

for those who get there first



## Heartstart FRx Technical Data Sheet

### Defibrillator

Modell	Heartstart FRx
Modell Number	861304
How Supplied	Defibrillator, Battery(1), SMART Pads(1 set), Users Guide, Quick Reference Guide
Waveform	Truncated Exponential Biphasic. Waveform parameters adjusted as a function of each patient's impedance
Energy	Single energy output. Adult: 150J into a 50-ohm load.
Infant/Child: Protocol	Nominal 50J into a 50-ohm load Device follows preconfigured settings. Defibrillator and CPR protocol can be customized using Heartstart Event Review or Heartstart Configuration Software.

### User Interface

Instructions	Detailed voice prompts and visual icons guide responder through use of the defibrillator
CPR Coaching	Voice coaching for adult and infant/child CPR provides instructions and audio cues for each breath, as well as the appropriate number, rate and depth of chest compressions.
Controls	Green on/off button, blue i-button, orange shock button, optional infant/child key



**Laerdal**  
helping save lives

# Heartstart FRx Technical Data Sheet

**Indicators** Ready light, blue i-button, caution light, illuminated pads icons, shock button lights up when shock is advised.

**Physical**  
**Size** 6 x 18 x 22 cm (2.4 x 7.1 x 8.9 inches)  
 H x D x W

**Weight** With battery and pads case 1,5Kg  
 Without battery or pads case 1,2Kg

**Environmental**  
**Sealing** Waterjet proof IPX5 per IEC60529  
 Dust protected IP5X per IEC60529  
**Temperature** Operating/Standby: 0°-50°C (32° -122° F)  
**Altitude** 0-5.000m(0-15.000 feet)  
**Aircraft** Device : RTCA/DO-160D; 1997  
**Crush** 250Kg (500 pounds)  
**Vibration** Operation:  
 meets MILSTD 810F Fig.514.5C-17, random  
 Standby:  
 meets MILSTD 810F Fig.514.5C-18, swept sine  
 EMI(Radiated/Immunity) CISPR II Group Class B,  
 IEC 61000-4-3, and IEC61000-4-8

**Patient analysis system**  
**Patient Analysis** Evaluates patient ECG to determine if a rhythm is shockable. Rhythms considered shockable are Ventricular Fibrillation(VF), and certain Ventricular Tachycardias(VT) associated with lack of circulation. For safety reasons, some VT rhythms associated with circulation will not be interpreted as shockable, and some very low- amplitude or low frequency rhythms will not be interpreted as shockable VF.

**Sensitivity/Specificity** Meets AAMI DF80 guidelines and AHA recommendations for adult defibrillation (Circulation 1997;95:1677-1682)

**Shock Advised** Able to deliver a shock as soon as the device indicates a shock is advised.

**Quick Shock** Able to deliver a shock after the CPR pause, typically in eight seconds

**Shock-to-Shock Cycle** Time Typically less than 20 seconds between shocks in a series

**Artifact Detection** Advanced signal processing allows accurate ECG analysis even in the presence of most pacemaker artifact and electrical noise sources. Other artifacts are detected and corrective voice prompts issued

**Battery**  
**Item Number(s)** Standard : M5070A  
 Aviation: 989803139301 (TSO C-142-US. Only)  
**Type** 9Volt DC, 4,2Ah, lithium manganese dioxide, disposable long-life primary cell  
**Capacity** Minimum 200 shocks or 4 hours of operating time  
**Install-by Date** Battery is labeled with an install-by date of at least five years from date of manufacture

**Standby Life** Four years typical when battery is installed by the install-by date. (Will power the AED in standby state within the specified standby temperature range, assuming one battery insertion test and no uses.

**SMART PadsII**  
**Item number** 989803139261  
**How Supplied** Disposable pads case containing adhesive multifunction defibrillator pads. Heartstart plug style connector clicks into device for preconnected pads solution

**Active Surface Area** 80cm<sup>2</sup> (2,4 2inches)  
**Cable length** 122 cm(48inches)  
**Use.By Date** Pads case is labeled with a use-by date of at least two years from date of manufacture

**Infant/Child Key**  
**Item Number** 989803139311

**Training Pads II**  
**Item number** 989803139271  
**Function** Special pads place Heartstart FRx into training mode and disable its energy delivery capability. Features 8 real-world training scenarios

## Automated and user-activated self-tests

**Automatic self-tests** Tests internal circuitry, waveform delivery system, pads and battery capacity

**Pads integrity test** Specifically tests readiness-for-use of pads (gel moisture)

**Battery Insertion Test** Upon battery insertion, extensive automatic self-tests and user-interactive test check device readiness

**Status Indicator** Blinking green "Ready" light indicates ready for use

## Data recording and transmission

**Infrared** Wireless transmission of event data to PC or palmOne™ PDA using the IrDa protocol

**Heartstart Event Review** Data management software(optional) for download and review of data retrieved through defibrillators infrared port

**Data Stored** Store first 15 minutes of ECG and the entire incident's events and analysis decisions.

*\* Refer to Heartstart FRx Defibrillators User Guide for detailed product instructions. All specifications are based on 25C unless otherwise noted. The defibrillator and its accessories are made of latex-free material.*

For more product information, please visit [www.laerdal.com](http://www.laerdal.com)



**Laerdal**  
 helping save lives