HealthLab Tcore™ Radio Master HFUM-80

Technical Data

Description
HealthLab Radio Master HFUM-80
(Bluetooth Radio Module)

Power Supply
1 x 3V7 / 500 mAh lithium battery
permanently installed,
Running time 170 h (temperature
measurement)

Data Collection
Measurement data Tcore™
temperature sensor:
Measuring range: -1… +50 ° C
Measurement accuracy: +/- 0.1K
Heart rate (HR) using H10 HR sensor
(BLE)
Beat-to-beat interval

Storage
Flash memory 8 MB
Recording time approx. 120 h at 1sps
(temperature and heart rate)

Digital Interfaces
Bluetooth 4.0 LE
Radio range: approx. 5 m

Micro-USB 2.0

Climatic Conditions
according to DIN EN 60204-1 (10-2014)

Ambient Temperature
Operation: -20… +55 ° C
Transport / storage: -25… +60 ° C

Humidity / Altitude
20… 90% RH (without condensation)
up to 8,000 m

Dimensions
W / H / D: approx. 33 x 51 x 8.5 mm
Weight: approx. 18 g

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Management System
ISO 9001:2015

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As part of measurements with the HealthLab psychophysiological monitoring system, the radio master HFUM-80 receives the measurement data of a TcoreTM * temperature sensor, e.g. HealthLab TTC-05, recorded and stored in the non-volatile memory. At the same time, the heart rate and the beat-to-beat interval can be monitored using a heart rate monitor coupled via Bluetooth LE, e.g. POLAR H10. Basically, the HFUM-80 is configured and operated from a host computer (Windows 10 or higher) serving as an evaluation and control device via USB 2.0 or Bluetooth Low Energy 4.0 using the program Heally Control or HL5Caliber. The TcoreDFG program provides a greatly simplified user interface for reading out and deleting collected data, and charging the devices accumulator from the up to four HFUM-80 connected at the same time. A USB interface is available for quick reading of the stored data and simultaneous charging of the permanently installed lithium battery. Due to its small size and minimal power consumption, the HFUM-80 offers a significant increase in the mobility and measurement duration of the HealthLab monitoring system.

The HFUM-80 radio master is activated by plugging in the temperature sensor (e.g. TTC-05 or TTC-08 TcoreTM temperature sensor) and the measurement and recording is started. Alternatively, this can be done by modified parameterization at the push of a button or computer command. The various operating modes are indicated by multi-colored LEDs, for more information see device / program description.

The master is switched off by unplugging the temperature sensor, as well as in the event of a cable break or at measured temperatures below -10 ° C or when the switch-off threshold of the battery, which can be set in the parameters (not less than 3700 mV, this minimum voltage must be given when data collection will start.)

The measuring circuit is designed for NTC resistors with 2252 Ω at 25 ° C. On request, the amplifier circuit can also be used for other resistance values, e.g. 10 kΩ at 25 ° C

Simultaneously with the temperature measurement, the heart rate (HR) and heart rate variability (HRV) can be recorded and recorded with a heart rate monitor, which can be connected to the HFUM-80 via Bluetooth LE.

Chanel-descriptor	Chanel no. (Identifier)	Signal	Unit	Range	Resolution	Sample rate (Hz)
T_65	65	Temperature sensor close to body	°C	-1 °C … 50 °C	0,1 K	1 … 4
T_69	69	Temperature sensor away from body	°C	-1 °C … 50 °C	0,1 K	1 … 4
TC_91	91	Body core temperature	°C	-1 °C … 50 °C	0,1 K	0,5 … 2
HR [1]	227	Heart rate	BpM	20 … 200	-	-
RR_84 [1]	84	Beat-to-Beat-Interval	ms	3000 … 300 ms	-	-

[1] Measuring channel only available in connection with heart rate monitor H10 (BLE)

Note: The HealthLab psychophysiological monitoring system is configured in accordance with Customer request manufactured and delivered. Its components are not certified for use in the medical field and are therefore only to be used for research purposes in the scientific field.

Order information: | **Teile-Nr.**

HFUM-80 TcoreTM Radio module — E2152

Accessories:

TTC-05 TcoreTM Temperature sensor: disposable sensor — E1959

TTC-08 TcoreTM Temperature sensor: multiple sensor — E1967

H10 heart rate monitor — VV0080

STC-V2 headband — E2171

You can find more information on our website:

- **Hardware: Master HFM-01 (HFM-01.pdf) □ www.kie-hb.de**

- **Software: Heally Control (Heally5_en.pdf) □ https://secure.turboj.de/documents**