SUNRISE MEDICAL

Empulse®

E|M90

SLEEK, STYLISH POWER FOR YOUR MANUAL WHEELCHAIR,

WITHOUT WEIGHING YOU DOWN.

YOUR WHEELCHAIR + POWER. NO COMPROMISES

The **Empulse M90 power assist** reduces the strain of manual wheelchair propulsion, helping you save energy for what matters most.

The M90 features an innovative **Dual Controller**, offering **two intuitive Drive Modes** in one device. Switch to Joystick control to drive your wheelchair like a power chair or keep using the Speed Controller with Handrim Steering to steer via the push rims – with added powered support.

As the **lightest in its class,** the M90 adds sleek, stylish power to your life without weighing you down.

Scan the QR code with your phone's camera to watch video.

LIGHTWEIGHT

The lightest...by far!

Compact and lightweight, the entire package **weighs just 12.2 kg** – everything included! Each wheel, with its integrated battery, weighs only 5.9 kg, **making transport easy and efficient**. This adds minimal weight to the wheelchair, preserving its maneuverability and ease of use for everyday activities.

DUAL CONTROLLER

Instantly Switch Drive Modes

With the smart Dual Controller, switch effortlessly between **Joystick** and **Speed Controller with Handrim Steering** Drive Mode using the Mode/Profile button to match your energy, environment, and preferences - no change of the hardware needed.

Easily remove and position the **wireless controller** wherever it's most convenient.

DRIVE MODE (Inpute Method)	JOYSTICK	SPEED CONTROLLER WITH HANDRIM STEERING
Start/Stop	**Push joystick** forward to start. Let go of the **joystick** to stop. Handrims don't affect speed.	**Tap speed contoller** to start. **Push speed controller down or use handrims** to stop gradually.
Speed Control	**Push joystick** forward/back to **proportionately** accelerate or slow down.	**Tap speed contoller** to increase or decrease speed step by step, **up to level 5 in both profiles.**
Steering	**Move joystick** in any direction to steer.	**Steer manually** using the handrims.
Cruise Control	**Press down on joystick** at desired speed to activate. **Steer with joystick.** **Stop by moving joystick** or pressing down.	**Tap speed contoller** to Increase or decrease speed level. **Steer manually with handrims.** **Stop by pressing speed contoller down**, tapping backwards until speed is level zero, or by grabbing and holding handrims.
Manual Assist	-	A gentle boosts that engages after a stop, via **handrims** allowing repositioning.
Drive Profile	Select via **App** or **Dual Controller** (Indoor/Outdoor)	Select via **App** or **Dual Controller** (Indoor/Outdoor)
Drive Setting	Choose speed range (Base / Standard / Max) via **App**	Choose speed range (Base / Standard / Max) via **App**

Some features may work differently depending on whether Joystick or Speed Controller with Handrim Steering is selected. We recommend that riders take a moment to get familiar with how functions operate in their chosen drive mode for a smooth and confident ride.

With the **Mode / Profile button**, you control both **Drive Mode** but also **Drive Profiles** to optimize the performance of the M90 for your preferences. The **Mode/Profile Indicator** indicates the Mode or the Profile chosen.

Press and hold to switch the way you control your wheelchair (Drive Mode):

- **Joystick Mode (White LED)**
- **Speed Controller with Handrim Steering (Blue LED)**

Tap to switch between Indoor and Outdoor Drive Profiles:

- **Indoor (solid LED)** – for tighter turns and smooth navigation inside
- **Outdoor (flashing LED)** – for responsive performance on varied terrain

Seamless integration into your chair and your life

Fully-integrated hub design provides seamless power, keeping your chair sleek and compact, without extra components or wires hanging off your ride.

Charge off-chair, keep the M90 on chair

Easily swap or replace batteries for uninterrupted mobility. Charge on or off the device and extend your range by carrying an extra battery - perfect for staying on the move.

Simply rotate the M90 hub to engage the power assist or switch to free mode for a zero resistance manual drive.

Ride your way

Use **your preferred tires and handrims**: Need a handrim that works with reduced hand dexterity or grip? We've got you covered. Looking for tires that perform on both smooth indoor floors and rugged outdoor terrain? The choice is yours.

DYNAMIC PERFORMANCE

Safe, easy and intelligent

Cruise control and downhill speed control make driving with M90 safe, simple, and intuitive.
Components centered on the hub means a better manueverability and a better ride.

Up to 15 km range

Powered by a lightweight (0.6 kg) battery, the M90 delivers a range of up to 15 km* – so you can travel worry-free without needing to charge between journeys.

***Range depends on the ground surface, the weight of the rider, driving behavior, temperature and terrain.**

TRANSPORTABILITY

Effortless travel, anytime, anywhere

Designed to be easily transported. The M90 wheels offer a standard quickie release axle, weigh a mear 5.9 kg (12.9 lbs.), they will fit nicely into the trunk of even small cars.

Thanks to the flight friendly battery, the M90 is ideal for riders seeking a convenient solution for long and short distance travel.

* Individual airlines have differing requirements relative to transport of products with Li-Ion batteries. Prior to arranging any air travel with the wheelchair, please confirm with your airline or carrier that they accept battery-powered vehicles. Please refer to the owners manual for further details

DRIVE YOUR WHEELCHAIR YOUR WAY

Quick Release Frame

The **wireless** controller can be mounted like a traditional controller on your wheelchair's frame. When transfering, the controller mount releases by simply pulling upward, or pop the controller off its base when you don't need it.

All-Way Toggle

The M90 is controlled with an all-way toggle that allows the riders to drive their manual wheelchair like it is a power wheelchair.

Thigh Strap

Alternatively, the controller can be conveniently attached to your leg with the adjustable high strap for optimal positioning.

TECHNICAL DATA	
Weight Capacity	100 kg
Wheelchair Rear Wheel Size	540 mm (24”)
Battery Range[1]	15 km
Max Slope	6°
Total Device Weight	12.2 kg
Each Wheel, with battery	5.9 kg
Each Wheel, w/o battery	5.3 kg
Battery Weight	0.6 kg
Frame Compatibility	Folding Frames Rigid Frames
Max Speed	6 kph
Electronics	Bluetooth / Wireless
Batteries Flight friendly[2]	Lithium Ion (<100Wh dangerous goods limit)
Motors	150 W / 24 V

1. Range is dependent on the ground surface, the weight of the rider, driving behavior, temperature and terrain.

2. Always verify with your airline for current regulations.

⚠ WARNING

Using a power assist device can change your center-of-gravity or the way your chair rides. To reduce any risk of tip-over or fall, consult your healthcare provider about proper wheelchair configuration, including use of anti-tips and any other necessary adjustments.

Now that you have read all about the Empulse M90 why not arrange a free demonstration and experience it for yourself?

M90 Web Page

M90 Quick Start Guide

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For further information on the full specification, options, and accessories, please refer to the order form. All information is subject to change without notification. Please consult Sunrise Medical with any queries you may have.

12.2025