

APX NEXT Vehicle Charger PMPN4640 Installation Guide



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blasting area, or in areas posted "Turn off two-way radio." Obey all signs and instructions.

OPERATIONAL CAUTIONS

EFFICIENT SYSTEM OPERATION

- All equipment must be properly grounded according to Motorola Solutions installation instructions for safe operation.
- All equipment should be serviced only by an authorized technician.

INSTALLING THE VEHICLE CHARGER

Mounting hardware supplied includes a trunnion bracket for mounting the unit below the vehicle dashboard, on the floor, or on the wall, and a cable for connection to the electrical system of the vehicle. The bracket enables the charger to be pivoted to a position that offers the best security to the portable radio during rough driving conditions.



The vehicle charger is designed for 12 V or 24 V, negative ground system.

Caution

1. Plan the location for mounting the charger. Identify the routing paths for the cable and verify that the cable length is adequate. Also check the mounting penetrations required. On most vehicles, it is necessary to penetrate the firewall to reach the battery. Check the opposite side of the firewall for cable clearance before drilling holes. Protect the cable where it passes through

the firewall by use of appropriate rubber grommets (not supplied) or other protective measures.

Survey the firewall for existing holes occupied by vehicle wire harnesses. Often there is an opportunity to route other cables using the same path. Because of the wide variation in vehicle design, these instructions may be modified to suit each particular installation:

- DO consider a mounting location which will allow the unit to be mounted at a
- 45-degree up angle. This angle provides operational convenience and physical security for the portable radio under rough traveling conditions.
- DO use heat shrink tubing on all splices.
- DO ensure that the cable is not placed under stress, is not exposed to weather, and is not subjected to damage due to engine heat.
- DO retain the in-line cable fuse when trimming the cable to fit. Locate the in-line fuse as close as practical to the supply voltage connection.
- DO check the opposite sides of all mounting surfaces before drilling, to insure that there are no obstructions, such as vehicle wiring and fluid lines.
- DO NOT attach the unit to any part of the vehicle that is not rigid or is subject to excessive vibration.
- DO NOT install the unit in an area where rain or snow can easily get into it, such as next to a vehicle window which may be left open.
- DO NOT install the unit in a location where it could interfere with the operator or operating controls of the vehicle.
- DO NOT dress the cable over sharp edges that could cause wear or tearing of cable insulation.

SAFETY AND GENERAL INFORMATION



WARNING

•All batteries can cause property damage or bodily injury, or both, such as burns if a conductive material such as jewelry, keys, or beaded chains touches exposed terminals. The material may complete an electrical circuit (short circuit) and become quite hot. Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse or other container with metal objects.

- Do not replace or charge batteries in potentially explosive atmosphere. Contact sparking can occur while installing or removing batteries and cause an explosion.
- Due to the risk of electrical shock or other physical injury, never insert your hands into the charger pocket.

PRODUCT SAFETY AND RF EXPOSURE COMPLIANCE



Caution

Before using this product, read the Product Safety and RF Exposure booklet enclosed with your radio which contains important operating instructions for safe usage and RF energy awareness and control for Compliance with applicable Standards and Regulations.

OPERATIONAL WARNINGS

VEHICLES WITH AN AIR BAG



WARNING

•Do not place a portable radio or install radio communications equipment in the area over an air bag or in the air bag deployment area. Air bags inflate with great force. If a portable radio is placed in the air bag deployment area and the air bag inflates, the radio may be propelled with great force and cause serious injury to occupants of the vehicle.

- Installation of vehicle communication equipment should be performed by a professional installer/technician qualified in the requirements for such installations. The size of an airbag, shape, and deployment area can vary by vehicle make, model, and front compartment configuration (for example, bench seat as opposed to bucket seats).
- Contact the corporate headquarters of the manufacturer of the vehicle, if necessary, for specific airbag information for the vehicle make, model, and front compartment configuration involved in your communication equipment installation.

BLASTING CAPS AND AREAS



WARNING

•To avoid possible interference with blasting operations, turn your radio off and remove it from the charger when you are near electrical blasting caps, in a

1. DO NOT install the unit in a location where it may be difficult for the operator to reach.
2. DO NOT install the unit where it may interfere with the vehicle safety air bag deployment.
3. DO NOT install the unit where the LED indicators and switch may become physically damaged.
4. Using the trunnion bracket as a template, mark the mounting surface drilling locations. It is recommended that at least four screws be used, with 1/4 in. being the preferred fastener diameter.
5. Re-verify that there are no wires, fluid lines, or other obstructions on the other side of the mounting location, and drill appropriate sized holes for the mounting screws to be used.
6. Referring to Figure 1, mount the bracket using appropriate screws, washers, lock washers, and nuts.

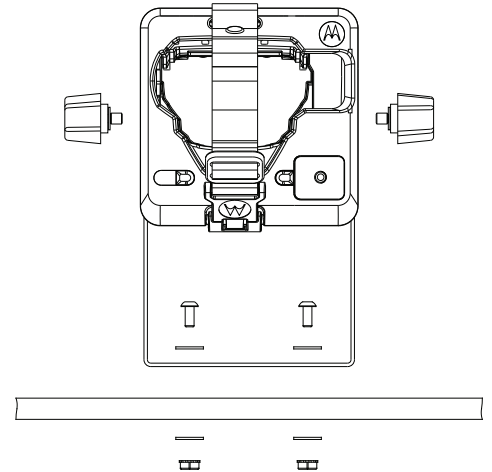


Figure 1 Installing the Vehicle Charger

5. Insert the unit into the bracket, and install the washer and threaded knob into the housing, as shown in Figure 1.

6. Rotate the unit to the preplanned mounting angle and tighten the two threaded knobs holding the charger to the bracket.
7. Referring to Table 1 on page 2 and Figure 2, connect the red (A+) wire (with the inline fuse) of the supplied cable to either an unswitched terminal on the fuse box of the vehicle or directly to the positive (+) terminal of the battery of the vehicle. Always position the fuse as close to the voltage source as possible.

Table 1: Cable Connector Pins

Pin	Connected To
1	Positive (+) vehicle battery terminal or unswitched fuse terminal
2	Repeater (Vehicle Repeater System)
3	Not connected
4	Switched fuse terminal (ignition sense)
5	Not connected
6	Vehicle ground

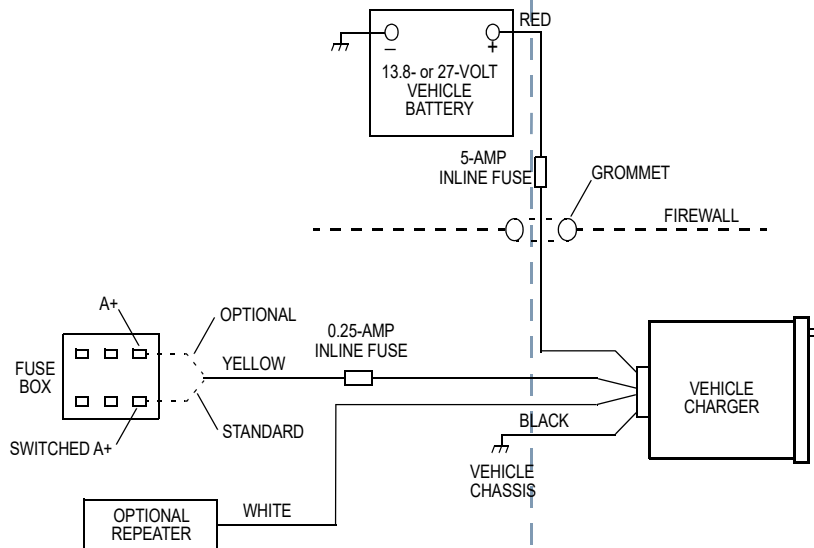


Figure 2 Cable Console

8. There are two methods for Step 8:
 - **Standard wiring to vehicle Switched A+: Charging OFF with vehicle OFF.** For installations where the radio may be left in the charger with the ignition of the vehicle switched OFF and minimal vehicle battery current drain is important, the standard wiring connection of the yellow wire to vehicle switched A+ will disable charging. Connect the yellow (ignition sense) wire (with the inline fuse) to a switched terminal on the fuse box of the vehicle. It is important not to connect the yellow wire to the red lead.
 - Note: The charger will remain ON for approximately 30 minutes after ignition is turned OFF.
 - **Optional wiring to vehicle A+: Charging ON with vehicle OFF** When the radio is left in the charger for charging with the ignition of the vehicle switched off, the optional wiring connection of the yellow wire to always live vehicle A+ will keep the charger ON. The charger, in this condition will not power down and will continue to drain the vehicle battery.
9. Connect the black (ground) wire to any convenient vehicle ground. DO NOT connect the black wire directly to the vehicle battery negative terminal.
10. The white wire is for vehicle repeater operation only. Please refer to installation instructions of the vehicle repeater for instructions on the connection of this wire.

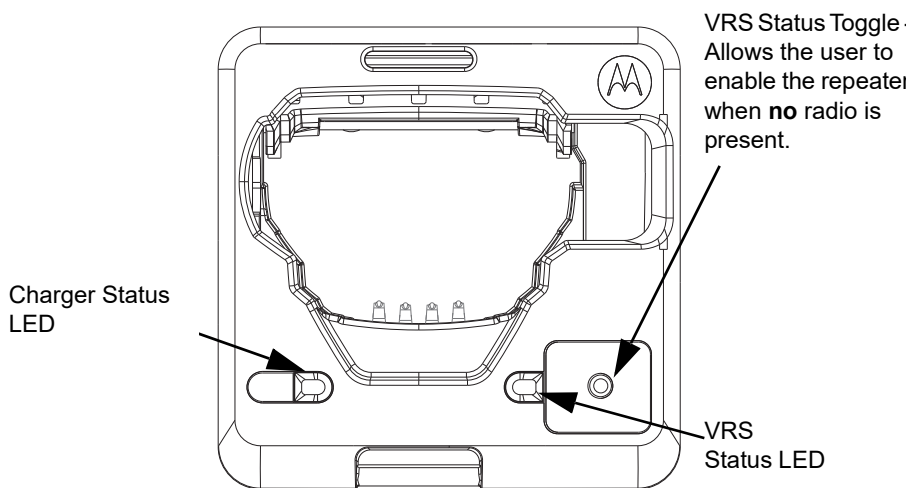


Figure 3 Top View of the Vehicle Charger

11. Recheck all wiring connections, cable routing, and all physical aspects of the installation. Carefully insert the connector on the end of the cable into the mating connector on the back of the charger and test the charger for proper operation. Note that if a vehicle repeater is installed, verify operation of the repeater before leaving the vicinity of the vehicle.

AWG	Fuse	Signal	Color	Pin No.
18	5A 125V	A +	Red	1
18		Repeater (VRS)	White	2
18	0.25A 250V	Ignition Sense	Yellow	4
18		Gnd	Black	6
18				

Connector P-1

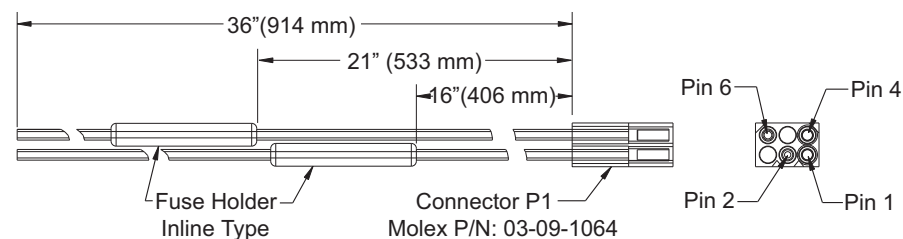


Figure 4 Cable Wiring Diagram