**POWERING GUIDE**

There are two ways the Mighty Mule’s battery can be charged.

1. Transformer included with kit

All Mighty Mule E-Z Gate Openers come with a transformer for maintaining the battery charge. You can run up to 1000 ft. of low voltage wire (RBW99 not included) from the opener control box to the 110 V AC outlet where the transformer is plugged. If your gate is more than 1000 ft. from an AC power source, or you just prefer to use solar power, you can use the optional Mighty Mule solar panel(s) to maintain the Mighty Mule battery.


The solar option will have some limits. The table and map illustrate the maximum number of gate cycles to expect per day in a particular area when using 5 to 30 Watts of Mighty Mule solar panels. The figures shown are for winter (minimum sunlight) and do not account for the use of any accessory items. Accessory items connected to your system will draw additional power from the battery.

**Solar Panel Application Charts**

**Mighty Mule® Automatic Gate Openers**

<table>
<thead>
<tr>
<th>Model #</th>
<th>Watts</th>
<th>Zone 1</th>
<th>Zone 2</th>
<th>Zone 3</th>
</tr>
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<td>FM250/350/500</td>
<td>30</td>
<td>6</td>
<td>6</td>
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</tbody>
</table>

(Multiple numbers of cycles per kit)

Dual gates require a minimum of 10 Watts solar charging power

**Special Considerations:**

- For solar applications using Mighty Mule models FM500 & FM502, it is recommended that you purchase an optional second battery (FM580) for back up/cycle days during overcast days. The control boxes are pre-wired for the optional second battery.
- Dual gate require 10 Watts of solar charging power. Use two 5 watt panels (FM502) or one 10 watt solar panel (FM121) available by special order from your retailer.

**ENTRY / EXIT ACCESSORIES**

1. Single Button Entry Transmitter (FM130)

The Mighty Mule entry transmitter includes a visor clip and has adjustable code settings. This is the standard transmitter included in every Mighty Mule gate opener kit. (Battery is included)

2. Dual Button Key Chain Transmitter (FM134)

This transmitter is the same as Mighty Mule entry transmitter with the addition of a key chain and a second button. Both transmitters are programmable to control multiple gate operators on different gates and/or garage door openers. (See Garage Door Receiver) (Battery is included)

3. Digital Keypad (FM137)

The digital keypad can be easily installed as a remote in your existing gate. It can be programmed to use up to twenty-five different personal identification numbers (PIN codes). This uses in combination with the Mighty Mule automatic gate lock (see automatic gate lock) adds an additional layer of security for your property.

4. Wireless Intercom/Keypad (FM150)

This versatile digital interface keypad system is ideal for any residential application, and can accept up to four base units for maximum flexibility. The intercom provides superior range with crystal clear two-way communication up to 500 ft. (152 m) wireless.

5. Wireless Driveway Alarm (FM231)

Keep track of who enters your property with this wireless sensor alarm system. When a vehicle passes the sensor, the receiver emits an audible tone and lets you know someone’s there.

6. Gate Opening Sensor (FM138)

The gate opening sensor is an electro-magnetic sensor, which offers ‘hands free’ operation of the gate opener with a 10 ft. (3 m) radius of detection in vehicles of motion.

7. Wireless Gate Opening Sensor (FM190)

The wireless remote sensor detects vehicles in motion and automatically activates the gate opener. The “hands free” device allows vehicles to exit your property.

8. Push Button Control (FM132)

9. Garage Door Receiver (RB100A-NB)

**POWERING ACCESSORIES**

10. Replacement Battery (FM150)

For models FM250/350/500, use FM150 which is a standard 12 Volt, 7.0 amp-hour, maintenance-free battery for the Mighty Mule gate opener systems. For model FM500 please use a 12 Volt marine or automotive battery that is not isolated for kit.

11. Solar Panel 5 Watt (FM121) or 10 Watt (FM123)

The solar panel is to be used for up to 30 Watts of solar charging power for Mighty Mule models - FM250, FM350, FM500 and FM580. Each solar panel comes with tabular steel support, mounting clips, wire connectors, and 10 ft. of Low Voltage Wire: NOTE: Dual gate require a minimum of 10 Watts.

12. Low Voltage Wire (RB500)

The 16 gauge stranded, dual conductor Low Voltage wire is for connecting the AC powered transformer or the solar panel to the control board. Also used for the connection of accessories, such as automatic gate lock (FM143), digital keypad (FM137) & FM138, Push Button (FM123) and other wired control devices. This specially designed wire is UV treated, PVC coated and stranded for direct burial. Available in #100, #250, #500, #048, #8 or special.

**LOCKS AND ACCESSORIES**

13. The Lock (FM133)

The Pad Lock is a substitute for the chain at the front mounting point of all models of SWING, Mighty, Mule gate openers and the chains of the Mighty Mule SJD Gate Openers to help prevent theft of the opener.

14. Automatic Gate Lock (FM143)

A $15.50 fee added security. Checks and locks automatically as gate opens and closes. Used with Mighty Mule models FM150 maximum quality and security. Comes with a keyed manual release. Recommended for gate over 8 ft. (2.4 m) long, ideal for high wind areas. (Not compatible with All-MST EB359/EB350/EB300).

**HANDHELD ACCESSORIES**

15. Push in Socket (FM148)

Required when a Mighty Mule swing gate opener must push a gate open, such as on a sloping driveway or where space prevents gate from opening into the property (closed end). Operate 2 sockets for a dual gate installation.

16. Keypad Mounting Post (FM140) or (FM138)

For mounting the digital keypad, available with stand for drill burial. **GATE OPENER GUIDE**

Which automatic gate opener is right for you?

- SINGLE SWING: FM250 - Light duty swing gate opener
- FM350 - Light duty swing gate opener
- FM500 - Heavy duty swing gate opener
- DOUBLE SWING: FM352 - Light duty dual gate opener
- FM502 - Heavy duty dual gate opener
- SLIDES: MM-5L2000B - Heavy duty slide gate opener

1. How will you open your gate from your vehicle?

- FM135 - Single button transmitter
- FM134 - Two button transmitter
- RB743 - Three button transmitter
- RB780U-NB - Garage door receiver – enables GTO transmitter to open garage door and gate.

2. How will you provide secure access for your gate?

- FM137 - Digital keypad
- FM136 - Wireless Intercom Keypad
- FM100 - Mounting post for your keypad

3. Would you like hands-free exit from the property?

- FM138 - 50 ft. gate opening sensor
- FM140 - 100 ft. gate opening sensor
- FM141 - 150 ft. gate opening sensor

4. How will you secure the gate?

- FM143 - Automatic gate lock – Secures gate in closed position
- FM133 - Pin lock – Secures the gate opener to gate

5. How will you keep the gate opener battery charged?

(Kit includes AC transformer, solar power is optional)

POWER EQUIPMENT:

- FM121 - 5 watt solar panel
- FM123 - 10 watt solar panel
- RB500 - Wire needed for installation
- FM130 - Replacement battery for models FM500, FM502

Special Considerations:

- Does your gate open away from property?
  Gates opening away from property, require an optional bracket per gate leaf. (FM148)
- AC power source is more than 1000 ft. from gate?
  Solar power is required. (FM121 or FM123)
- What’s the weather like?
  Automatic Gate Lock (FM143) is recommended.

GATE OPERATOR SAFETY:

- All GTO operators are certified to UL508A, certified to meet or exceed current UL508A safety requirements.
- Can be used with all types of safety and control devices.