Technical Data Sheet – evomove®

Part 1

Technical Data of the Individual Components of the evomove®

evomove [®] Control Unit				
Classification	Classification internal power supply			
Operating modes	off, pacing with phase recognition and pacing in trai- ning mode (1 - 2 channels)			
Battery type	Lithium-Polymer 3,7 VDC			
Controls	Medical App			
Notification	3-color LED, Medical App			
Transportation options	Original packaging			
Measurements	85x35x25mm			
Weight	~ 65 g			
Protection class	IP22			
Operating temperatur	0°C to +55°C			
Storage temperature	0°C to +55°C			
Humidity	0% to 90%			
Air pressure	700 to 1060 hPa			
Impulse Parameter				
Impulse	biphasic			
Waveform	Square pulse			
Intensity	0; 4 to 80 mA; 1 mA steps			
Maximum voltage	120V			
Modulation types	aymmetrical, asymmetrical			
Maximum load	5 kOhm (40 mA)			
Impulse repetition rate	25 to 60 Hz, 5 Hz steps			
Symmetrical				
Positive pulse	100 150 200 250 300 350 400 450			
Negative pulse	100 150 200 250 300 350 400 450			
Asymmetrical				
Positive Pulse	100 150 200 250 300 350 400 450			
Negative Pulse	300 450 600 750 900 900 900 900			
Gait Parameters				
Start phase	0 to 100%			
Stop phase	0 to 100%			

evomove [®] Cuff			
Material surface	Performance Jersey		
Suitable for leg circumference	Individual production		
Measurements	~ 160 x 350 mm		
Weight	~ 70 g		
Material electrodes	Silicon graphite		
evomove [®] Shorts			
Material surface	Performance Jersey		
Suitable for leg circumference	Individual production		
Measurements	~ 500 x 500 mm		
Weight	~ 300 g		
Material electrodes	Silicon graphite		
Power Supply Unit EU			
Manufacturer	HN Electronic Components GmbH & Co.KG		
Model	HNP12-USBV2		
Input			
Voltage	90 to 264 VAC		
Frequency	47 - 63 Hz		
Output			
Power	12 W		
Voltage	5V		
Current intensity	2400 mA		
General Data			
Dimensions (LxBxH)	76,5 x 33,7 x 23 mm		
Weight	45 g		
Operating temperature	-10°C to +40°C		
Storage temperature	-20°C to +70°C		
Luftfeuchtigkeit	10 to 90 % RH		
EMV	EN55032:2015; EN55035:2017;EN61000-3-2:2019; EN61000-3-3:2013+A1:2019		
ErP / RoHS	2015/863/EU		
Power Supply Unit AUS			
Manufacturer	Phihong Technology Co.		
Model	AQ03S-050A-R		
Input			
Voltage	90 bis 264 VAC		
Frequency	47 bis 63Hz		
Output			
Power	2.75 W		
Voltage	5.0 V		
Current intesity	0.55 A		
General Date			

Dimensions (LxBxH) 70,6 mm (2.78in) x 43,5 mm (1.71in) x 25,0 mm			
Weight	36g		
Operating temperature	0°C to +40°C		
Storage temperature -25° to +75°C			
Humidity	10% to 90% RH		
Safety standards AS/NZS 62368. 1:2018; AS/NZS 3112			

IMPORTANT NOTES:

The evomove® cannot be used during charging.

WARNING:

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Only use the charger supplied with the evomove®.

Technical Data of the Wireless Connection			
Description	Industry standard Bluetooth® Low Energy (BLE) 4.2 Communication protocol		
Frequency band	2,402 to 2,480 GHz		
Modulation type	FSK		
Modulation signal	Binary data message		
Data rate (Frequency of the modulation signal)	1MBit/s		
Effective radiant power	<10 dBm		
Receiver bandwidth	2 MHz by a selected frequency		
EMV	IEC 60601-1-2 IEC 60601-2-10		

The evomove® has been designed and tested so that it is not interfered with by other RF devices (e.g. other evomove® products, WLAN networks, microwaves, Bluetooth® devices, ...). Other devices that emit electromagnetic radiation, such as metal detectors, devices for electronic article surveillance or radio detection, do not interfere with the function of the evomove®. Despite careful examination, it cannot be excluded that the wireless connection of the evomove® may be disturbed in special situations.



WARNING: If interference from other devices (e.g. connection problems) occurs, please interrupt the use and reconnect to the evomove[®] control unit at a greater distance from possible sources of interference.

EMI-Tables (Interference Emission)

Guidelines and Manufacturer's Declaration - Electromagnetic Emission

The evomove® is intended for operation in the electromagnetic environment specified below. Users of the evomove® should ensure that it is used in such an environment.

Emission Measurements	Compliance	Electromagnetic Environment – Guidelines
HF emissions according to CISPR 11	Group 1	The evomove [®] uses HF energy exclusively for its internal function. Therefore, its RF emission is very low and it is unlikely to interfere with neighboring electronic devices.
HF emissions according to CISPR 11	Class B	The evomove® is intended for use in all facilities, inclu- ding residential areas and those directly connected to a public supply network that also supplies buildings used for residential purposes.

Guidance and Manufacturer's Declaration - Electromagnetic Immunity | Table 1

The evomove® is intended for operation in the electromagnetic environment specified below. Users of the evomove® should ensure that it is used in such an environment.

Interference Im- munity Examinations	IEC 60601- Test level	Compliance level	Electromagnetic environment – Guidelines
Static electricity discharge (ESD) accor- ding to IEC 61000-4-2	± 8 kV Contact discharge ± 15 kV Air Discharger	± 8 kV Contact discharge ± 15 kV Air Discharger	Floors should be made of wood or concrete or be covered with ceramic tiles. If the floor is covered with synthetic material, the relative humidity must be at least 30%.
Magnetic field at the supply frequency (50/60 Hz) according to IEC 61000-4-8	30 A/m	30 A/m	Mains frequency magnetic fields must correspond to those of a typical com- mercial or medical environment.

NOTE: U_{τ} is the mains AC voltage before applying the test level.

Guidance and Manufacturer's Declaration - Electromagnetic Immunity | Table 2

The evomove® is intended for operation in the electromagnetic environment specified below. Users of the evomove® should ensure that it is used in such an environment.

Interference Immunity Examinations	IEC 60601- Test level	Compliance level	Electromagnetic environment – Guidelines
Static electricity discharge (ESD) according to IEC 61000-4-2	3 V _{Effective value} 150 kHz to 80 MHz 6 V _{Effective value} 150 kHz to 80 MHz ISM and amateur radio bands	3 V _{Effective value} 6 V/m	Portable and mobile radios are used at no less distance from the evomove® including the cables than the recommended separation dis- tance, which is calculated according to the equation appropriate for the transmission frequency.
Magnetic field at the supply frequency (50/60 Hz) according to IEC 61000-4-8	10 V/m 80 MHz to 2,7 GHz 80% AM at 1kHz	10 V/m 26 MHz to 2.7 GHz 80% AM at 1kHz	(((;;))

Guidance and Manufacturer's Declaration - Electromagnetic Immunity | Table 3

Test Frequency (MHz)	Volume a) (MHz)	Service a)	Modulation b)	Maximum Power (W)	Distance (m)	Immunity- Test-Level
385	380 - 390	TETRA 400	Pulse-Modulation b) 18Hz	1,8	0,3	27
7450	430 - 470	GMRS 460, FRS 460	FM c) ± 5 kHz deviation 1 kHz Sine wave	2	0,3	28
710 745 780	704 - 787	LTE Band 13, 17	Pulse-Modulation b) 217Hz	0,2	0,3	9
810 870 930	800 - 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse-Modulation b) 18Hz	2	0,3	28
1720 1845 1970	1700 - 1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse-Modulation b) 217Hz	2	0,3	28
2450	2400 - 2570	Bluetooth®, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse-Modulation b) 217Hz	2	0,3	28
5240 5500 5785	5100 - 5800	WLAN 802.11 a/n	Pulse-Modulation b) 217Hz	0,2	0,3	9

NOTE: To maintain the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME DEVICE or ME-SYS-TEM can be reduced to 1m if necessary. The distance of 1m is permitted by IEC 61000-4-3.

a) For some services only the uplink frequencies are included.

b) The carrier frequency shall be modulated with a square wave signal with 50% duty cycle.

c) As an alternative to FM, a pulse modulation with 50% duty cycle at 18 Hz can be used, because even if it does not reflect the modulation type, it is the worst case.

This warning is intended to alert the patient and user to the minimum distance between PORTABLE RF communication devices and ME DEVICES and ME SYSTEMS in order to avoid loss of performance or hazards to BASIC SAFETY or ESSENTIAL PERFORMANCE CHARACTERISTICS.



evomove®

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