

HealthLab Satellite SAT-30.03



The HealthLab Measuring Satellite SAT-30.03 is a measurement module of the psycho-physiological monitoring system HealthLab. In the context of measurements with HealthLab the satellite SAT-30.03 acquires measuring data on the partial arterial oxygen saturation of a proband (pulse oximetry) by means of sensors (Fingerclip, Earclip or adhesive forehead sensor). Using a serial interface (RS 232), an external GPS receiver can be integrated into the HealthLab monitoring system. The SAT-30.03 transfers the captured data to a HealthLab Master. The Master stores the data and transmits it to the host computer (Windows), which is designated as control and evaluation unit.

Technical Data

Designation

HealthLab Measuring Satellite SAT-30.03,
Blood Oxygen Saturation (pulse oximetry),
GPS via serial Interface

Voltage Supply

/ Current Consumption
3,3 V DC via Master / max. 35 mA

Data Capturing

measuring range see Channel Index

Blood Oxygen Saturation (SpO₂)

3-channel using Finger or Earclip
Sensor, Resolution 8 Bit

GPS-Data

4-channel using external Device
NMEA 0813 Protocol via RS-232
Interface

Digital Interfaces

RS-485 from Master / Satellites
to Satellites using four core shielded
cable, 460 kbps

Climatic Conditions

acc. to DIN EN 60204-1 (10-2014)

Ambient Temperature

operation: -20 ... +55 °C
transport / storage: -25 ... +60 °C

Humidity / Altitude

20 ... 90 % RH (without condensing)
up to 8.000 m

Dimensions

W / H / D : 46 x 85 x16 mm
weight : 46 g

Ordering Information:

Part No

SAT-30.03 SpO₂-Satellite:
(blood oxygen saturation,
blood pressure, GPS data)

E1413

Accessories:

GPS-02 GPS receiver:

E1458

FCS-01 Fingerclip Sensor:

E1284

OCS-01 Earclip-Sensor:

E1286

SKS-01 Forehead Sensor:
(adhesive)

E1421

VSS-03 Candy Cable
(SAT-SAT connection cable)

E1816

VSMS-10 Connection
Cable Master / Satellite

E1276



The measuring satellites of the HealthLab system can be operated at one Heally Master (e.g. HFM-01) simultaneously with up to six (note the current requirement!) additional satellites via the serial system bus (HealthLab Serial Slave Bus). Using this bus, the Master provides the Satellites with energy and controls the data exchange. An unique address (0 ... 26) is assigned to each satellite. By default for the SAT-30.03, the Address is '21'. This slave address is factory preset but can be modified by the manufacturer in case of need. The HealthLab system is designed as a mobile, autarkic measurement system, but may as well stationary be used, with a permanent connection to the host computer.

For the usage of the HealthLab system, the software package 'HealthLab' is available. It includes the module 'Heally Control', which enables the user to configure the system as well as to display data and to perform measurements. For complex psycho-physiological experiments further software modules are available.

Channel Index

Channel-Designation	Channel No. (Identifier)	Signal	Unit	Measuring Range	Gain (default)	Offset
SPO2	76	blood oxygen saturation	%	0 ... 100 %	1	0
PWO2	78	pulse wave (75 Hz)	1	0 ... 255	1	0
PW_HR	77	heart rate from pulse wave	1/min	0 ... 255	1	0
GALT	41	GPS altitude	m	-5.000 ... 20.000	1	0
GKNOT	42	GPS velocity	kn	0 ... 10.000	1	0
GLAT	92	GPS latitude (-90° / S ... +90° / N)	Grad	-8E6 ... +8E6	60.000	0
GLONG	196	GPS longitude (-180° / W ... +180° / E)	Grad	-33E6 ... +33E6	60.000	0
GPS - NMEA	Record 69.71	GPS ASCII Strings				



Note: The psycho-physiological monitoring system HealthLab is manufactured and delivered in configurations according to customer's request. The HealthLab components are not certified for use in the medical field. Therefore they shall be used solely for research purposes in scientific area.

Links on further documents:

- Hardware: Master HFM-01 → <https://secure.turboj.de/documents/HFM-01.pdf>
- Software: Heally Control → https://secure.turboj.de/documents/Heally5_en.pdf

