

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 ± 100 cm H₂O, 2 x ± 10 cm H₂O)
- 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)



Headbox standard for PSG system (optional)

