

Thank you for your purchase.

Please read the complete installation instructions or view the video instructions on YouTube before attempting to install this product.

 If not installed properly, PowerMAX will not function and may be damaged. View install videos at www.jms-powermax.com

PowerMAX Voltage Booster-Regulator will increase the output of any fuel pump or ignition system. The PowerMAX unit has been designed to be mounted inside the vehicle cabin (*under a seat*) or in the trunk. Install the unit so it does not come into direct or prolonged contact with water or extreme engine heat (+250F).



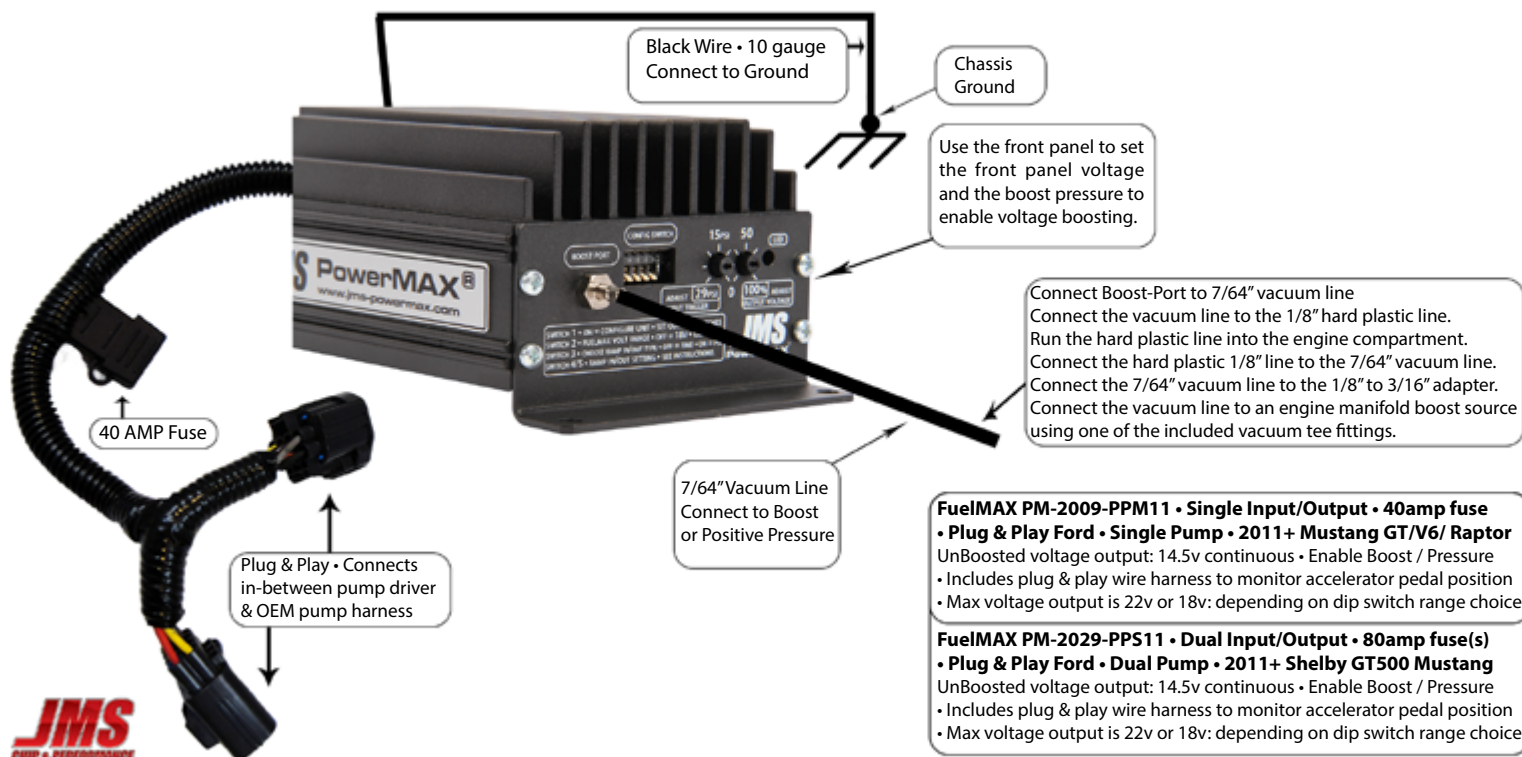
Reasons to choose PowerMAX!

	FuelMAX Single PM-2000	FuelMAX Boost-Single PM-2009-B	FuelMAX Dual-Pump PM-2020	FuelMAX Dual-Boost PM-2029-B	FuelMAX GM PM-2000-GM	SparkMAX 25 & 31v PM-2100	SparkMAX Boost 25-31v PM-2109-B
<i>Ford • Plug and Play</i>	X	X	X	X			
<i>User Adjustable Output Voltage & Voltage Ramp In/Out Rate</i>	X	X	X	X	X	X	X
<i>Highest Voltage Output & Highest Amperage Output</i>	X	X	X	X	X	X	X
<i>Single Output Wiring • Fuel Pump or Ignition • 40AMP Fuse</i>	X	X			X	X	X
<i>Dual Fuel Pump Wiring • 80AMP Fuse</i>			X	X			
<i>Heaviest Gauge Wiring & Highest Capacity Fuse • 40/80AMP</i>	X	X	X	X	X	X	X
<i>Enable via Ground or via (0-5v) External Voltage • via MAP, TPS or PPS Sensor</i>	X		X		X	X	
<i>Voltage Ramp In/Out • User Selectable • Adjustable Based on Time or Voltage</i>	X		X		X	X	
<i>JMS Exclusive • Digital Technology</i>	X	X	X	X	X	X	X
<i>Enable via Internal Boost Sensor • Pressure Range (1-29psi)</i>		X		X			X
<i>Voltage Ramp In/Out • User Selectable • Adjustable Based on Time or Boost</i>		X		X			X
<i>Widest Pressure Adjustment Range Available • (1-29psi)</i>		X		X			X
<i>Industrial Heat-Sink • Heavy-Duty Construction</i>	X	X	X	X	X	X	X
<i>Easy to Use • Instructions On the Unit</i>	X	X	X	X	X	X	X
<i>Option • Remote Knob</i>	X		X		X	X	

The concept behind boosting the voltage of your fuel pump or fuel pump driver?

- Reliably use the factory fuel pump to support additional horsepower.
 - 2011+ Mustang GT customers have reported making +925rwhp with the stock fuel pump and a FuelMAX.
 - Shelby GT500 customers have reported making +1050rwhp with the stock fuel pumps and dual FuelMAX.
 - SVT Raptor customers have reported making +750rwhp with the stock fuel pump and a FuelMAX.
 - Camaro customers have reported making +800rwhp with the stock fuel pump and a FuelMAX.
 - Nissan GTR customers have reported making +1000rwhp with the stock fuel pump and a FuelMAX.
- Boost fuel pump voltage *ONLY* when the extra fuel volume is needed.
 - Keep your fuel cool and reduce or eliminate the chance of vapor lock.
 - No need to upgrade the factory fuel pump or fuel lines.
 - Eliminate the gasoline smell associated with aftermarket fuel systems.
 - Increase voltage to the Fuel Pump or Fuel Pump Driver when monitored manifold pressure (boost) is higher than the user defined value saved via the front panel.
- Simple to install: Choose from either *Plug and Play* or *Universal Single Wire* splice in design
 - Plug and Play for most 2011-2014 Fords: Mustang GT and Shelby (Anyone can quickly and easily install)
 - Universal: If you can cut and splice a single wire then you can install a universal PowerMAX FuelMAX.

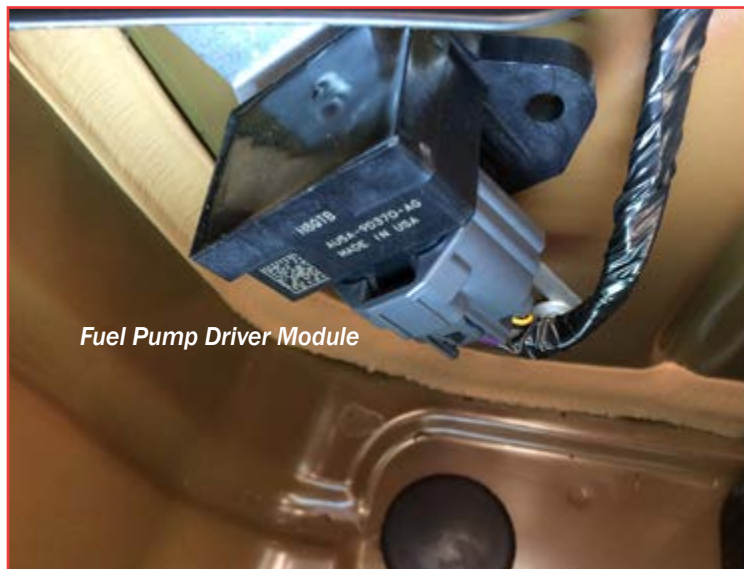
FuelMAX PM-2009-PPM11 Wiring • Ford Plug & Play Internal Boost Activation



Installation Instructions • PM-2009-PPM11 • PM-2029-PPS11 • Plug & Play

STEP 1 - LOCATE THE FUEL PUMP DRIVER MODULES

- Verify that the vehicle is turned off (no key in ignition).
- Locate the Fuel Pump Driver Module or Modules
- The Fuel Pump or Fuel Pump Driver Module is typically located in the trunk or possibly in or near the fuel tank.
- Shelby GT500's utilize two fuel pump driver modules. Shelby's use pn: PM-2029-PPS11 or two PM-2009's. We also offer a Shelby wiring upgrade for high hp vehicles.
- Tip: Typically newer cars (2000-up) utilize a fuel pump driver module to drive the fuel pump. FuelMAX boosts the voltage to the fuel pump driver module and this increases the fuel flow from the fuel pump.



Fuel Pump Driver Module

STEP 2 - CONNECT THE JMS PLUG & PLAY HARNESS

- Install the JMS Plug & Play Fuel Pump Driver Module harness in-between the factory harness and the fuel pump driver module.
- Connect the two pin connector to PowerMAX.
- Tip: To remove the OE Pump Driver Plug you press and hold the tab and remove the connector plug.



OE FPDM Connector

JMS Plug & Play FPDM harness connected to OE harness

Two Pin Connector goes to PowerMAX

STEP 3 - SECURE THE GROUND WIRE

- The Black Wire is Pre-Crimped with a Yellow Ground Ring.
- Terminate the Black Wire to a factory ground chassis ground point.



Secure the ground to a factory point

STEP 4 - UPGRADE THE FUEL PUMP FUSE

- Most vehicles have a single pump and a single fuse.
- Locate and replace fuse or fuses that provide +12v to the fuel pump driver module(s). Replace the stock fuse or fuses with 30amp versions.
- Tip: 2007 - 2010 Shelby Vehicles utilize two fuses.
- Tip: 2011 - 2012 Shelby GT500 vehicle utilize a single fuse. To support big hp on the 2011-12 Shelby: Use the JMS Shelby Fuel Pump Wiring Upgrade. This upgrade easily supports the amperage requirements required to make big horsepower.
- Tip: 2013 - 2014 Shelby Vehicles utilize two fuses (circuit 13 & 14 shown in RED in the picture to the right)



STEP 5 - MOUNT THE UNIT

- Utilizing self-taping screws to mount FuelMAX (included)
- Mount the unit so that the switches and knobs can easily be seen and adjusted by the user.
- Make sure that the mounting location leaves you with enough excess wire so none of the connections are under strain.
- Pay attention to where you are mounting the unit (avoid drilling into the factory fuel lines, brake lines or wire harness).
- Be sure to mount the unit away from extreme heat and direct contact with water.
- Typically the unit is mounted inside the vehicle cabin or trunk.
- Verify that the two pin connector is plugged into PowerMAX.



STEP 6 - CONNECT THE VACUUM - BOOST HOSE

- Connect several feet of 7/64" vacuum hose to the boost port.
- Secure hose with the included small tie-straps.
- Route the hose away from heat sources and sharp edges.
- Positive Manifold Pressure/Boost enables voltage boosting.
- Set both the enable Boost PSI and the output via the front panel (dip switch 1 = ON to set).



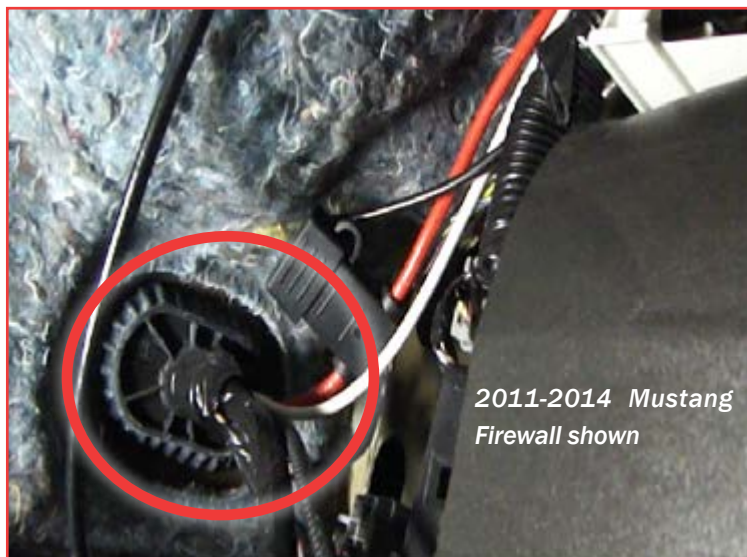
STEP 7 - CONNECT THE VACUUM HOSE TO HARD-LINE

- Connect 7/64" vacuum hose to the 1/8" black hard-line.
- Secure hose to the hard-line with the included small tie-straps.
- Route the hose away from heat sources and sharp edges.



STEP 8 - ROUTE VACUUM HARDLINE THROUGH THE CAR AND THROUGH THE FIREWALL

- Route the black vacuum hardline through the car and through a OEM firewall bulkhead grommet.
- Route the hose away from heat sources and sharp edges.
- TIP: How to modify the factory 2011-2014 Mustang firewall grommet. Remove the passenger side inner-fender-liner and use a razor blade to cut off the nipple that sticks out of the grommet. Push the wires and hardline through the opening.



STEP 9 - CONNECT THE VACUUM HOSE TO HARD-LINE

- Connect 7/64" vacuum hose to the 1/8" black hard-line.
- Secure hose to the hard-line via the included small tie-straps.
- Route the 7/64" hose to either the 1/8" to 3/16" vacuum hose size adapter or connect it to the 1/8" x 3/16" vacuum tee.
- Connect the vacuum line to manifold vacuum/boost pressure via one of the included vacuum tees.

1/8" x 3/16" x 3/16"

3/16" x 1/4" x 1/4"

3/16" x 3/8" x 3/8"

- If using one of the 3/16" tees, you will need to adapt from the 7/64" vacuum line to a larger vacuum line (3/16") using the included 1/8" to 3/16" adapter and 3/16" hose.
- Secure all connections with the included small tie-straps.



STEP 10 - VERIFY THAT THE UNIT POWERS ON

- Green LED will illuminate ON (solid), when the ignition key is set in the "ON" position.

- The Green LED will slowly blink when the unit is Enabled and Boosting Voltage.

Tip: You can test and set the Boosted Voltage output by turning Dip switch 1 - ON, apply positive boost pressure (via an external boost source) and adjust the output voltage knob.

(Note: To avoid damage to the internal pressure sensor, do not exceed 35psi. External boost sources are typically hand-held boost pumps or a regulated low pressure air compressor source)



STEP 11 - ADJUST THE VOLTAGE AND RANGE

- Set the Output Voltage & other options via the front panel configuration switches and knobs.

- Set the Ignition Key to the "ON" position • (Power ON = Green LED is ON [illuminated ON])

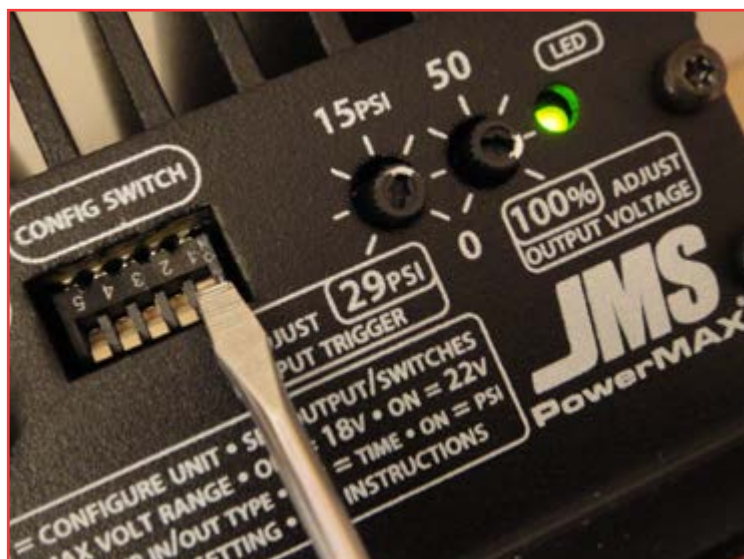
- Set Dip Switch 1 - "ON" (Switch 1 "ON" - Enables the configuration of the front panel switches and knobs)

- Set Dip Switch 2 - Choose the voltage output range.

OFF = 25v, ON = 31v

- Adjust Voltage Output - 0 = 14.5v, 100% = Maximum for the selected voltage range.

- Set the Boost Pressure needed to activate the unit 0-29psi.



STEP 12 - SAVE THE BOOST OUTPUT VOLTAGE SETTING

- Set Dip Switch 1 - "OFF" (When moved from ON to OFF, this Saves the current front panel switch and voltage settings & the LED twinkles while saving)

- Tip: When saving configuration settings, the unit must be powered ON and Dip Switch 1 set to ON, then make your changes and turn OFF Dip Switch 1 to save your switch settings/changes. (Notice that the LED will twinkle when Switch 1 is Turned OFF and the config values are saved).

- Tip: When saving, you must leave Switch 1 ON for a few seconds before you can turn it off and update the Saved Config values.



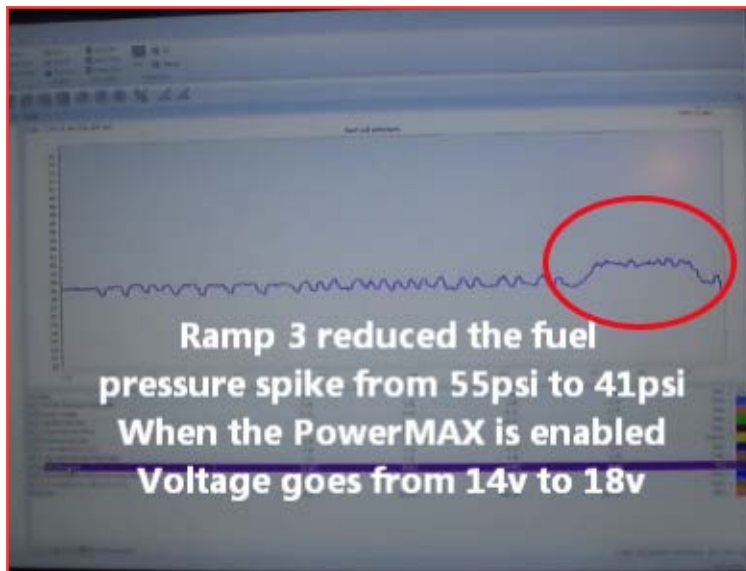
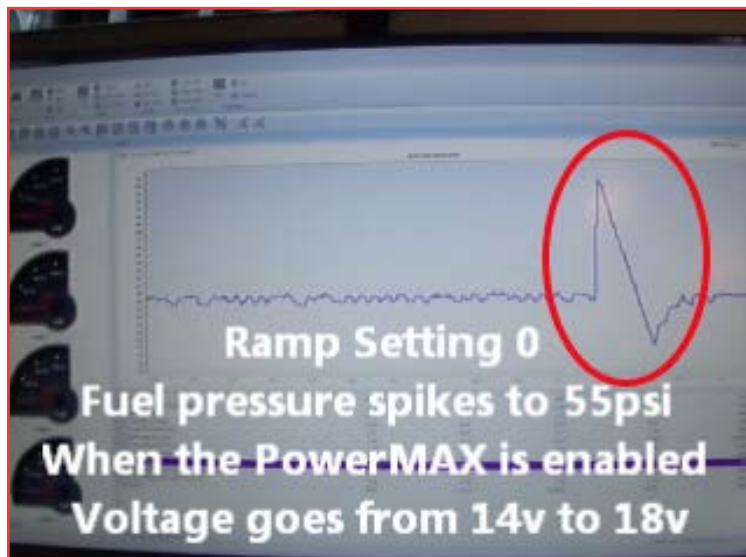
STEP 13 - VERIFY VOLTAGE OUTPUT

- Enable the unit (via supplying the amount of positive pressure to the boost port that will enable the unit(greater than the boost value set via the front panel knob)....do not go over 35psi or damage to the pressure sensor may occur. To generate boost pressure: Use a parts-house hand-held pressure tester for testing radiators, adapt a reducer to the tester hose.
- The LED will start blinking slowly when the unit is enabled and boosting voltage.
- Verify that the boosted voltage output is what was expected.
- **Be aware:** If utilizing the boost ramp in/out feature, your output voltage will be proportional to your boost value.
Example: If you choose a 10psi enable and you have a 4psi ramp: At 10.01psi the unit output will just start to boost voltage, at 12psi you will have 50% output and at 14psi the max voltage output will occur. (10psi enable + 4psi ramp = 14psi)



STEP 14 - OPTIONAL - CONFIG RAMP IN / RAMP OUT

- Configure the boosted voltage ramp-in/ramp-out rate. Eliminate fuel pressure spikes by ramping the voltage in and out based on time or External Monitored Sensor Voltage
- Create a nice smooth voltage ramp in and out based on time or manifold pressure/boost.
- Tip: Refer to the "Reference guide to the PowerMAX front panel" on page 8 for details on each dip switch setting.
- **Time Ramp** Recommended dip-switch settings to enable time ramp: Switch 3 "OFF" & Switch 5 "ON". These dip-switch settings, configure the ramp/in ramp out rate based on TIME, maximum voltage occurs 1.5 seconds while boost pressure remains over the enable pressure value.
- **Boost Ramp** Recommended dip-switch settings to enable boost ramp: Switch 3 "ON" & Switch 4 "ON". These dip-switch settings, configure the ramp/in ramp out rate based on BOOST, maximum voltage occurs 4psi above the enable boost pressure value.
- Tip: Don't forget to set the Boost Level that enables the unit via the Input Trigger Adjustment Pot.
- Tip: When Editing and saving configuration settings • Be sure to edit and save settings with the unit powered ON and with Dip Switch 1 - ON. Turn Dip Switch 1 OFF to save your configuration changes. (LED will twinkle when turned off).



Reference guide to the PowerMAX front panel



Set Dip Switch 1 ON to ADJUST boosted output voltage: Set via Adjust Output Voltage Knob.

Adjust Output Voltage: 0 = 14.5v boosted output; 100% = 18v or 22v boosted output (depending on the range: dip switch 2)

Remember: Dip Switch 1 must be ON to ADJUST dip switches or knob settings on the front panel.

When Dip Switch 1 is turned OFF: LED will twinkle and ALL of the front panel settings are saved.

DIP SWITCH 1	DIP SWITCH 2	DIP SWITCH 3	DIP SWITCH 4	DIP SWITCH 5
Configure Unit	Set Voltage Range	Choose Ramp Type	Depends on SW 3	Depends on SW 3
OFF = Save Settings	OFF = 18V Range	OFF = Time Based	See tables below	See tables below
ON = Set Voltage/Config	ON = 22v Range	ON = Boost Based	See tables below	See tables below

Time Based Voltage Ramp Select via Dip Switch 3	DIP SWITCH 3	DIP SWITCH 4	DIP SWITCH 5
Time - Immediate Ramp 0	OFF - 3	OFF - 4	OFF - 5
0.75 second Ramp 1	OFF - 3	ON - 4	OFF - 5
1.50 second Ramp 2	OFF - 3	OFF - 4	ON - 5
2.25 second Ramp 3	OFF - 3	ON - 4	ON - 5

Boost Based Voltage Ramp Select via Dip Switch 3	DIP SWITCH 3	DIP SWITCH 4	DIP SWITCH 5
Immediate Ramp @ psi	ON - 3	OFF - 4	OFF - 5
Enable psi + 4psi Ramp	ON - 3	ON - 4	OFF - 5
Enable psi + 8psi Ramp	ON - 3	OFF - 4	ON - 5
Enable psi + 12psi Ramp	ON - 3	ON - 4	ON - 5



PM-2999

Optional
Remote Voltage Knob
• Overrides front panel voltage setting when connected to the harness.

TROUBLESHOOTING POWERMAX

- Power Issue -> LED is OFF and the unit does not Output Voltage
 - 1) Key-ON Power (+12v) is not available on the Heavy Gauge Red Input Wire
 - Verify that +12v KEY-ON Power is applied to the Red Wire (check the fuse for this power wire)
 - 2) Blown Fuse (check the 40amp Heavy Gauge Red Wire Input Fuse)
 - 3) Verify that the Heavy Gauge Black Ground wire is connected to Chassis Ground.

- Voltage Boosting Output Issue -> LED is Blinking Slowly and the unit is not putting out the expected voltage (white wire).
 - 1) The unit output voltage has never been programmed or was programmed with a LOW value.
 - Set Dip Switch 1 on, wait two seconds
 - Rotate the Adjust Output Voltage Pot to the FULL Clockwise position (100%)
 - Verify that the output voltage matches the range dip switch setting (see tables on Page 10)
 - Enable the unit by applying boost that is greater than the input trigger value, verify the output voltage.
 - 2) The Voltage Boost Ramp has been programmed incorrectly or the value is set too high.
 - Set Dip Switch 1 on, wait two seconds
 - Set Dip Switches 3, 4, & 5 OFF (factory default)
 - Enable the unit by applying boost that is greater than the input trigger value, verify the output voltage.

- Voltage Boosting Ramp In / Ramp Out Issue -> Time Based Ramp: Fuel Pressure has a spike.
 - 1) Turn Dip Switch 1 ON and increase the Time Ramp Rate to a higher time delay value.
(Max Ramp = Dip Switch 3 - OFF, Dip Switch 4 - ON, Dip Switch 5 - ON) test to see if the issue still occurs.
 - 2) Or adjust boost pressure to enable voltage boosting to a higher value.

- What if I use a non-GM unit on a GM -> Worst case scenario is a dead battery. Please use a GM unit for a GM vehicle.

- To generate boost pressure for testing:
Use a parts-house hand-held pressure tester for testing radiators, use an adapter to connect the tester hose to PowerMAX

- Or use regulated pressure output from an air compressor (keep the pressure lower than 35psi to avoid damaging the internal boost sensor).

Several different PowerMAX versions are available:

FuelMAX, SparkMAX, FanMAX & IntercoolMAX

The product guides below detail the different types of devices and their functions.

Product Guide • FuelMAX V2

	SINGLE PUMP	DUAL PUMP	PLUG & PLAY	SETUP FOR GM	ACTIVATE GND OR 0-5v	ACTIVATE INT BOOST	REMOTE KNOB OPTION
PM-2000	X				X		X
PM-2000-GM	X			X	X		X
PM-2000-PPM11	X		X		X		X
PM-2009-BOOST	X					X	
PM-2009-BOOST-GM	X			X		X	
PM-2009-BOOST-PPM11	X		X			X	
PM-2020		X			X		X
PM-2020-PPS11		X	X		X		X
PM-2029-BOOST		X				X	
PM-2029-BOOST-PPS11		X	X			X	

Product Guide • SparkMAX V2

	SPLICE IN DESIGN	SINGLE OUTPUT	OUTPUT 25v	OUTPUT 31v	ACTIVATE GND OR 0-5v	ACTIVATE VIA BOOST	REMOTE KNOB OPTION
PM-2100	X	X	X		X		X
PM-2100-PPM11	X	X		X	X		X
PM-2109-BOOST	X	X	X			X	
PM-2109-BOOST-PPM11	X	X		X		X	

Product Guide • FanMAX 2200 V2 & IntercoolMAX V2

	SPLICE IN DESIGN	SINGLE OUTPUT	DUAL OUTPUT	OUTPUT 15v	OUTPUT 16v	PLUG & PLAY	REMOTE KNOB OPTION
PM-2200	X	X		X			
PM-2220	X		X	X			
PM-2300	X	X			X		
PM-2300-PPS13		X			X	X	

ABOUT JMS CHIP & PERFORMANCE

For more than 20 years, JMS Chip & Performance has been an industry leader in late model domestic and import vehicle tuning. JMS brand electronics components are some of the most technologically advanced in the automotive industry and feature innovative high quality engineering, materials and workmanship. The JMS technical center in Lucedale, MS is one of North America's premier automotive and motorcycle tuning, manufacturing, and turn key automobile development facilities, producing numerous custom high performance vehicles each year. JMS is also a pioneer in domestic vehicle calibrations and highly regarded as a foremost expert in Ford, GM and Chrysler powertrain and drivetrain systems.



LIGHT VEHICLE ASSEMBLY

JMS produces countless custom or specialty vehicles ranging from contemporary late model domestic performance cars to full blown turn key race cars, each year. Our teams of professionals are experts in supercharging, turbocharging, engine assembly, chassis production, suspension upgrades, and specialty equipment integration.



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A state of the art facility that integrates custom and specialty vehicle manufacturing, race car production, electronics development and manufacturing, custom tuning and vehicle calibrations engineering, prototype development, and after-market component sales and distribution.



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Since 1993, JMS has been a pioneer and industry-leader in Ford vehicle calibrations and instrumental in helping to develop the modern custom tuning aftermarket. Our tech center's tuning facility features two chassis dynamometers specifically for car and truck calibrations and engineering, and one motorcycle dyno to service the growing powersports market.

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TERMS OF SALE

JMS product orders are subject to our wholesale trade terms and conditions, which are located in the applicable price guide.

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JMS products are shipped F.O.B. Lucedale, MS via UPS or common freight carrier, and are subject to applicable shipping terms and charges. JMS does maintain a freight policy for warehouse distribution based on a minimum order qualification. Overseas order shipping via a common freight forwarding company or broker are the responsibility of the customer.

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JMS maintains a *minimum advertised pricing policy* to protect product value, and maintain consistent and fair distribution or retail pricing points. JMS places high value on its brand and product integrity.

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SERVICE OR REPAIR:

Please contact JMS @ 601-766-9424 for a Return Authorization. All service returns should be sent freight pre-paid to: JMS SERVICE, 3247 HWY 63 S, Lucedale, MS 39452. The Return Authorization Number should be clearly written on the outside of the box, and in a letter that is included in the box. The letter should also list your contact phone number and a clear explanation of the exact problem.

JMS WARRANTY & CONTACT INFORMATION

JMS WARRANTS TO THE ORIGINAL PURCHASER THE FOLLOWING:

Your JMS Product will be free from defects in materials and workmanship for a period of twelve months from the original purchase date. The warranty only covers the product itself and not the cost of removal and re-installation of the product. JMS may extend the limited warranty on a case by case basis, based on the circumstances of the warranty claim. JMS products are designed exclusively for use in racing applications. JMS products that are not installed according to the supplied instructions, may not be covered by warranty.

SPECIFIC CONDITIONS THAT WILL VOID THE PRODUCT WARRANTY:

If the product case has been opened or the product has been modified or repaired.
If the product was not installed or used correctly.
If the product has been tampered with by: negligence, misuse or accident.
If the product is returned without explanation of the problem or Return Authorization.

CONTACT JMS @ 601-766-9424 FOR A RETURN AUTHORIZATION NUMBER:

All warranty returns should be returned freight pre-paid and should include inside of the box: Proof of Purchase and a Letter that contains both the Return Authorization Number and a Clear Explanation of the EXACT problem. The Return Authorization Number should also be clearly written on the outside of the box.

SEND ALL RETURNS TO:

JMS Returns, 3247 HWY 63 S, Lucedale, MS 39452

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TECHNICAL SUPPORT & CONTACT INFORMATION:

JMS 3247 Hwy 63 S, Lucedale, MS 39452

601-766-9424

Technical Support Hours: Monday - Friday 9:00am - 5:00pm (Central Standard Time)

CONFIGURATION AND INSTALLATION VIDEOS ARE AVAILABLE ONLINE: WWW.YOUTUBE.COM/JMSCHIP

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