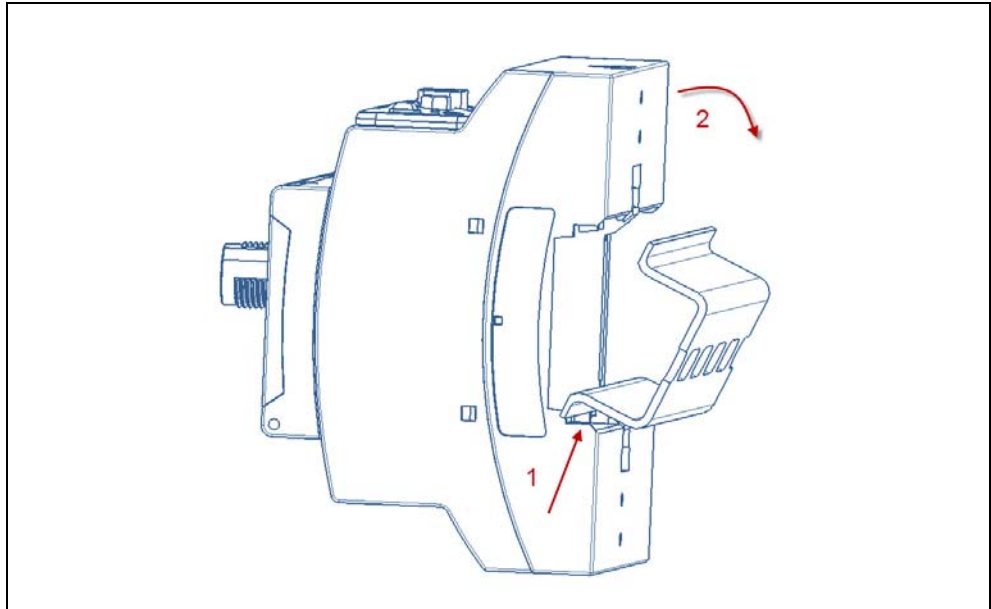


Fig. 2 Mount bus module on DIN-TS35 top hat rail

× DIN-TS35 top hat rail

- 1 Hook unit on top hat rail at bottom.
- 2 Press unit onto top hat rail at top.

5.1.1 Establish connections

Connection of bus module with MSB box

The bus module communicates via a data cable with the mass spectrometer module and is supplied with voltage by means of the data cable.

× Data cables from INFICON

- 1 Connect bus module (connection LD) via data cable with MSB box (connection I/O).

Information If you disconnect the data cable from the connection LD of the bus module during operation, the communication between the bus module and the MS module will be interrupted.

- 2 Connect the bus module with the external controller by means of the built-in Fieldbus module.

Communication with Fieldbus master

- ▶ For information on establishing communication with the Fieldbus master, see Interface protocols, jira54.

5.2 Removal of the bus module

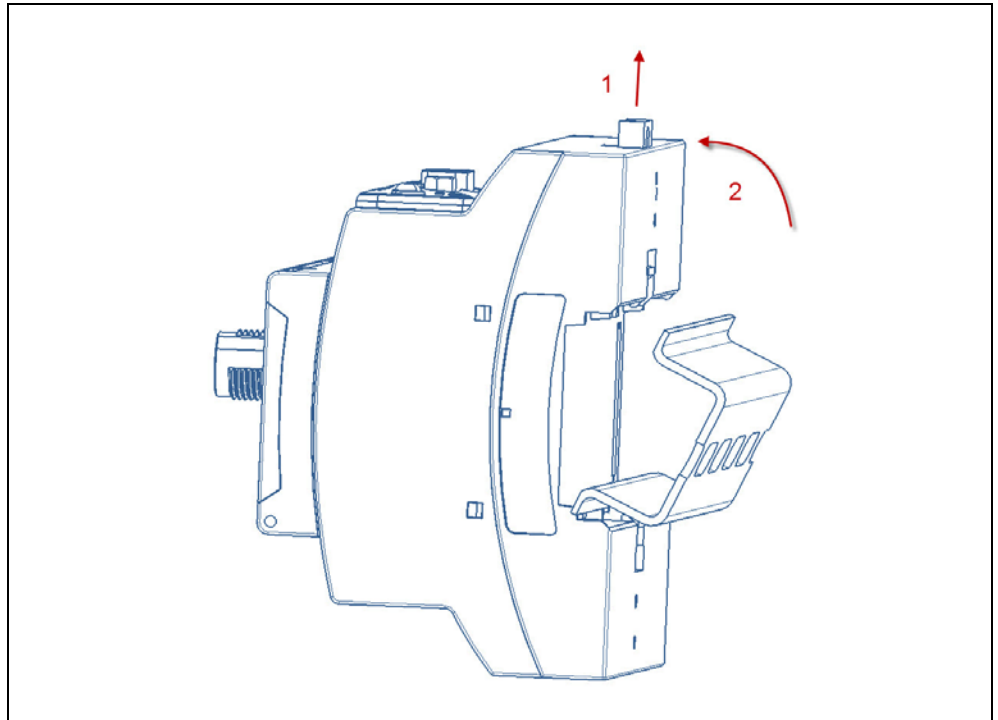


Fig: 3 Removal of the bus module

× Flat-tip screwdriver

- 1 Use the flat-tip screwdriver to pull out the locking device.
- 2 Pull the bus module off of the top hat rail.

6 Disposal

The unit can be disposed of by the user.

Information The unit is made of materials that can be reused. By recycling these materials you reduce waste and environmental impact.

- ▶ For disposal, always comply with local and regional environmental and safety regulations.



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