

External Biphasic Defibrillator Modules

Modules, biphasic waveforms and proved algorithm for defibrillators

Public Access Defibrillators (PADs)

Corscience PAD-modules are for the use in automatic external defibrillators. These defibrillators are for resuscitation after ventricular fibrillation. They are developed for operation by layman rescuers and immediate use at the scene. With easy-to-understand optic and acoustic instructions, they guide the first-aiders step-by-step safely through the resuscitation process. The modules are ideal for the use in public access defibrillators that are placed in shopping centers, airports, train stations and other public buildings, e.g.

Professional Defibrillators

These defibrillators are especially designed for the use by physicians. They need more functions than PADs deliver. Additional features of professional defibrillators are cardioversion, the connection to an external ECG amplifier, e.g. Furthermore there are higher requirements on the device defined in the standards DIN, ISO and IEC.

Biphasic Waveform

All Corscience defibrillator modules generate a „biphasic shock pulse“ which results in the most efficient defibrillation by optimal charge delivery. We offer

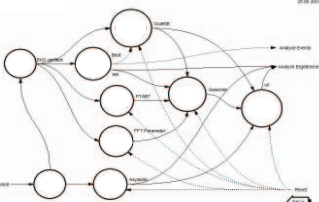
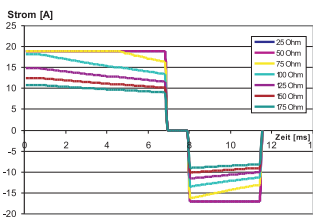
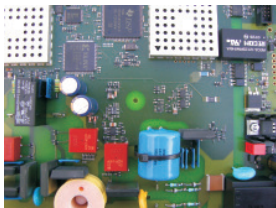
- systems with I/Q biphasic waveforms (PAD)
- I/Q biphasic waveforms, energy controlled (professional)

ECG Algorithm

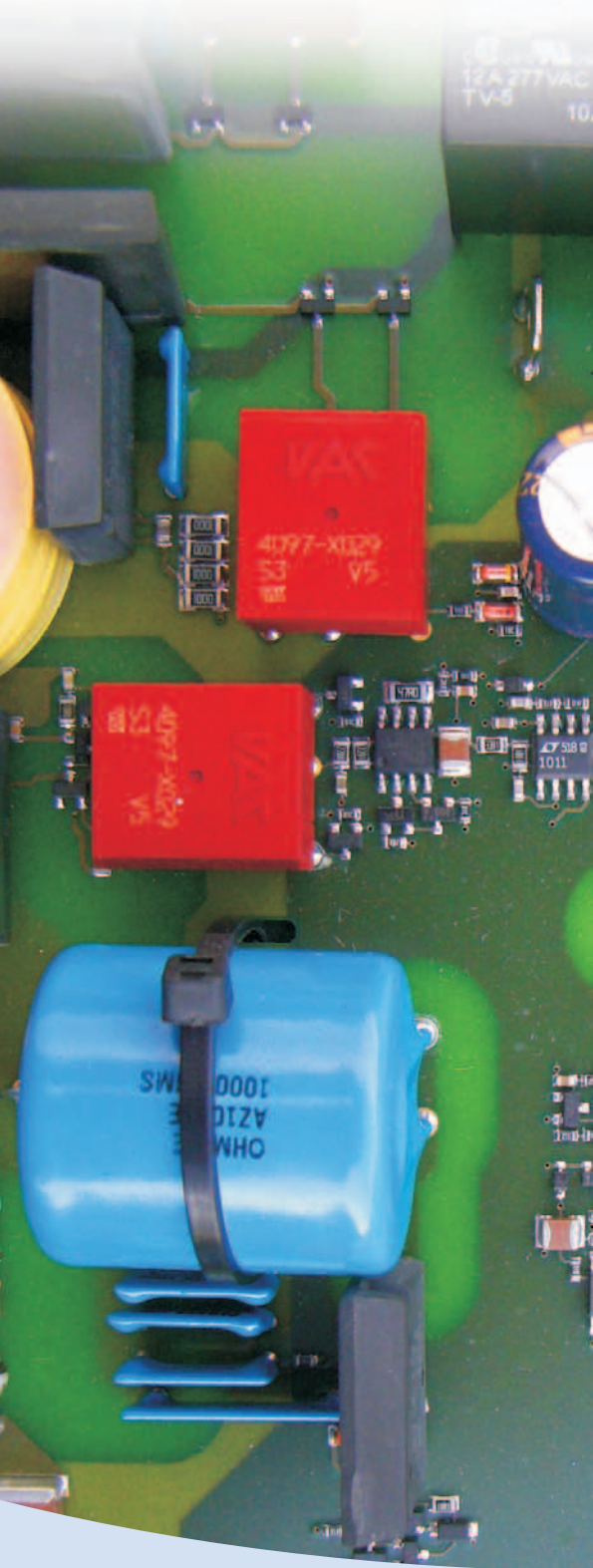
The integrated ECG algorithm can analyse the ECG from the defibrillator electrodes or from the electrodes of an external ECG amplifier (professional). Analysis results are for example:

- heart rate
- shock needed
- asystole detected
- electrodes attached
- patient impedance
- motion detection

We would be happy to demonstrate the system to you or adapt it to your requirements.



Technical specification:



1a. Technical data: Public Access Defibrillator PCB

- **Physical characteristics**
Dimensions LxWxH in mm: 250 x 160 x 30; weight: 330 g
- **Operating conditions**
Temperature: 0 °C – 50 °C; relative humidity: 30 % – 75 %;
air pressure: 800 – 1060 hPa
- **Defibrillation**
Waveform: I/Q biphasic, current limited; low energy (174 J < +/- 15 % at 50 Ohm);
high energy (234 J < +/- 15 % at 50 Ohm)
- **Bluetooth Interface**

1b. Technical data: Professional Defibrillator PCB

- **Physical characteristics**
Dimensions LxWxH in mm: 170 x 212 x 40; weight: 450 g
- **Operating conditions**
Temperature: 0 °C – 50 °C; relative humidity: 0 % – 95 % without condensation;
air pressure: 800 – 1060 hPa
- **Defibrillation**
Waveform: I/Q biphasic, current limited; energy controlled: programmable
(from 1 J – 300 J)
- **Communication interface**
UART/115200 Baud rate
- **Patient connection**
Defibrillator protected

2. Analysis Algorithm

- Heart rate: 30 – 250 beats
- Time for analysis: < 10 s
- Impedance measurement
- Sensitivity VF/pVT: > 90 %
- Specificity: NSR/asystole > 95%

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 60601-2-4: Medical electrical equipment – Part 2-4: Particular
requirements for the safety of cardiac defibrillators