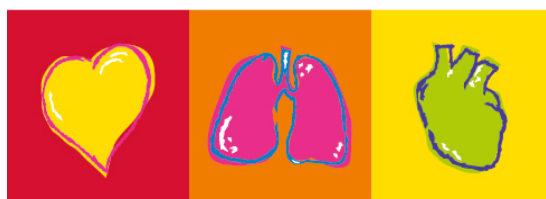


# FRED PA-1<sup>®</sup> TRAINER

Training Device for  
Automated external defibrillator (AED)



## User Guide



**SCHILLER**

The Art of Saving Lives



### Sales and service information

The SCHILLER sales and service centre network is world-wide. For the address of your local distributor, contact your nearest SCHILLER subsidiary.


In case of difficulty, a complete list of all distributors and subsidiaries is provided on our internet site:

<http://www.schiller.ch>

Sales information can also be obtained from:

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The Art of Saving Lives

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# 1 Safety Notes

## 1.1 User profiles

The following people may use the **FRED PA-1 TRAINER**:

- Anyone who wants to be trained in the application of an AED under supervision and with instructions of a trainer.

## 1.2 Responsibility of the User



- ▲ Damaged or missing components must be replaced immediately.
- ▲ Properly dispose of the packaging material and make sure it is out of children's reach
- ▲ Do not store the training electrodes together with the normal electrodes or with the normal defibrillator.

## 1.3 Intended Use



- ▲ The **FRED PA-1 TRAINER** is a simple cost-effective simulator of the FRED PA-1 that is designed to be used exclusively for training.
- ▲ It must only be used on a mannequin.

## 1.4 Contraindication for use



- ▲ Do not use it as a conventional defibrillator.
- ▲ Do not use the device in or near magnetic resonance imaging equipment (MRI).
- ▲ The device must not be connected to a patient.

## 1.5 Safety-Conscious Operation



- ▲ Immediately report any changes that impair safety (including operating behaviour) to the responsible person.
- ▲ Only use original SCHILLER training electrodes.
- ▲ Immediately replace a damaged unit, or damaged cables and connections.
- ▲ Only operate the device in accordance with the specified technical data.

## 1.6 Maintenance and Cleaning



- ▲ Before cleaning, switch the unit off and remove the batteries.
- ▲ Do not use aggressive or abrasive cleaners.
- ▲ Do not, under any circumstances, immerse the device or cable assemblies in liquid.

## 1.7 Additional Terms

### 1.7.1 Terms of Warranty

Your SCHILLER **FRED PA-1 TRAINER** is warranted against defects in material and manufacture according to the general terms of condition. Excluded from this warranty is damage caused by an accident or as a result of improper handling. The warranty entitles to free replacement of the defective part. Any liability for subsequent damage is excluded. The warranty is void if unauthorised or unqualified persons attempt to make repairs.

In case of a defect, send the device to your dealer or directly to the manufacturer. The manufacturer can only be held responsible for the safety, reliability, and performance of the apparatus, and assume the warranty, if:

- assembly operations, extensions, readjustments, modifications, or repairs are carried out by persons authorised by him,
- spare parts used for assembly operations, extensions, readjustments, modifications or repairs are recommended or supplied by SCHILLER, and,
- the SCHILLER **FRED PA-1 TRAINER** and approved attached equipment is used in accordance with the manufacturer's instructions.



There are no express or implied warranties which extend beyond the warranties hereinabove set forth. SCHILLER makes no warranty of merchantability or fitness for a particular purpose with respect to the product or parts thereof.

## 1.8 Symbols/Indicators

### 1.8.1 Symbols used in this user guide

The safety levels are classified according to ANSI Z535.6. The following overview shows the safety symbols and pictograms used in this user guide. The terms Danger, Warning, and Caution are used in this User Guide to point out potential dangers and to indicate risk levels. Familiarise yourself with their definitions and significance.



For a possibly dangerous situation which could lead to severe personal injury or to death.



For a possibly dangerous situation which could lead to personal injury. This symbol is also used to indicate possible damage to property.



For general safety notes as listed in this section.



Important or helpful user information.

### 1.8.2 Symbols used on the device



CE marking



- Symbol for the recognition of electrical and electronic equipment.
- The device must be disposed of in a municipally approved collection point or recycling centre when it is no longer required.
- Improper disposal harms the environment and human health due to the presence of dangerous substances in electrical and electronic equipment.



Manufacturer information

**IP 21**

The device is protected against foreign bodies with a diameter greater than 12.5 mm, and against dripping water.

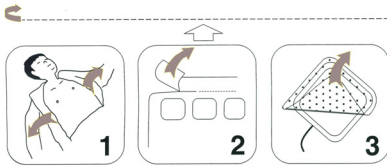


Device contains a HF transmitter (Bluetooth)

### 1.8.3 Symbols used on the training electrode packaging



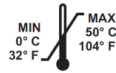
- ▲ These electrodes are only intended for training, not for clinical use.
- ▲ Do not store these electrodes with your normal defibrillator.



- Remove the patient's clothes
- Open the electrode packaging
- Peel off the protective foil



Training Defibrillation electrodes for adult and children with body weight higher than 25 kg



Storage temperature for the electrodes



Use within one day after opening



Keep out of direct sunlight



Keep dry



Manufacturer information




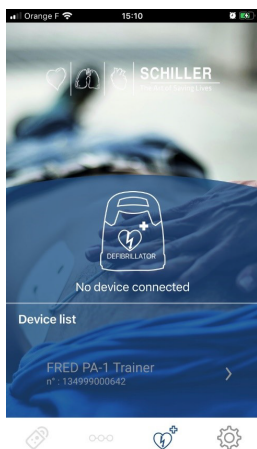
# 2 Components and Operation

## 2.1 General Information

The **FRED PA-1 TRAINER** is a simple and cost-effective simulator of the **FRED PA-1** that is designed to be used exclusively for training.

The **FRED PA-1 TRAINER** doesn't deliver any energy, it simply plays through the resuscitation process with different scenarios. It is powered by 4 standard 1.5 V AA/LR6 batteries.

The **FRED PA-1 TRAINER** equipped with Bluetooth, identified by the symbol  on the device label, can be controlled and configured via your smart-phone/tablet PC with the "Defi training application" which can be downloaded from:



The **FRED PA-1 TRAINER** provides simulation that aim to help to familiarise with the **FRED PA-1®** and shows that the users have the knowledge required to use it if necessary.

### Operating modes

The operating mode can be selected by configuration. One device is enough to train both the fully automatic and semi-automatic mode.

- One scenario can be predefined.
- Scenario can be changed live by using the Defi training application.

### Languages

All languages available on the **FRED PA-1** are also available on the Trainer.

Language selection as well as scenario selection is done by configuration (at production site or distributor).

### Standard package

The **FRED PA-1 TRAINER** standard package includes:

- 1 **FRED PA-1 TRAINER**
- 1 SD card with the scenario shock recommended / shock recommended / shock not recommended
- 1 set of training electrodes
- 1 training electrodes cable
- 4x 1.5V AA/LR6 batteries

### 2.1.1 Configurations

<b>Configuration</b>	<b>Values</b>
Device type (Automatic / semi-automatic)	DA / DSA
Resuscitation protocol	detailed/short instructions
Patient type	Adult / Child
CPR duration (in minutes)	1 / 2 / 3
Metronome frequency (beat/min)	100/110/120
CPR mode	Continuous /30:2 / 15:2 (if patient type is child)
Audio language	<i>List of available language</i>

## 2.2 Operating and Display Elements



The status LEDs are not active!

### 2.2.1 Overview FRED PA-1 TRAINER



4 x 1.5 V AA/LR6 batteries

Training electrodes (only pads) to simulate opening and applying the pads on the patient's body

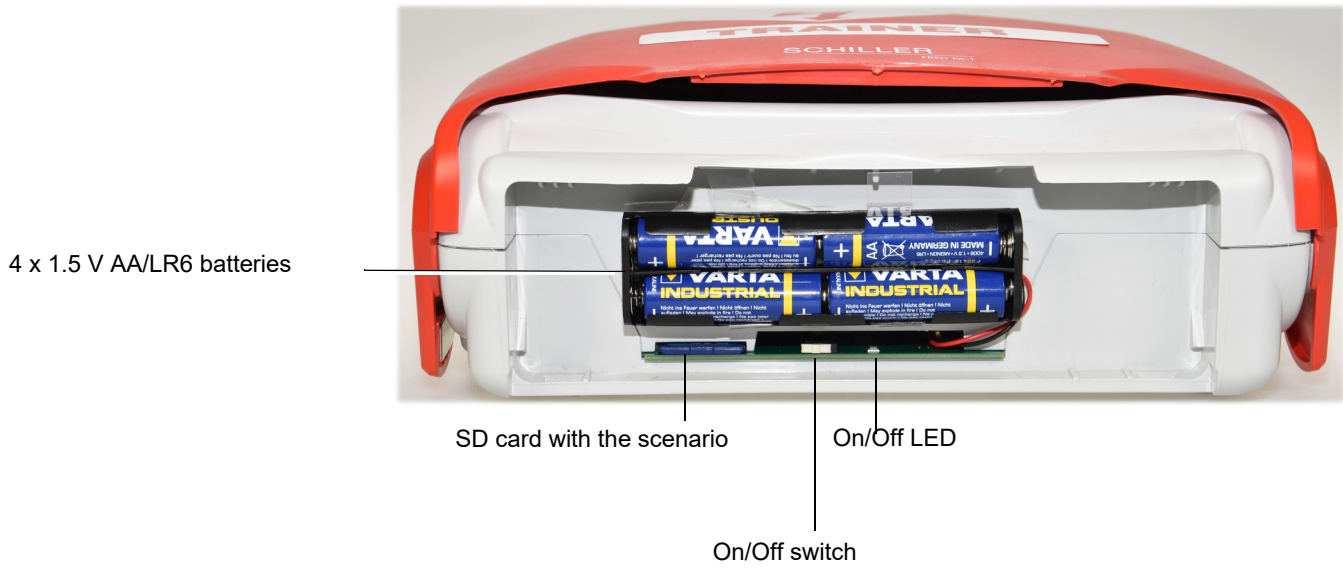
Customizable emergency number

Confirmation button that electrodes are applied and connected

Shock button

Training cable with connector to simulate preconnected electrodes

### 2.2.2 Operating elements



# 3 Initial operation

## 3.1 Inserting the batteries



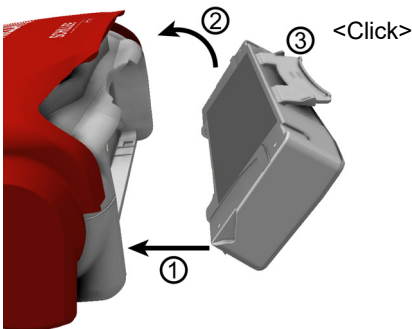
- ▲ **Danger of explosion!** The battery must not be exposed to high temperatures or disposed of with household waste.
- ▲ Do not short-circuit, cut, destroy, burn or charge a battery.
- ▲ Replace the battery if the device indicates a battery problem. A defective battery must not be used.



1. Open battery cover as indicated in the illustration below
2. Insert the batteries with the correct polarity



Insert the battery cover as indicated in the illustration on the left.



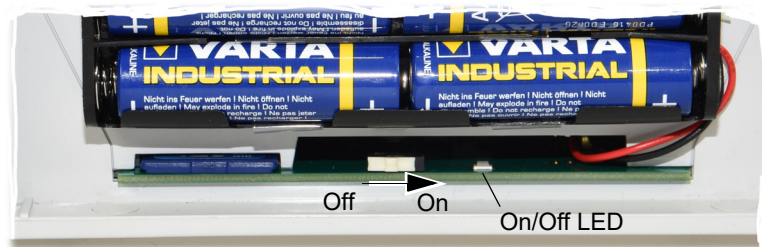
1. Insert the two stop blocks located at the bottom of the battery cover in the device slots.
2. Perform a rotational movement until the battery cover locks in place.

Fig. 3.1 Inserting the battery cover

### 3.1.1 Switching device On and Off

#### Switching ON

1. Open the battery cover.
2. Slide the On/Off switch to the right. The On/Off LED lights up.
3. Close the battery cover. The device is now ready for training.



#### Switching OFF

1. Open the battery cover.
2. Slide the On/Off switch to the left. The On/Off LED is off.
3. Close the cover.




If the cover is closed, the device will remind you periodically with an acoustic signal that the device is switched on.

### 3.1.2 Device pairing



This is only possible with devices equipped with Bluetooth.

1. Open the Schiller Defi training App on your smart-phone or tablet PC.
2. Select the icon the Device list  of Defi training application. Select the device you want to use in the list.

For additional information on the application, refer to the application: Settings

 > Application > Help.



# 4 Training



- The training electrode cable is already connected (normally the pads are pre-connected)
- As soon as the cover is opened, the voice prompt starts.
- Advise the trainee to follow the instructions.
- If the trainer presses the confirm button during the resuscitation process it will simulate disconnected pads.

## 4.1 Training procedure semi automated AED

- The following instructions comply with the scenario “shock recommended and then shock not recommended” (A)

**Trainee starts by opening cover and follows the instructions**

1. stay calm and follow instructions
2. call emergency service dial number written on the device
3. use only if patient is unresponsive
4. check that electrodes connector is correctly fitted in machine
5. remove clothes from upper body - cut if necessary
6. tear open electrode package located in device cover
7. as shown on package peel off the packing and apply both electrodes to the upper body.

**Trainer has to confirm correct performance with the button on the device or via Defi training application**



- Trainer confirms that the above procedure was correctly performed by the trainee. Otherwise, the instructions are repeated from step 1. After the second repetition, the instructions jump to step 15.
- 8. stand clear of patient heart rhythm analysis will be performed
- 9. analysing heart rhythm
- 10. shock advised
- 11. do not touch the patient
- 12. press orange button - now (if shock button is not pressed within 20 seconds it jumps to 14.)
- 13. shock delivered
- 14. it is now safe to touch the victim
- 15. advise to do chest compression: according to configuration
- 16. repeat until next instruction (the next instruction starts with step 8)
  - After the instruction “no shock advised” (step 10), it jumps to step 14.

**Finishing resuscitation process**

- To finish the resuscitation process and switch the device to standby mode, the pads connection confirmation button must be pressed to simulate the disconnection of the patient and the cover closed. After 30 seconds the device will be in standby mode.
- If the patient is not disconnected, the resuscitation process will continue even if the cover is closed (like the real FRED PA-1).
- The device will remind the user with regular acoustic signals that it is in standby mode. To switch the device off completely, the ON/OFF switch must be used.

## 4.2 Training procedure fully automated AED

### Trainee starts by opening cover and follows instructions

- The following instructions comply with the scenario “shock recommended and then shock not recommended

1. stay calm and follow instructions
2. call emergency service dial number written on the device
3. use only if patient is unresponsive
4. check that electrodes connector is correctly fitted in machine
5. remove clothes from upper body - cut if necessary
6. tear open electrode package located in device cover
7. as shown on package peel off the packing and apply both electrodes to the upper body.

### Trainer has to confirm correct performance with the button on the device or via Defi training application



- Trainer confirms that the above procedure was correctly performed by the trainee. Otherwise, the instructions are repeated from step 1. After the second repetition, the instructions jump to step 15.
8. stand clear of patient heart rhythm analysis will be performed
  9. analysing heart rhythm
  10. shock advised
  11. warning stand clear of patient shock will be delivered
  12. 3-2-1
  13. shock delivered
  14. advise to do chest compression: according to configuration
  15. repeat until next instruction (the next instruction starts with step 8.
    - After the instruction “no shock advised” (step 10), it jumps to step 14.

### Finishing resuscitation process

- To finish the resuscitation process and switch the device to standby mode, the pads connection confirmation button must be pressed to simulate the disconnection of the patient and the cover closed. After 30 seconds the device will be in standby mode.
- If the patient is not disconnected the resuscitation process will continue even if the cover is closed (like the real FRED PA-1).
  - The device will remind the user with regular acoustic signals that it is in standby mode. To switch the device off completely the ON/OFF switch must be used.



## 4.3 Accessories and disposables



Risk to Persons, Equipment Damage — Always use SCHILLER replacement parts and disposables, or products approved by SCHILLER. Failure to do so may endanger life and/or invalidate the warranty.

Your local representative stocks all the consumables and accessories for the **FRED PA-1 TRAINER**. A full list of all SCHILLER representatives can be found on the SCHILLER website ([www.schiller.ch](http://www.schiller.ch)). In case of difficulty, contact SCHILLER. Our staff will be pleased to help process your order or to provide details for all SCHILLER products.

### 4.3.1 Order Information

**Devices**

Part No.	Description
1-134-9901/2.230379	<b>FRED PA-1 TRAINER</b>
0-21-0019	1 training electrodes cable

**Accessories/Disposable**

Part No.	Description
0-21-0031	1 set of training electrodes

### 4.3.2 Required accessories

- User Guide
- 1 set of training electrodes
- 1 training electrodes cable
- 4 x 1.5 V AA/LR6 alkaline batteries
- SD card with shock recommended and then shock not recommended scenario

## 4.4 Disposal information

### 4.4.1 Battery Disposal



- ▲ Danger of explosion! The battery must not be incinerated, exposed to high temperatures or disposed of with household waste.
- ▲ Do not expose the battery to chemicals that could dissolve ABS, polypropylene, polyvinyl chloride, nickel, mylar or steel.
- ▲ Do not cut, destroy, or incinerate the battery.
- ▲ Danger of acid burns! Do not open or heat up the battery.



The battery is to be disposed of in municipally approved areas or sent back to SCHILLER.

### 4.4.2 Disposal at the end of its useful life



At the end of their service life, the device and its accessories must be recycled in compliance with local regulations. Apart from the internal and plug-in batteries, the device does not contain hazardous material and can be recycled like any other piece of electronic equipment. In accordance with national law, the battery must be disposed of at an appropriate waste disposal station or returned to SCHILLER.

According to European legislation, this device is considered as electronic waste equipment. It can be returned to the distributor or manufacturer where the device will be disposed of in compliance with legal requirements. The customer must bear the shipping costs. This unit must be disposed of in a municipally approved collection point or recycling centre when no longer used.

If no such collection point or recycling centre is available, you can return the unit to your distributor or the manufacturer for proper disposal. In this way, you contribute to the recycling and other forms of utilisation of old electrical and electronic equipment. Improper disposal harms the environment and human health due to the presence of dangerous substances in electrical and electronic equipment.

## 4.5 Troubleshooting

### 4.5.1 Troubleshooting

Problem	Possible causes	Remedy
The ON/OFF LED is off and the device cannot be turned on.	<ul style="list-style-type: none"> <li>• Battery depleted or inserted with the wrong polarity.</li> <li>• Device defective.</li> </ul>	<ul style="list-style-type: none"> <li>→ Replace the battery.</li> <li>→ Insert the battery correctly.</li> <li>→ Have the device repaired.</li> </ul>

# 5 Technical Data

## 5.1 System Specifications

<b>Manufactured by</b>	SCHILLER MEDICAL
<b>Device name</b>	<b>FRED PA-1 TRAINER</b>
<b>Dimensions</b>	310 x 255 x 100 mm (h x l x w)
<b>Weight</b>	Approx. 1.7 kg with battery and standard accessories
<b>Protection class of the device housing</b>	IP21 for indoor use only
<b>Power supply</b>	
<b>Voltage</b>	6V
<b>with battery type</b>	4 x 1.5V AA/LR6 alkaline batteries
<b>Power consumption</b>	max. 3 W
<b>Environmental conditions</b>	
<b>Device</b>	
Operation	• 0...40 °C at a relative humidity of 30 to 95% (no condensation)
Storage before use	• 0...40 °C with the battery inserted • Atmospheric pressure 700 to 1060 hPa / 0 to 3000 m
Storage and transport	• -20 ... 50 °C at a relative humidity of 30 to 95% (no condensation) • Atmospheric pressure 500 to 1060 hPa
Pollution degree	• Class 2 (means can be used in office environmental)
<b>Bluetooth</b>	
RF module	CYPRESS EZ-BLE CYBLE-0220001
Bluetooth type	BLE
Frequency Band	2400-2483,5 MHz
Antenna type	integral
Output maximum	0,3 mW, <20mW

