

# SleepRT PSG: technical specifications

## Schwarzer AHNS 40/44-channel PSG amplifier

### Channel configuration

#### 40 channels



#### 44 channels



EEG/EXG	33 referential 3 bipolar	33 referential channels 2 bipolar channels
Other channels	3 unipolar 1 SpO2 Trigger input (event button, triggers)	8 unipolar channels 1 Temperature channel 1 SpO2 Trigger input (event button, triggers)

### Full scale input range

- Referential & bipolar inputs (except ECG): 5.050mV / 21.21 mV / 166.7 mV (software selectable)
- ECG (bipolar): ECG input: 166.7 mV
- Unipolar: 47.6 mV

### Analog to Digital conversion

- Range 1 Vpp
- Resolution 20-bits
- Acquisition rates 125, 200, 250, 500, 1k, 2k, 5k, 10k, 20k, 40k samples/s/channel (software selectable)

### Input impedance

50 MΩ per input (→100 MΩ per channel)

### Noise (referred to input)

Referential inputs	<2μVpp
Bipolar inputs	<10μVpp

### CMRR

≥100 dB at 50/60 Hz

## Filters

- **HW High Pass Filters**  
AC coupling HP = 0.0713 Hz (first order; 6dB/oct)  
LP = 23.8 kHz (first order; 6 dB/octave)
- **DSP High Pass Filters**  
Software selectable: Off or 0.07 Hz (first order; 6dB/oct)
- **DSP Low Pass Filters**  
User selectable ~ at 1/3 of software selected sampling frequency  
2 x second order butterworth type, 2 x 12 dB/oct
- **DSP Notch Filter**  
Software selectable 50 or 60 Hz first order butterworth type, quality factor = 2.5

## USB power adapter



Interface between computer and headbox. Power supply connected to USB power adapter.

## Schwarzer interface box (optional)

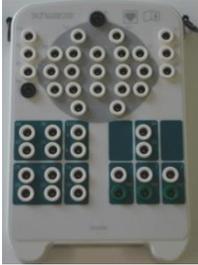


Channels:

- 12 high level DC inputs
- 3 pressure sensors (1 x  $\pm 100$  cm H<sub>2</sub>O, 2 x  $\pm 10$  cm H<sub>2</sub>O)
- 1 CPAP pressure sensor
- 2 pressure sensors for flow measurement in CPAP
- 1 light sensor
- Connection for a push button

The interface box is connected to the PC with USB cable. Headbox is connected to PC via interface box.

## Mini-headbox EEG (optional)



Channels:

- 25 EEG
- 8 referential
- 3 bipolar
- 3 monopolar (ISO ground)

The EEG mini-headbox can be temporarily detached from the main headbox. When detached by the patient for extra mobility, no signals are recorded.

Cable length: 1.5m or 3m

## Mini-headbox EEG /PSG (optional)



Channels:

- 23 EEG
- 2 ECG
- 2 EOG
- 12 monopolar
- 3 monopolar (ISO ground)

The EEG mini-headbox can be temporarily detached from the main headbox. When detached by the patient for extra mobility, no signals are recorded.

Cable length: 1.5m or 3m

## PSG Adapter (optional)



### Channels:

- EEG electrodes (A2, O2, C4, C3, O1, A1);
- Flow; EOG right and EOG left;
- ECG;
- Chin bipolar;
- Thorax and abdomen;
- Microphone;
- Leg right and leg left

Cable connection: 2.5m

## Headbox standard for PSG system (optional)



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