



Programmable Safety Systems PSS-Range

PSS1 BMPS 3/1, PSS1 BMPS 3/3
Operating Manual
Item No. 20 410-02



The spirit of safety.

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We reserve the right to amend specifications without notice. We are grateful for any feedback on the contents of this manual.

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PSS1 BMPS 3/1, PSS1 BMPS 3/3

Intended use

The module racks PSS1 BMPS 3/1 and PSS1 BMPS 3/3 are designed for the installation of PSS 3100 modules (failsafe and standard), as well as standard modules for the P9 controller.

The following central processing units can be used on both module racks:

- PSS1 CPU2
- PSS1 CPU3
- PSS1 SB CPU and
- PSS1 SB CPU3

Specific data for the module racks PSS1 BMPS 3/1 and PSS1 BMPS 3/3 is given in the section entitled “Technical details”. Use of the device outside the specifications given here will be deemed as improper use.

Intended use includes following the information in this manual as well as the requirements stated in the Installation Manual for the PSS 3000/PSS 3100 series.



CAUTION!

Unused slots must always be covered by a blanking plate (order no. 303 200), otherwise there is a risk of electric shock; foreign bodies could also cause short circuits and damage the unit.

Overview

The module racks PSS1 BMPS 3/1 and 3/3 have a bus for failsafe modules and a bus for standard modules. Both have 3 free slots.

- PSS1 BMPS 3/1 can be configured with
 - 3 failsafe modules or
 - 2 failsafe modules **and** 1 standard module.
- PSS1 BMPS 3/3 can be configured with
 - 3 failsafe modules **or** 3 standard modules.
 - 3 failsafe modules and standard modules in any combination.

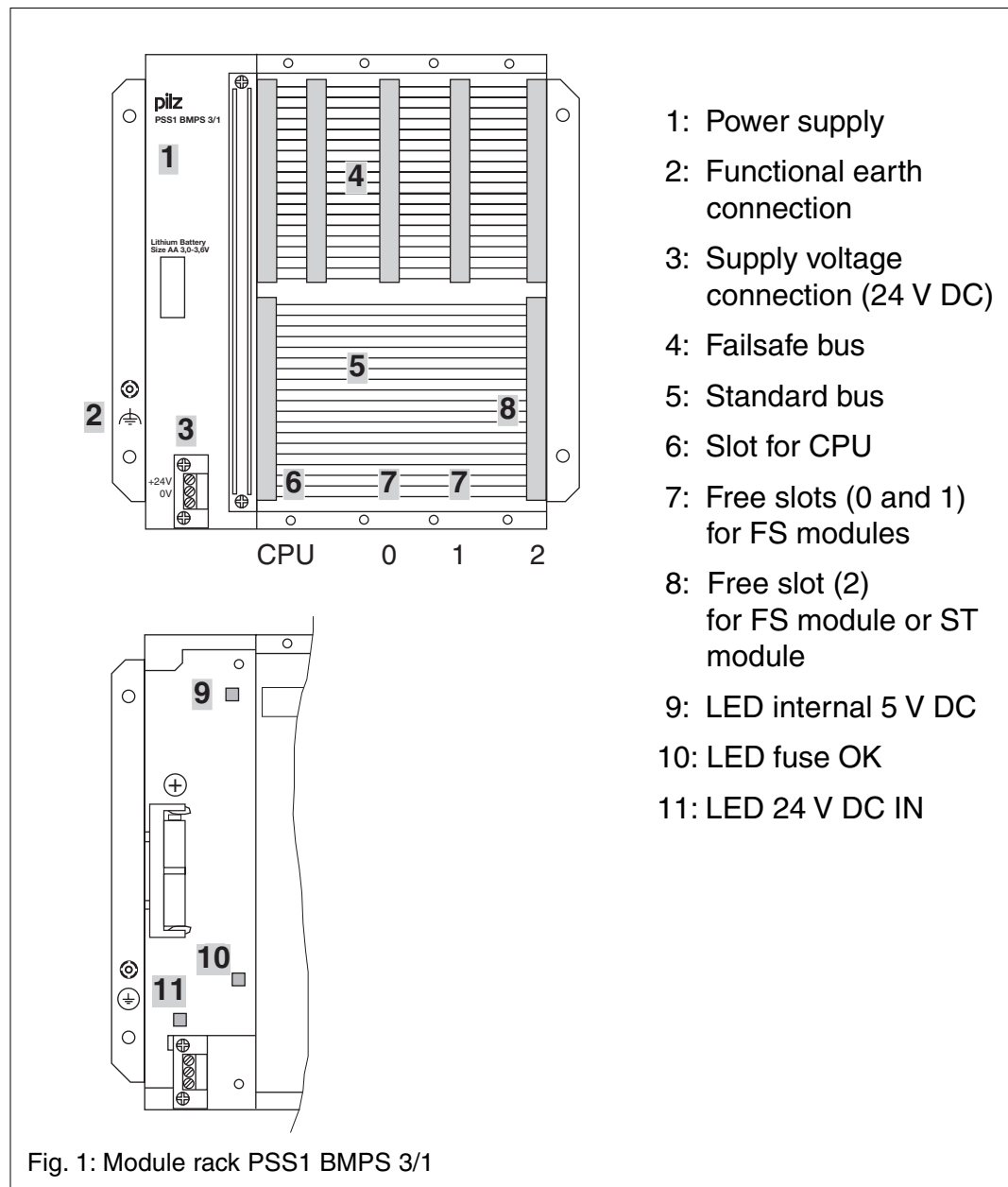
The central processing unit PSS1 CPU2, PSS1 CPU3, PSS1 SB CPU or PSS1 SB CPU3 always occupies the slot next to the integral power supply.

The module rack's integral power supply generates the 5 VDC supply required by the programmable safety system. It is operated using a 24 VDC supply.

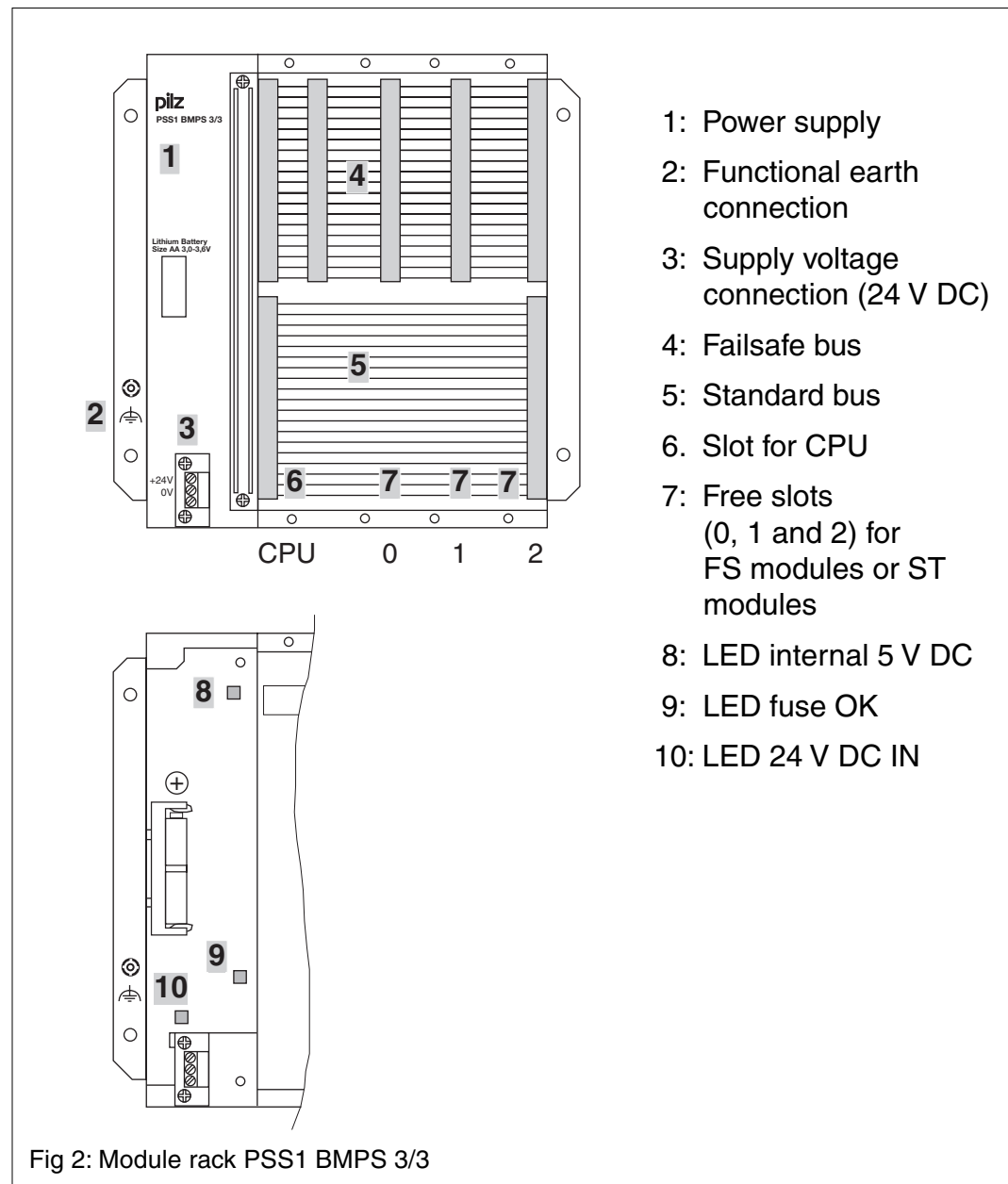
The power supply is on the module rack's backplate. Internal test algorithms monitor the unit to ensure it is functioning correctly. An exchangeable buffer battery supplies all the "non-volatile memories" and the real-time clock. Plug-in screw connectors make connection simple.

PSS1 BMPS 3/1, PSS1 BMPS 3/3

PSS1 BMPS 3/1

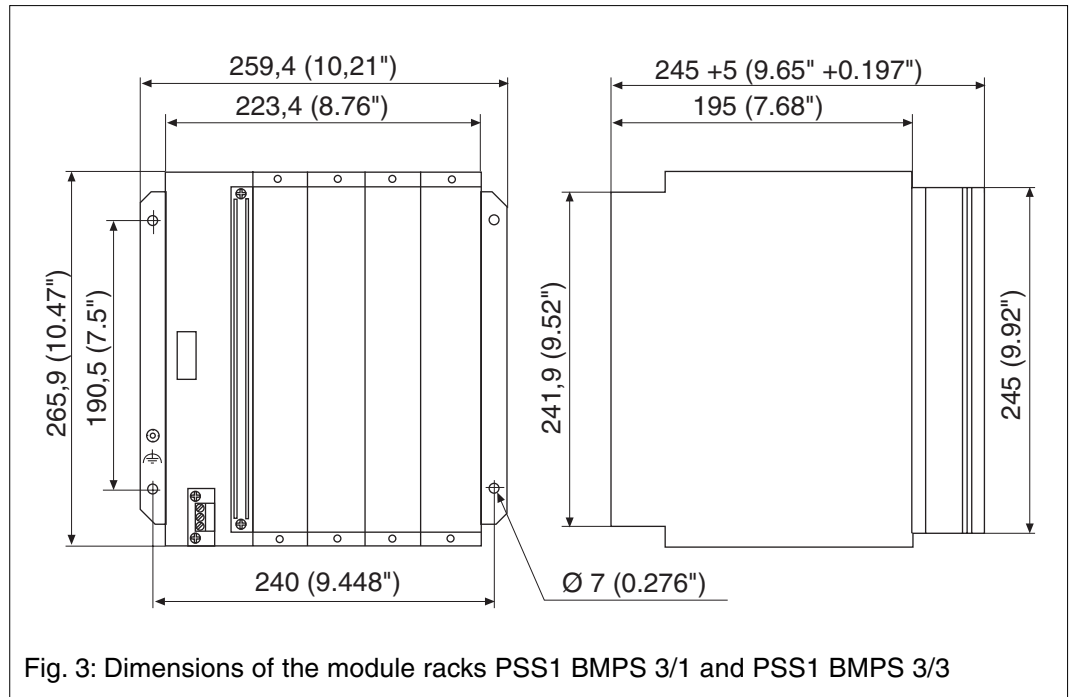


PSS1 BMPS 3/3



PSS1 BMPS 3/1, PSS1 BMPS 3/3

Dimensions (in mm/")



Commissioning



CAUTION!

Electrostatic discharge can damage components on the module. Ensure against discharge before touching the module, e.g. by touching an earthed, conductive surface or by wearing an earthed armband.

- The module racks PSS1 BMPS 3/1 and PSS1 BMPS 3/3 should be installed as described in the Installation Manual for the PSS 3000/PSS 3100 series.
- Connecting the supply voltage:
Connect 24 VDC to the screw terminals on the front of the power supply (see section on page 5 entitled “Connector pin assignment”).



WARNING!

Safe electrical isolation must be ensured for the external 24 V supply. Failure to do so could result in electric shock. Power supplies must conform to DIN VDE 0551 / EN 60742 and EN 50178.

Please note:

- Use copper wiring that can withstand insulation temperatures of 75 °C.
- The torque setting on the connection terminals should be 0.5 ..0.6 Nm.

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Connector pin assignment

The power supply has a 3-pin screw connector for the supply voltage. Only 2 terminals are used (24 V and 0 V). The functional earth is connected to the separate connection on the module rack..



Fig. 4: Supply voltage connection (24 VDC)

Battery

If the battery voltage drops below 2.5 V, the CPU will issue the error message “S-04”. You should then change the battery, which is located behind the front plate of the power supply.



CAUTION!

Always switch off the supply before changing the battery. The CPU will retain data via a capacitor for approx. 2 minutes. If it takes longer to change the battery, data will be lost.

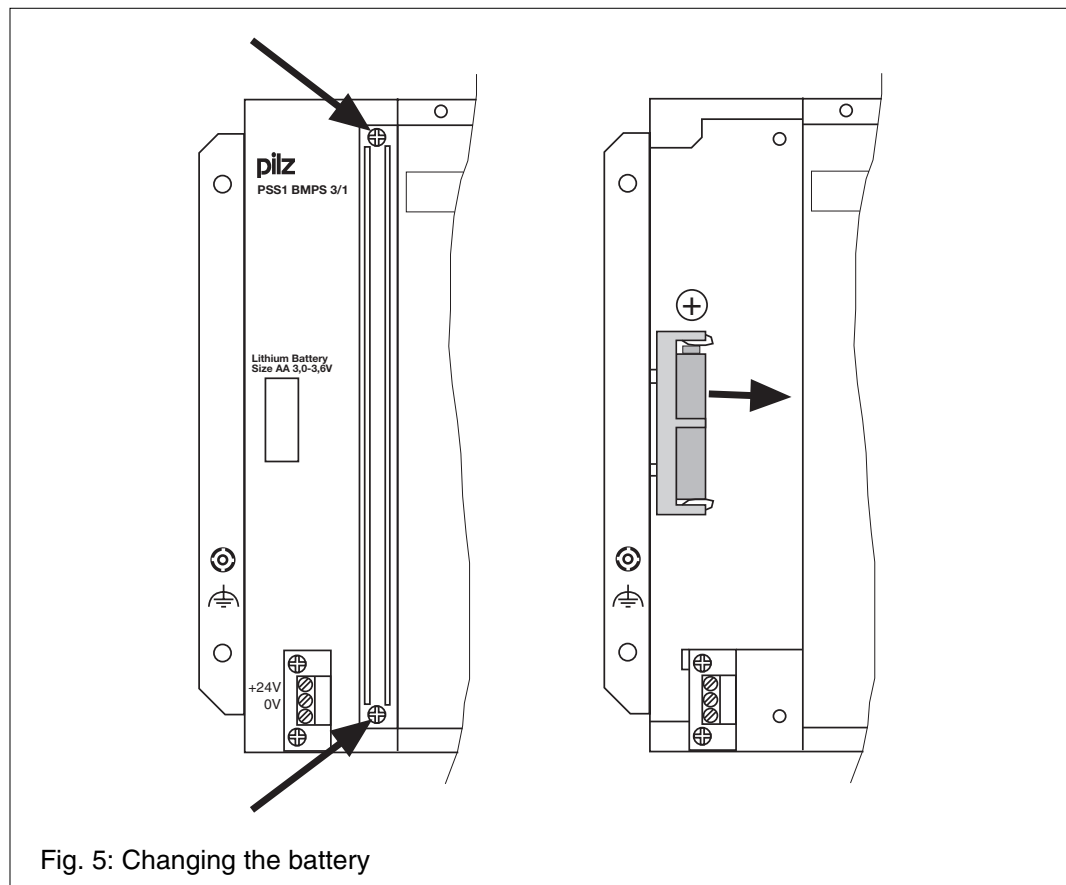


CAUTION!

Electrostatic discharge can damage components on the power supply and modules. Ensure against discharge before touching the device, e.g. by touching an earthed, conductive surface or by wearing an earthed armband.

Changing the battery

- Loosen the screws on the front plate (see Fig. 5).
- Remove the front plate.
- Change the battery
- Screw the front plate back on.



CAUTION!

Please ensure that no metal parts get into the open PSS system, as this could adversely affect the system's safety functions. Please proceed with care!

PSS1 BMPS 3/1, PSS1 BMPS 3/3

Technical details

Electrical data	
Supply voltage	24 VDC
Tolerance range	19.2 ... 30 VDC including residual ripple ± 1.2 V
Output voltage	5.0 VDC/max. constant load: 3.5 A
Power consumption	Max 30 W
Inrush current	6 A for max. 200 ms
Operation	Regulated, no galvanic isolation
Battery	Type: Lithium 3.0 V, size AA, service life: ca. 2 years, order no. 374 120
Environmental data	
Protection type (EN 60529, 10/91)	IP20
Ambient temperature (DIN IEC 68-2-14, 06/87)	0 ... 60 °C
Storage temp. (EN 60068-2-1/-2, 03/93)	-25 ... +70 °C
Climatic suitability (IEC 68-2-30, 09/86)	Max. 95 % r.h.
Condensation	Not permitted
Vibration (EN 60068-2-6, 04/95)	Frequency range: 10 ... 100 Hz Amplitude: 0.1 mm, max. 2g
Shock (DIN IEC 68-2-29)	30g, 11 ms/10g, 16 ms
EMC	EN 50082-2, 03/95 EN 55011 A, 05/98
Mechanical data	
Free slots	PSS1 BMPS 3/1: 3 failsafe slots or 2 failsafe slots and 1 standard slot PSS1 BMPS 3/3: 3 failsafe slots and standard slots in any combination

Connectors	Plug-in screw connectors
Modules secured by	Screw connection
Dimensions (H x W x D)	266 x 259,4 x 195 mm
Depth incl. mounted modules	245 mm
Weight	3.1 kg

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Changes in the documentation

Changes in Version 20 410-02

The manual was expanded to include the module rack PSS1 BMPS 3/3.

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