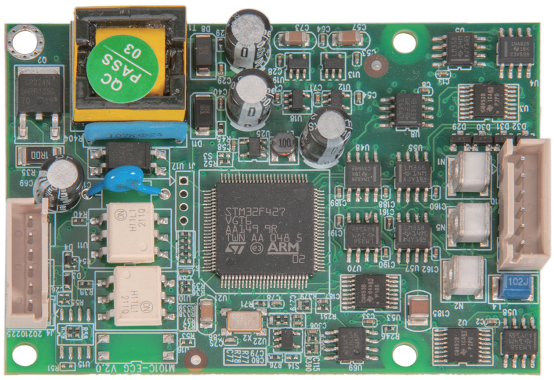
Single Leads ECG
Module MECG1

The MECG1 single-lead ECG measurement module can measure ECG and is used in patient monitoring.



Dimension： 77mm×53mm×17mm

Features

- With 3-lead ECG monitoring function
- Patient model: adult, pediatric and newborn
- 26 arrhythmia analysis functions, verified by MIT and AHA databases, and passed EC57 standardized tests
- Provides four measurement modes: diagnosis, monitoring, HARDEST and surgery mode
  - Diagnosis mode: filter range is 0.05hz~130hz
  - Monitoring mode: filter range is 0.5hz~40hz
  - HARDEST mode: the filtering range is 5hz~20hz
  - Surgery mode: filter range is 1hz~25hz
- ECG calibration: input 1mv standard voltage to record the waveform amplitude
- Gain setting: adjust the amplitude of the ECG waveform
- Notch mode: 50Hz, 60Hz, 50/60Hz and close notch mode commands can be selected

Specifications

ECG		HR	
Range	0.15Mv-5.5mV	Range	15~300bpm
Accuracy	Undefined	Accuracy	±1bpm
Resolution	2.36uV/LSB	Resolution	1bpm
lead type	3 Lead:I or II or III		

Electical Specification

Power supply	DC 5V±5%
Power consumption	≤3W
Communication	TTL,USART
Temperature	Operating 0°C~ 70°C Storage -40°C~ 70°C

Compliance

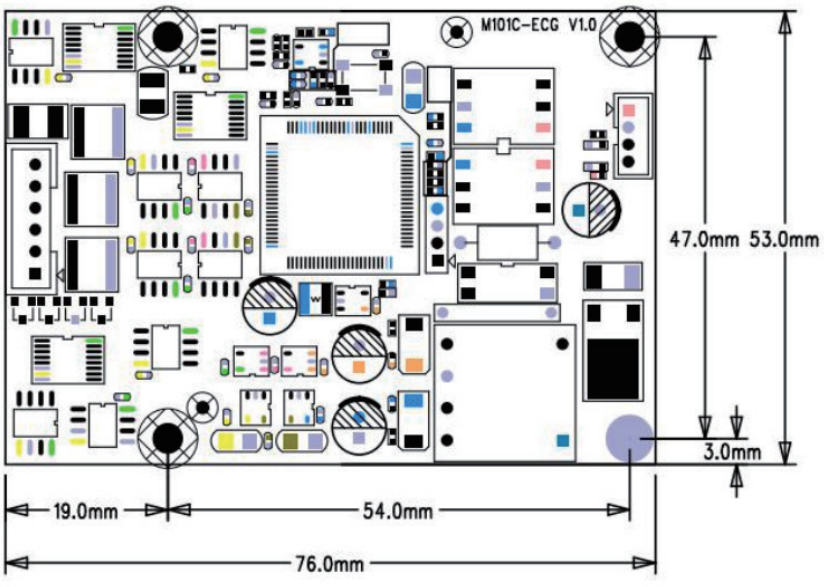
Standard	IEC 60601-2-27: 2011 AAMI EC57:2012/(R)2020

ECG algorithm

Database	Sensitivity of QRS wave detection/ Q Se	Positive predictive degree of QRS complex detection/Q +P	Sensitivity of room early detection/ V Se	Early detection accuracy rate /V +P	False positive rate of early detection /V FPR
MIT	99.60%	99.72%	92.0%	92.5%	0.52%
AHA	99.66%	99.91%	90.0%	89.31%	0.638%

Dimensions

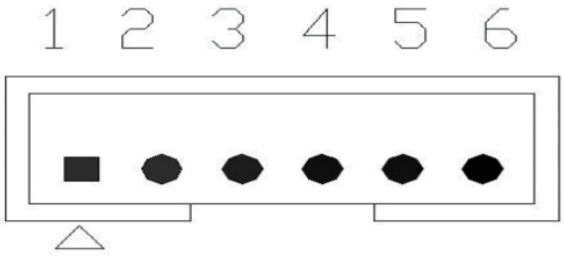
The board dimensions are given in millimeters.



Interfaces

Power and Communication Interface

Note 1: TXD is the data sent by the ECG module to the host, in TTL level mode.

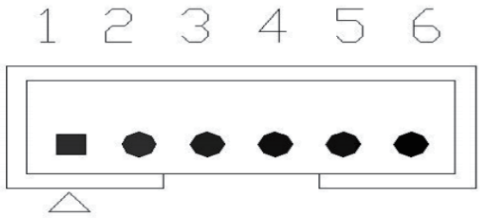


Power and communication interface socket J4 pins are defined as follows:

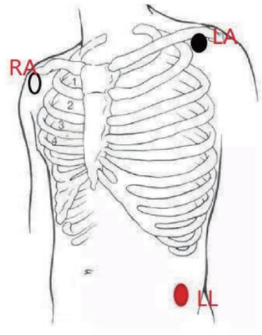
Pin No	Signal	Description
1	*+5V*	*5V power input*
2	*GDN*	*5V power ground*
3	*RXD*	*UART Sending data from*
4	*TXD*	*UART Receiving data from*
5	*R Flag+*	*R-wave positive 5V pulse*
6	*R Flag+*	*R-wave negative 5V· pulse*

ECG lead input interface

The lead input interface J10 is defined as follows, and the socket spacing is 2.54mm:

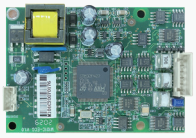
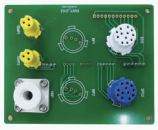


A schematic diagram of the location of the lead electrodes is shown below:



Pin No	Signal	Description
1	*RA*	*Installed under the collarbone, near the right shoulder*
2	*LA*	*Installed under the collarbone, near the left shoulder*
3	*LL*	*placed in the left lower abdomen*
4	*V1*	*Chest leads in the fourth intercostal space, close to the right border of the sternum*
5	*ECG SHIELD*	*Signal shield wire*
6	*RL*	*placed in the lower right abdomen*

Purchase Guider

Code	Name	Quantity	Description	Image
022-060201-00	MECG1 Module	x1		
009-130101-00	Internal Cable ECG	x1	Connect with Module interface	
022-990101-00	Connector board	x1	Connect with Internal Cable ECG	
041-004001-02	**ECG Cable** 3-lead defibrillation proof, European standard, button type	Optional	Connect with connector board ECG interface	
041-004001-06	**ECG Cable** 3-lead defibrillation proof, American Standard, button type	Optional	Connect with connector board ECG interface	

* The data is subject to change without notice. Please refer to the manual for the contraindications and precautions

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