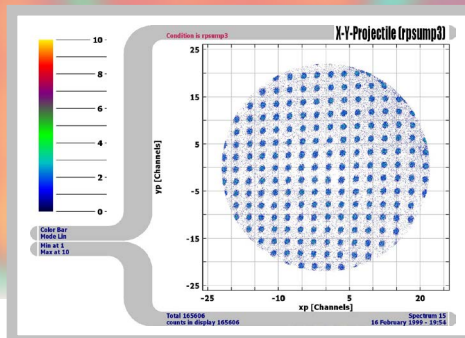
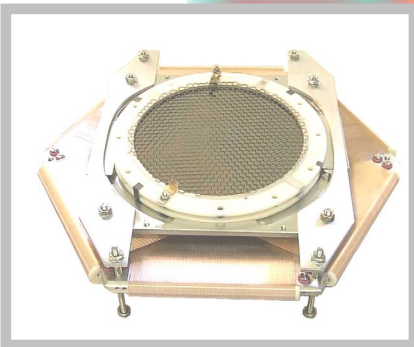


SPS1(b) mains adapter manual

(Version 11.0.2102.1)



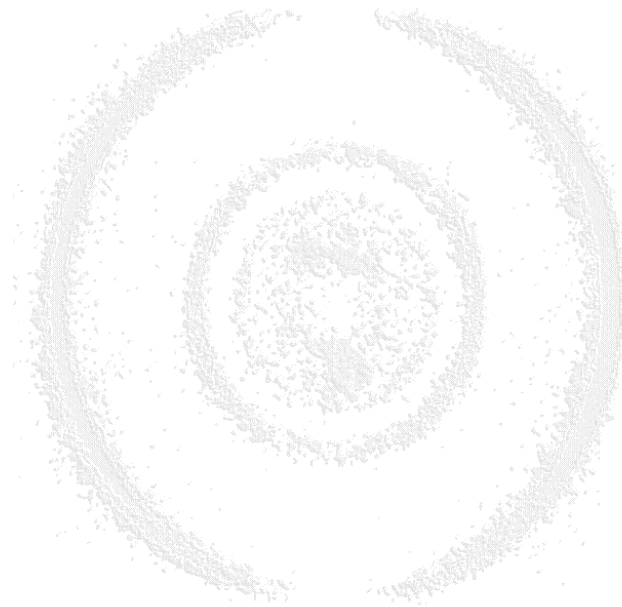
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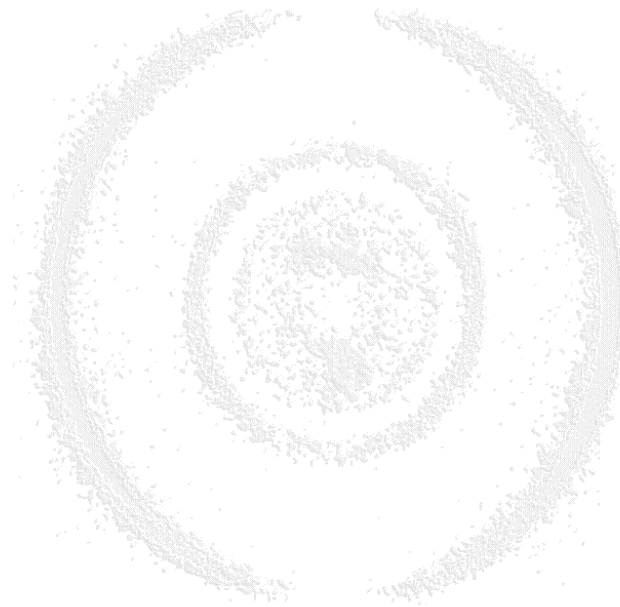
The SPS1(b) mains adapter

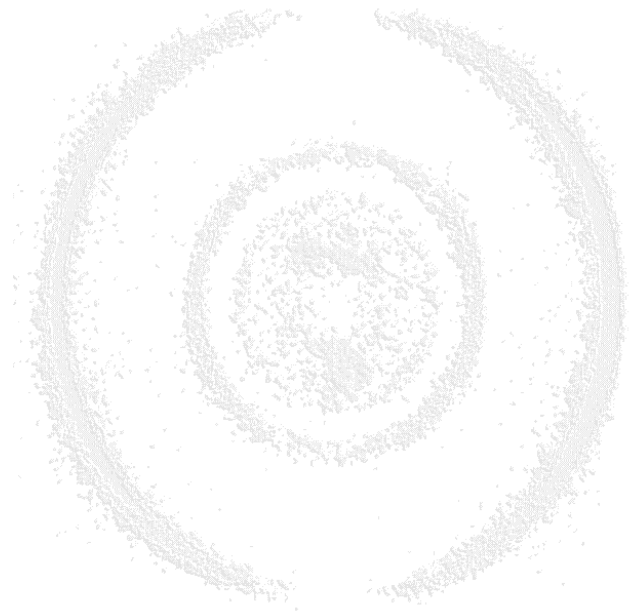
The **RoentDek SPS1/SPS1b** are external power supplies for the **RoentDek (N)DLATR8**, **(N)DLATR6** and **ATR19** units which have no internal mains adapter. The **SPS1b** can also supply the **CFD1b**. The **SPS1** is NOT used for supplying the **ATR19-2b** unit.

The **SPS1** provides DC-outputs (V_{out}) adjustable between 5 V and 6 V, both positive and negative from 100-125 V/200-250 V, 50/60 Hz AC mains power. The **SPS1b** provides ± 6 V and additionally -5.2 V on a separate line. A switch on the back panel is used to select the mains power range. V_{out} can be adjusted between 5 V and 6 V. The output voltages are supplied via a 9-pin Sub-D connector which is compatible with the external power input sockets of the **RoentDek (N)DLATR8**, **(N)DLATR6**, **ATR19** (and **CFD1b**) units.

The **RoentDek SPS1** is ready for use. To prevent any damage or injuries, please read the following sections before. The **RoentDek SPS1** power supply works with hazardous mains voltage. Always make sure to:

- keep the **SPS1** power supply dry (use indoors only)!
- never insert any objects into the ventilation openings of the **SPS1** power supply!
- never block the ventilation openings on the top and bottom of the case!
- only operate the **SPS1** power supply while the case is closed!





1 Connecting the SPS1

Figure 1.1 shows the connectors on the rear panel of the SPS1 power supply. The power switch is located on the front panel.

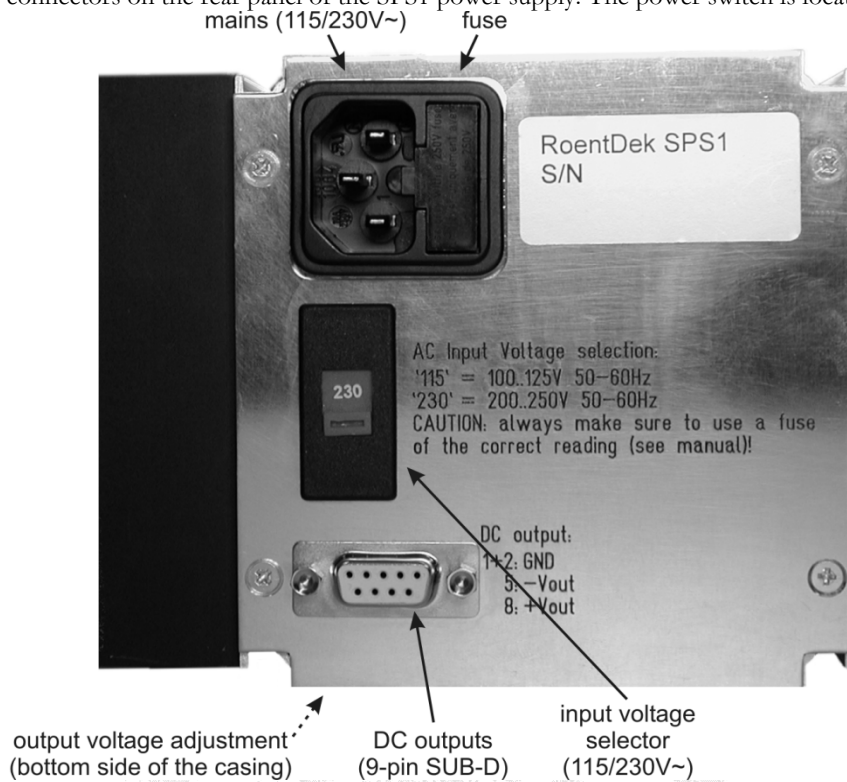


Figure 1.1: Connectors on the back of the SPS1.

The SPS1b features two identical output connectors which additionally provide -5.2 V on pin 3.

CAUTION: Before connecting or disconnecting any cables always make sure that the power switch on the front panel is in its 'off' position (digit '0' can be seen).

- a) Make sure that the correct AC input voltage range is set:
 '115' for operation with 100-125 V AC 50-60 Hz
 '230' for operation with 200-250 V AC 50-60 Hz
 If the wrong range is set, see chapters 3.8.2 for changing the supply voltage range and the input fuse.
- b) Connect the **SPS1** power supply to the mains voltage. You will need a standard three-pole mains cord with protective ground (IEC320/EN60320 C14 connector, rated at 250 V 10 A).

CAUTION: Make sure to use only power outlets with a proper protective earth connection.

- c) Connect your **(N)DLATR6**, **(N)DLATR8** or **ATR19** device to the **SPS1**'s output connector. You will need a 9-pin Sub-D male-male cable with the following three pins connected 1:1.

Pin no.	Voltage
1+2	GND
5	-V _{out}
8	+V _{out}
3	-5.2 V (only SPS1b)

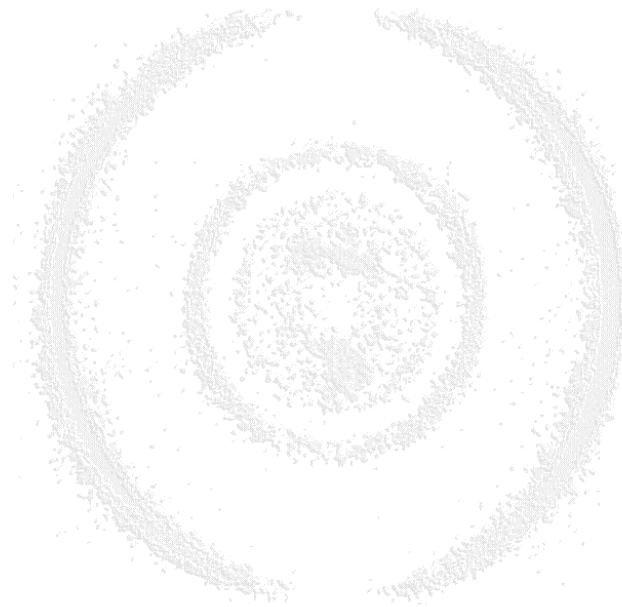
Table 1.1: Pin assignments of the 9-pin Sub-D output connector

Do not use standard RS-232 cables or similar since they do not have the wire cross-section needed for the high output currents of the **SPS1**. Only use cables with a cross-section of at least 0.75 mm². Use shielded cables if possible.

CAUTION: Do not connect any other devices than the **RoentDek** (N)DLATR6, (N)DLATR8, ATR19 (or CFD1b) to the SPS1(b) before checking with **RoentDek**.

The **SPS1** output is not short-circuit proof. If you short-circuit or overload the outputs, the internal fuses will have to be replaced by new fuses of the same rating (250 V F1.6 A for positive output, 250 V F2.5 A for negative output. F='flink'=quick acting). You will have to open the casing for replacing the internal fuses. Make sure to disconnect the mains cord and the output cable before opening the case!

Please note that in its standard configuration the **RoentDek ATR19** unit is equipped with an internal power supply. The **ATR19** does not automatically switch from this internal to an external power supply. If you bought an **ATR19** device with internal power supply and want to operate it using an external power supply like the **SPS1**, you will have to disable the **ATR19's** built-in power supply first (for details please refer to the [ATR19 manual](#)).



2 How to switch the AC supply voltage

The **RoentDek** SPS1 power supply can be switched between 100-125 and 200-250 V AC supply voltage range. Always make sure that the supply voltage range is set correctly before connecting the mains voltage.

CAUTION: Selecting the wrong input voltage may cause severe damage to the SPS1 power supply and/or the attached devices!

In order to change the input voltage, remove the mains cord. Then simply slide the input voltage switch to the desired position. The actual input voltage setting ('115' or '230') will be shown. After that make sure to use the right input fuse before using the **SPS1** (see below).

	use only:	
100 V AC	250 V 0.63AT	(630 mA slow blow = träge = T)
115-125 V AC	250 V 0.5AT	(500 mA slow blow = träge = T)
200 V AC	250 V 0.315AT	(315 mA slow blow = träge = T)
230-250 V AC	250 V 0.25AT	(250 mA slow blow = träge = T)

Table 2.1: Used fuses

Use 250 V fuses only. Fuse size must be Ø 5 mm x 20 mm.

CAUTION: Never use the SPS1 with a fuse of a different rating than stated above! Never bypass the fuse!



Figure 2.1: How to remove the input fuse

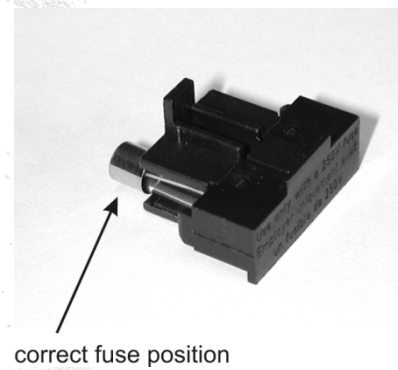
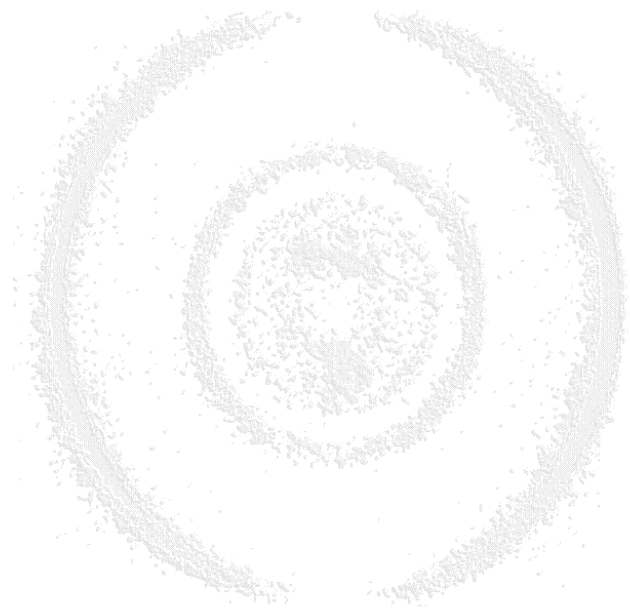


Figure 2.2: Fuse holder



3 Output voltage adjustment

Both output voltages may be adjusted if necessary. The two potentiometers are accessible from the bottom side of the SPS1's casing (see Figure 3.1). For safety reasons use a fully insulated screwdriver to adjust the potentiometers.

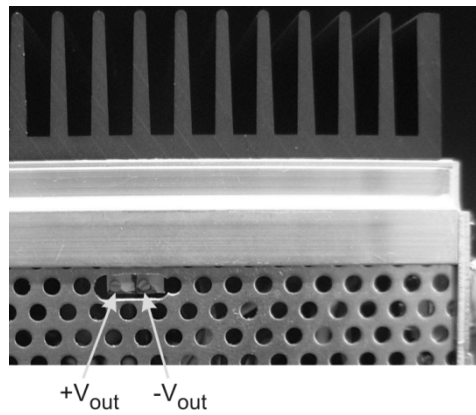
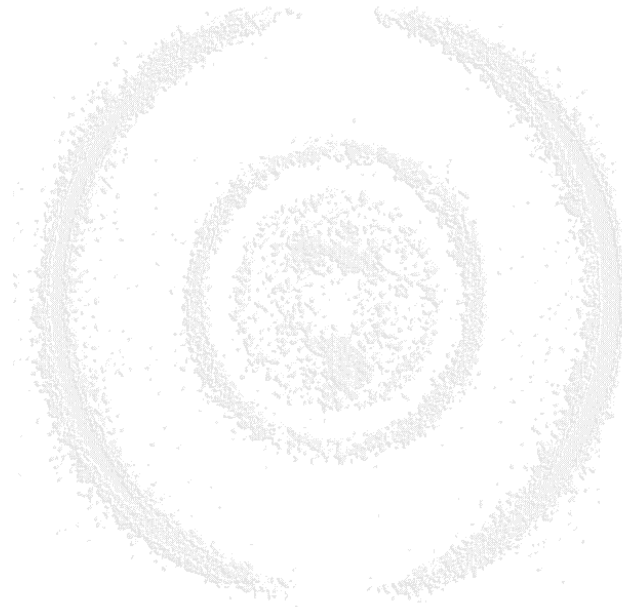


Figure 3.1: Adjusting the output voltages (SPS1 seen from bottom side)





4 Maintenance and Troubleshooting

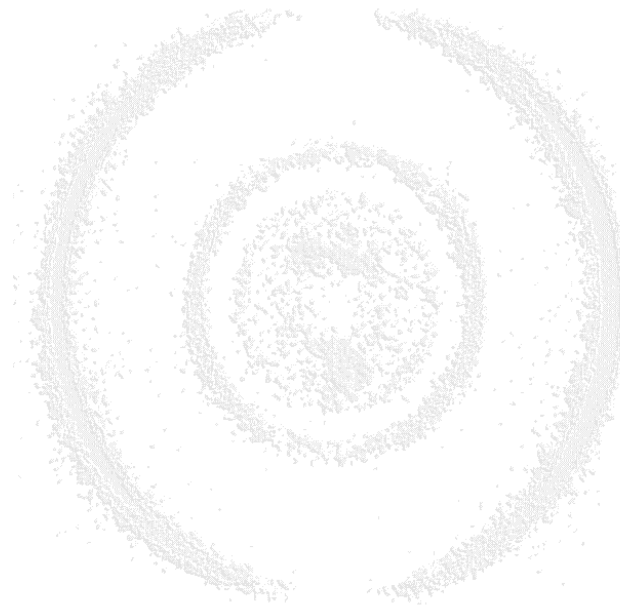
For cleaning, please use a clean, dry or slightly moist cloth only. Remove the power connection first. Do not use any chemicals for cleaning. Always make sure that no liquids enter the case.

If any problems occur, disconnect any devices from the **SPS1** power supply and directly measure the output voltages. You may try to solve the problem using the following overview:

Problem	Possible reasons:
all output voltages missing	- no mains voltage - input fuse broken (see Chapter 2) - both internal output fuses broken (overload or short-circuit has occurred)
one output voltage missing	- internal output fuse broken (overload or short-circuit has occurred)
output voltage incorrect	- re-adjustment of the output voltage needed (see Chapter 2).

Table 4.1: Troubleshooting

Please note that the green power switch may light only very dim when the **SPS1** is operated at 100-125 V.





5 Technical Specifications

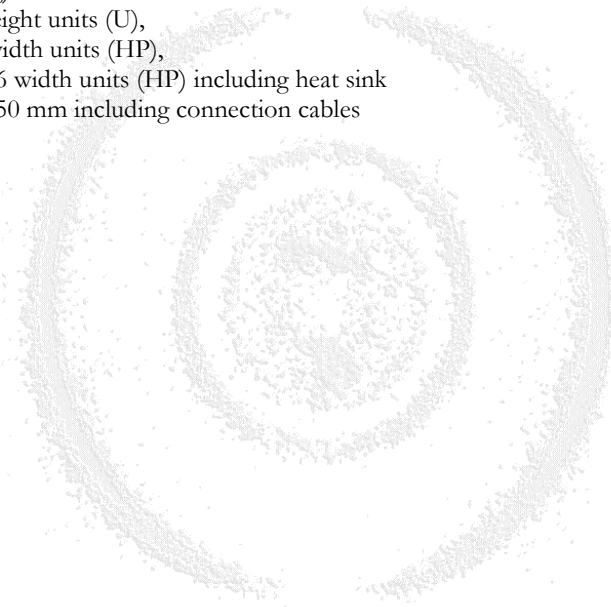
Protection Class:	IP20
AC Input Voltage:	100-125 V or 200-250 V (selection switch is at the rear panel), 50-60 Hz
DC Outputs:	positive output: 5.0 .. 6.0 V (adjustable), max. 1.2 A negative outputs: -5.2 V (fixed) max. 1 A -5.0 .. -6.0 V (adjustable), max. 2.2 A both negative outputs COMBINED may not exceed 2.2 A!
Power Consumption:	typ. < 3 W standby (no device connected) typ. < 45 W full load ((N)DLATR8 or ATR19 with 8 amplifier channels)
Storage conditions:	-20 – 60° C, max. 80% humidity
Operating conditions:	10 – 40° C, max. 80% humidity
Weight:	2.3 kg

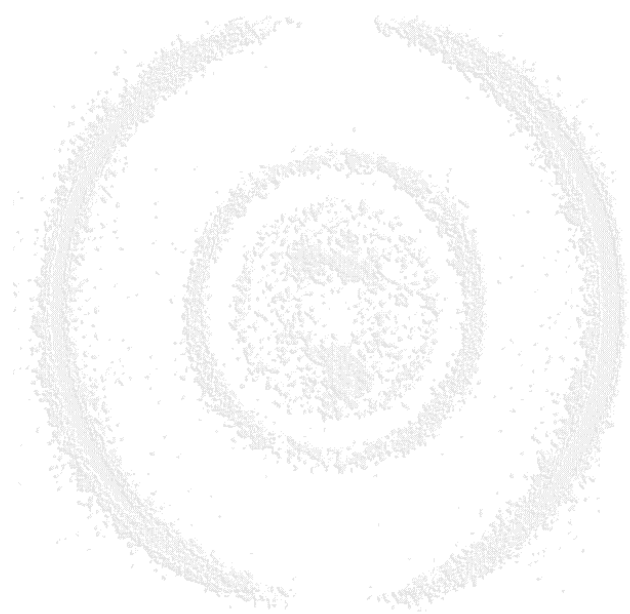
Dimensions (stand-alone):

Width:	130 mm
Height:	130 mm
Depth:	190 mm (Insertion depth with all cables connected: < 250 mm)

Dimensions (19" rack mounting):

Front Panel:	3 height units (U), 21 width units (HP),
Total Width:	< 26 width units (HP) including heat sink
Insertion Depth:	< 250 mm including connection cables





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