

# EMI12

## 3-, 6- and 12-channel ECG

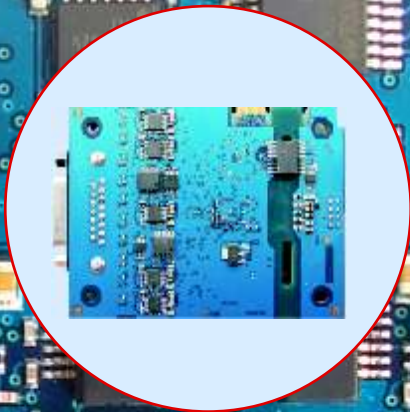
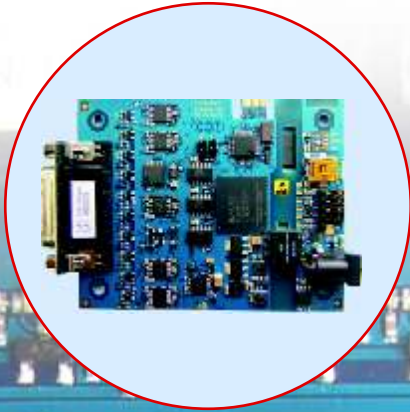
The EMI12 is a module for the simple integration of a 3-, 6- or 12-channel ECG in patient monitoring systems. The device has an open communication protocol and can be integrated in all devices, such as electrocardiographs or patient monitors. For the simple integration into embedded systems, the EMI12 has a standard UART interface, a standard RS232 interface and a standard USB interface.

Keeping mobile applications in mind, the EMI12 was optimized with respect to spatial requirements and current consumption. The dimensions are 90 mm x 68 mm. The current consumption is under 90 mA. Only a single voltage (5 V) is required as a power supply. Using USB for power supply is also possible.

The sampling rate is max. 1000 Hz for an ECG bandwidth of 0 – 220 Hz analog. The EMI12 can be used with different interpretation software solutions. A galvanic isolation of 4 kV is already integrated in accordance with the standard for patient safety. It is mechanically fastened with 4 screws. The integrated R-wave detector allows you to trigger your software application to the detected R-wave.

With the EMI12, you can upgrade your medical application quickly and cost-effective with a 12-channel ECG without having to become familiar with the technical details of ECG measurement. The available development kit contains all necessary equipment for initial operation and the fast integration into your application.

We would be happy to demonstrate the system to you or adapt it to your needs. Please contact us for further information!



## Technical specification:



### 1. Functions

- 3-, 6- or 12-Channel ECG acquisition
- Continuous ECG measurement
- R-wave detection
- Heart rate calculation
- Pacemaker detection
- Precise offline electrode contact measurement
- Base line filter

### 2. Technical data

- Dimensions: 90 x 68 x 11 mm (with DB15 16 mm)
- Supply voltage: 5 V
- Current consumption: < 90 mA operating (USB)
- Interface: UART, RS232 and USB
- Resolution: = 2.6  $\mu$ V/bit ECG, 19 bit
- Operating temperature: 0 – 50°C  
Humidity: < 95 % RH non-condensing
- Storage temperature: -20 – 70°C  
Humidity: < 95 % RH non-condensing
- Defibrillation protection in combination with suitable ECG cable
- Sampling rate per channel: 100 Hz, 200 Hz, 500 Hz, 1000 Hz

### 3. Standards and regulations

- EN 60601-1: Medical electrical equipment – Part 1:  
General requirements for basic safety and essential performance
- EN 60601-1-2: Medical electrical equipment – Part 1-2:  
General requirements for safety – Collateral standard:  
Electromagnetic compatibility – Requirements and tests
- EN 60601-2-25: Medical electrical equipment – Part 2-25:  
Particular requirements for the safety of electrocardiographs
- IEC 62304: Medical device software – Software life cycle processes

Corscience GmbH & Co. KG  
Henkestraße 91  
D- 91052 Erlangen  
Phone: +49 9131 9779 86-0  
Fax: +49 9131 9779 86-58  
Email: [info@corscience.de](mailto:info@corscience.de)  
Internet: [www.corscience.de](http://www.corscience.de)