

HealthLab Satellite SAT-30.07



Technical Data

Designation

HealthLab Measuring Satellite SAT-30.07, serial interface (RS-232) to connect and include an external device, NONIN Multi-Site for measurement of blood oxygen saturation

Voltage Supply

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

Data Capturing

measuring range see Channel Index

Pulse Oximetry (SpO₂)

under usage of different wavelengths in the infrared and red range;

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 : 4 g

The HealthLab Measuring Satellite SAT-30.07 is a measurement module of the psycho-physiological monitoring system HealthLab. In the context of measurements with HealthLab the satellite SAT-30.07 acquires the data from the NONIN multi channel pulse oximetry sensor by means of the serial interface (RS 232). The NONIN sensor provides a specific data record, which supplies the intensity of the direct and alternating components of the reflected radiation for three different wavelengths (RED, DRED = red; IR = infrared). The decoding of this data is done by PC software.

Channel description NONIN-Data-Record: size: 26 Byte frequency: 75 Hz

Coding within the HealthLab-System: Descriptor-Type: 26 Descriptor-Index: 193
(SSB_ONLINE_BYTE) (RECTYPE_NONIN26)

Alternatively geographical position data or the measurement data of a blood pressure measuring device can be recorded via the serial interface. The SAT-30.07 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.

Ordering Information:

SAT-30.07 SpO₂-Satellite:
serial Interface RS-232
(blood oxygen saturation)

Part No

E1364

Accessories:

VSS-03 Candy Cable
(SAT-SAT connection cable)
VSMS-10 Connection
Cable Master / Satellite

E1816

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-30.07, the Address is '20'. 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	Sample Rate (Hz)	Gain (default)	Offset
NN_PULSE	806	pulse	BpM	1	1	0
NN_SPO2	807	blood oxygen saturation	%	1	1	0
IR_E1	811	IR signal 1	mV	75	1	0
IR_E2	812	IR signal 2	mV	75	1	0
RED_E1	813	RED signal 1	mV	75	1	0
RED_E2	814	RED signal 2	mV	75	1	0
DRED_E1	815	DRED signal 1	mV	75	1	0
DRED_E2	816	DRED signal 2	mV	75	1	0
IRSIG	817	alternating comp. IR	mV	75	1	0
REDSIG	818	alter. comp. RED	mV	75	1	0
DREDSIG	819	alter. comp. DRED	mV	75	1	0
IRDC	820	direct comp. IR	mV	75	1	0
RED_DC	821	direct comp. RED	mV	75	1	0
DRED_DC	822	direct comp. DRED	mV	75	1	0



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

