

Schiller's Public Access Defibrillators in Multiple Languages



Every year, more than 7 million people fall victim to a sudden cardiac arrest, worldwide. A sudden cardiac arrest can hit anyone, anywhere and at any time. Defibrillation delivers electrical energy to the heart, restoring a proper heart rhythm. A defibrillator in combination with well-performed chest compressions is the only therapy that can save a patient's life.

During a cardiac arrest, the survival probability decreases by about 10% every minute. If the victim is unconscious and is not breathing normally, chest compressions and rescue breaths (CPR) need to be performed immediately. CPR doubles the survival rate and the early use of an Automated External Defibrillator (AED) can lead to survival rates of up to 75% in case of cardiac arrests. In an emergency, procedures that would normally be easy to follow can be confusing. The SCHILLER Group, therefore, focuses on developing easy-to-use devices, enabling quick action during an emergency.

The FRED PA-1® is a Semi or fully-automatic lightweight defibrillator (weighing around 2.5 Kgs) featuring the BTE (biphasic truncated exponential) waveform. It is strategically designed for an easy-to-use emergency response, especially in public access areas. FRED PA-1 has been specially designed for usage by a layperson with its 3-step interface (Start → Analysis → Shock). It analyses the patient's heart rhythm and determines whether a shock is necessary. When you lift the device

cover, the FRED PA-1 starts up immediately. The pre-connected electrodes only need to be applied to the patient's chest. Systematic pre-charging allows shock delivery as soon as necessary.

In the automatic version, the FRED PA-1 delivers the shock with no additional action required by the rescuer. In the semi-automatic version, the FRED PA-1 prompts the rescuer to deliver the shock by pressing the shock button. The patient receives a defibrillation shock using disposable electrodes. The ECG signal is analysed using the same electrodes. Used with adult or children electrodes, the FRED PA-1 automatically recognises the electrode type and adjusts the defibrillation energy accordingly. A set of children's electrodes can be safely stored at the back of the device. An RFID tag in the connector (for electrodes with article no. 0-21-0040) allows for checking the shelf life of the electrodes, when connected to the device.

Moreover, the user is guided by spoken instructions for a clear understanding, and pictograms i.e. three simple illustrations. (loudspeaker/LEDs next to pictograms). The AED can be provided with different languages, i.e., there is an option to preconfigure 3 languages, selectable after switching the device on.

Defibrillation is not enough. To maintain a good supply of oxygen to the organs, chest compressions need to be done correctly to restore proper blood flow. The FRED PA-1 helps you to achieve the highest efficiency in chest compressions by: indicating the right positioning of the hands setting a regular rhythm (metronome) providing real-time feedback on chest compression frequency without an additional sensor (FreeCPR®). Information on the chest compression frequency using impedance variation acquired with defibrillation pads.

The AED is equipped with internal memory for review by healthcare professionals. It stores intervention data including the analysed ECG data that can easily be retrieved by means of an SD card. In addition, technical data (logs) will be stored. Further, it is operated with a non-rechargeable, disposable lithium battery. The battery capacity is sufficient for more than 140 shocks at maximum energy.

The FRED PA-1® sets a configurable pace for the cardiopulmonary resuscitation (CPR). In case of an abnormality, the FRED PA-1 provides warnings: acoustic signal and LEDs indicate the device's state

and the actions that have to be taken (replacing the battery, the electrodes...). With the IP55 classification, the FRED PA-1 resists the ingress of dust and water spills.