

Power supply combiner

ABT-PSC48

EN

User Manual



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1. *ABT-PSC48 Power supply combiner*

The ABT-PSC48 power supply combiner is used to supply electronic equipment with 52 VDC rated voltage, with a total maximum power of 3,2 kW.

It uses external 800 W ABT-PS48800 switching power supplies.

The ABT-PSC48 can work with up to four of ABT-PS48800 power supplies, ensuring their safe work connection.

The power supply combiner is to be used in cases where emergency battery power is not needed.

The ABT-PSC48 power supply combiner is designed to power amplifiers, which are not equipped with their own PSU, it is also possible to power amplifiers equipped with an auxillary DC input.

The maximum configuration of the power delivery system is as follows:

- » **1 x ABT-PSC48 – Power supply combiner**
- » **4 x ABT-PS48800 – Power supply module**
- » **1 x ABT-PF4 – Power supply modules bracket**



Fig. 1. ABT-PSC48 front panel

2. *Unpacking*

Please read the following instructions in order to gain useful information regarding installation, operation and specifications of the product. Similar to most of electronic devices, upon returning the product, original packaging will be required.

3. Installation conditions

External conditions

It is forbidden to put the device in an environment, which may have negative effects or shorten the life of the device. Those environments usually have high levels of temperature, dust, humidity or vibrations.

Important safety instructions

1. Read the following manual carefully.
2. Keep the following manual.
3. Pay attention to the warnings included in the manual.
4. Follow all the instructions.
5. Do not use the device in the proximity of water.
6. Use only dry cloth for cleaning the device.
7. Do not cover the ventilation holes in the device chassis.
8. Do not install the device in the proximity of heat sources, such as heaters, boilers, furnaces or radiators. Also other electronic devices producing heat such as amplifiers.
9. For AC power, use only sockets equipped with a grounding pin.
10. Make sure the wires are not stepped on, bent or crushed. Sharp cable bends next to the device are to be avoided.
11. Use only the accessories and spare parts provided by the manufacturer.
12. Use support and mounting systems determined by the manufacturer. When using mobile mounting systems pay special attention to the device stability.
13. In the event of a storm or a long power shortage, disconnect the device's power.
14. When repair or maintenance is needed contact authorized service personnel only. Service is unconditionally needed when damages such as: power cord or plug damage, flooding the device with liquid or dropping the device occur.

⚠ AVOID EXCESSIVE TEMPERATURE, HUMIDITY VIBRATIONS AND DUST

Keep the device away from places exposed to high temperatures and humidity (radiators, furnaces, etc.) as well as dust and vibrations.

⚠ AVOID MECHANICAL SHOCKS

Strong impacts and shocks may damage the device. Transport the device carefully and avoid dropping it.

⚠ DO NOT DISASSEMBLE THE DEVICE OR ATTEMPT TO REPAIR OR MODIFY IT

The device does not include user replaceable components inside the chassis. Whenever a service is needed contact authorized service personnel. Opening the chassis and unauthorized repairs will void the warranty.

⚠ ALWAYS DISCONNECT THE DEVICE BEFORE ADDING COMPONENTS TO THE INSTALLATION

To avoid device damage, disconnect the AC power before adding new components to the system.

⚠ HANDLE POWER CORDS WITH CARE

Connect and disconnect the power cables grabbing the connector not the cord.

⚠ USE ONLY DRY, SOFT CLOTH FOR CLEANING

Never use any solvents, such as mineral spirits or paint thinner. Clean the device using a soft dry cloth.

4. Installing and connecting the device

General Notes

Installing, connecting and configuring the devices should be performed in accordance to the following manual. When connecting DC power cables pay special attention to the polarity. Wrong polarity will result in PSU or power supply combiner damage. Before powering the system up check all the connections.

Installation

The device is designed to be mounted in a 19" rack enclosure. The Power Supply Units should be mounted in a dedicated ABT-PF4 bracket which is then mounted in the rack cabinet.

Connecting the device

Ground the device using the grounding bolt on the lower left side of the rear panel. Next, connect the necessary number of ABT-PS48800 Power Supply Units to the INPUT DC 52 V terminals placed on the rear panel of the ABT-PSC48, making sure of the correct polarity.

The diagram below shows the maximum configuration of the power delivery system consisting of four connected PSUs. Lastly, connect the devices powered by the ABT-PSC48.

NOTE: In order to connect devices drawing more than 30 A bridge an according number of 52 V outputs.

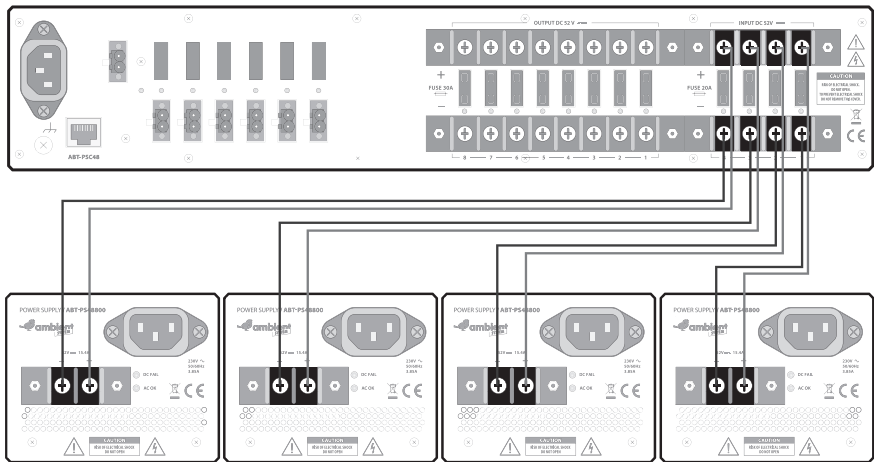


Fig. 2. Connection between 4 power supply units ABT-PS48800 & Power supply combiner ABT-PSC48

5. ABT-PSC48 rear panel

All of the rear panel's connectors are shown on the diagram below.

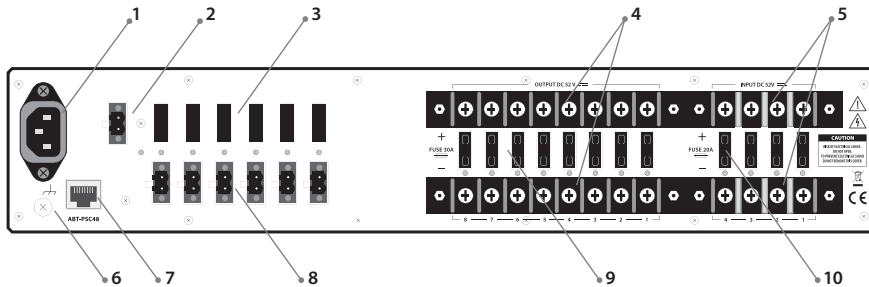


Fig. 3. Rear panel of ABT-PSC48

1. **Not connected**
2. **Not connected**
3. **Not connected**
4. **52 V DC output terminals**
5. **52 V DC input terminals. Used to connect Power Supply Units**
6. **Grounding bolt**
7. **Not connected**
8. **Not connected**
9. **Output circuit fuses (30 A, 58 VDC) used to prevent 52 VDC overcurrent**
10. **Input circuit fuses (20 A, 58 VDC) used to prevent PSU overcurrent**

6. ABT-PSC48 technical specifications

Model	ABT-PSC48
<i>Electrical parameters</i>	
DC inputs	4, M4 DEGSON terminals, 13 mm raster, dedicated PSU (ABT-PS48800)
DC input protection	4x 20 A 58 VDC blade fuse
DC outputs	8x 52 V, M4 DEGSON terminals, 13 mm raster, each 52 VDC output 30 A max.
DC output protection	8x 30 A 58 VDC blade fuse
Maximum total DC load	The maximum total DC load should not exceed 60A
<i>External parameters</i>	
Enclosure	Steel front panel, powder coated, flat black, white inscriptions
Dimensions	482 (W) x 85 (H) x 443 (D) mm
Weight	6 kg

7. ABT-PS48800 Power Supply Unit

The ABT-PS48800 is a switching power supply unit. It's rated power is 800 W. It is possible to use the ABT-PS48800 as a standalone unit without using the ABT-PF4 rackmount bracket.

7.1 Rear panel

The ABT-PS48800 rear panel is shown on the diagram below.

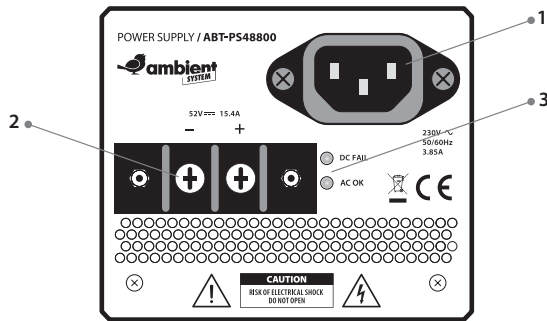


Fig. 4. Rear panel of ABT-PS48800 Power Supply Unit module

1. **230 V AC 3,85 A C13 power connector**
used to connect the power cord
2. **52 V DC 15,4A output connector**
used to supply 52 V DC current
3. **Device state indicator lights**
see LED explanation below

DC FAIL	lights up red, when sufficient output voltage is not reached (overload)
AC OK	lights up green, when the AC voltage is sufficient for the device to operate

7.2 ABT-PS48800 technical specifications

Model	ABT-PS48800
<i>Electrical parameters</i>	
AC power	230 V AC +10% -15%, 50/60 Hz, 3,85 A Power cord: IEC 60320 C13 3x0,75 mm2 (included)
Maximum power consumption	885 W
Efficiency at rated power	> 90%
AC input protection	T6,3 A / 250 V 5x 20 mm cartridge fuse (accessible upon opening the chassis)
Electrical shock protection	Class I (PN-EN 60065)
DC output	M4 DEGSON terminal,13 mm raster, 52 V DC, 15,4 A max.
<i>External parameters</i>	
Dimensions	85 (W) x 95 (H) x 395 (L) mm
Weight	2,6 kg
Accessories	IEC 60320 C13 1,5 m power cord

8. *ABT-PF4 – PSU bracket*

The bracket is used to mount the Power Supply Units in a 19" IP30 rack cabinet. Four independent ABT-PS48800 power supply units can be mounted in the bracket using the supplied mounting screws. The bracket should be placed under the ABT-PSC48 power supply combiner.



Fig. 5. ABT-PF4 front panel



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