

# PERMANENT MAGNET MOTOR SPEED CONTROLLER

## MODEL 1210



### DESCRIPTION

The Curtis Model 1210 Motor Speed Controller provides precise and smooth control of permanent magnet drive motors for battery powered vehicles.

### APPLICATION

Ideal for 3 and 4 wheel mobility aids (scooters) and light industrial products such as pedestrian sweepers and scrubbers. The Curtis Model 1210's programmability allows it to be used anywhere low power permanent magnet motors are employed.

### FEATURES

#### Smooth and Secure Control

- Advanced closed-loop speed regulation maintains precise speed over varied terrain, obstacles, curbs and ramps.
- Linear cutback of current ensures smooth control, even with low batteries or on hot days, with no abrupt loss of power.
- Speed Limit potentiometer input provides control over the maximum vehicle speed.
- Proprietary algorithms help prevent gearbox wear while providing smooth starts and reversals.
- The vehicle is brought to a complete stop before the electromagnetic brakes are applied to prevent harsh jarring.
- Inhibit line prevents driving while charging.
- Key-Off Decel function ensures a smooth brake to stop when the key is turned off.
- Anti roll-back/roll-forward function improves vehicle control on hills and ramps.
- Internal main contactor provides secure power-off and reverse battery polarity protection.

#### Easy Installation and Setup

- Over 40 parameters can be easily programmed with Model 1311 handheld or 1314 PC programmers, or direct from factory.
- Interfaces to several throttle types, including wig-wag (center-off).
- Simplified troubleshooting and diagnostics.
- Standard 18 pin Molex and Fast-on terminals provide proven robust connection.

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## FEATURES continued

### Valuable Additional Features

- Push-Switch input releases the brake and allows the motor to free-wheel.
- Push-Too-Fast software restricts vehicle top speed, even with the key off.
- Built-in functions simplify the wiring needed to add a seat lift.
- Multi-mode provides for two distinct and programmable control modes (indoor/outdoor modes).
- Power Saver function deactivates the main contactor after a period of non-use to reduce battery drain.
- Battery Discharge Indicator output option provides an accurate signal of the battery charge.

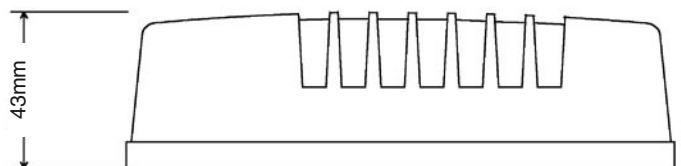
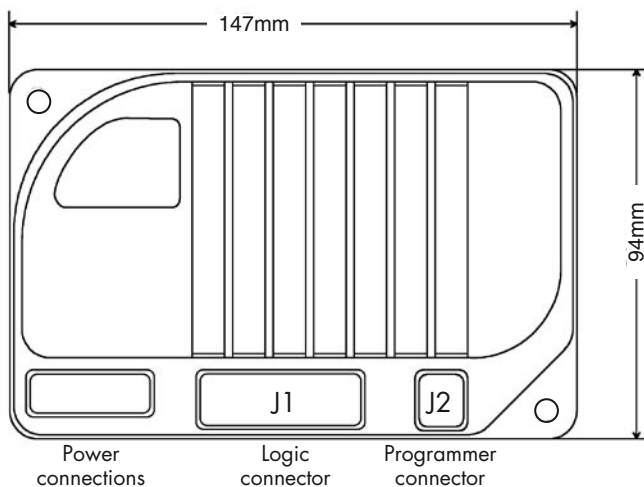
### Regulatory Compliance

- FDA documentation filed and TÜV approved.
- Unique power design produces low RF emissions to meet stringent medical limits.
- High RF immunity prevents speed variation and shut-downs in noisy RF environments.
- Controller power circuits and microprocessor software are continuously monitored for proper operation.
- System start-up checks detect a defective throttle, brake, or associated wiring and disables drive.
- Reverse Beeper function alerts bystanders.
- Optional power and signal wiring boots provide improved sealing for operation in harsh environments (IP54 with boots, IP40 without).

## MODEL CHART

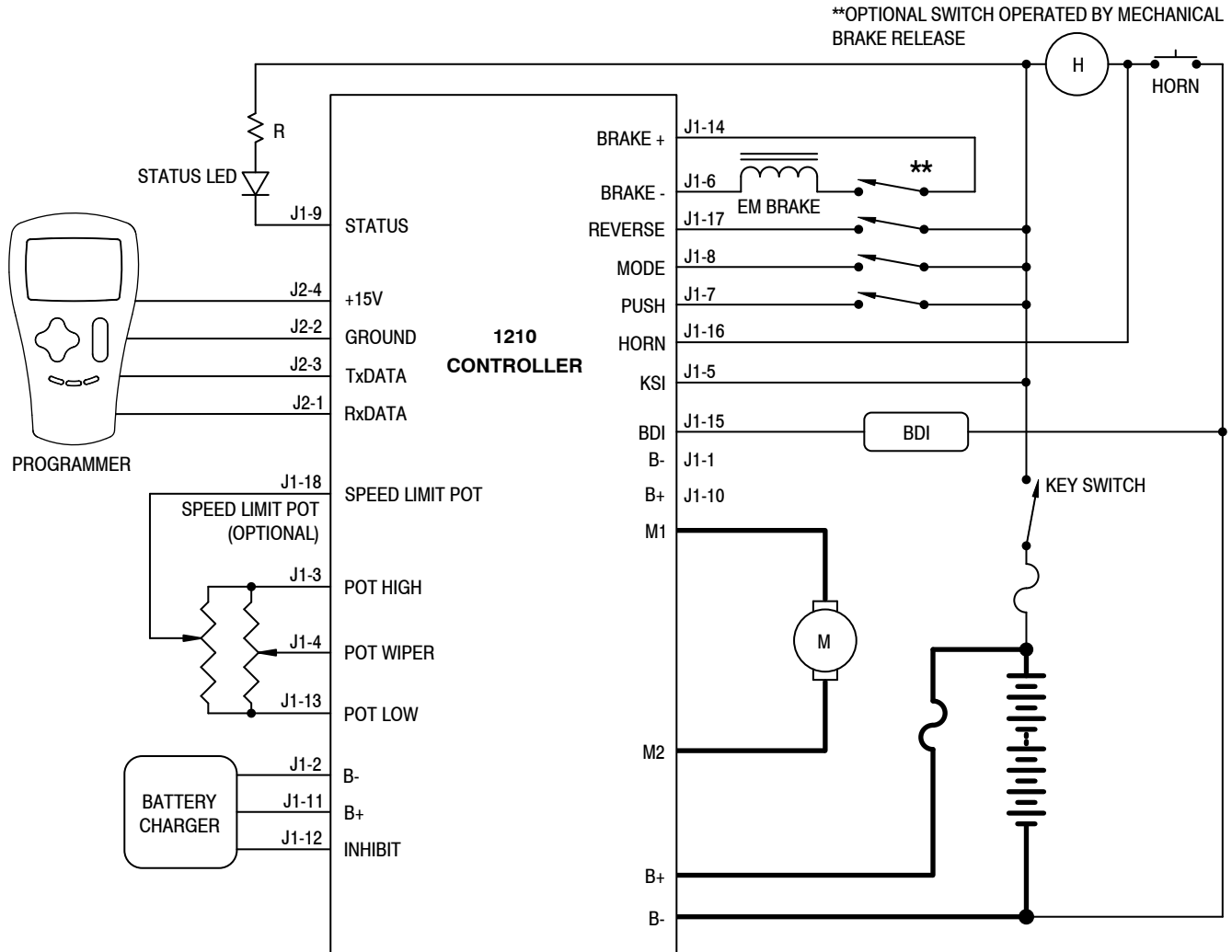
Model No.	Voltage Rating (volts)	Drive Current Rating Peak (amps)	1 Hour (amps)
1210-22XX	24	45	15
1210-24XX	24	70	20

## DIMENSIONS: mm



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## TYPICAL WIRING



## WARRANTY

Two Year Limited Warranty (see terms of sale for specifics).