

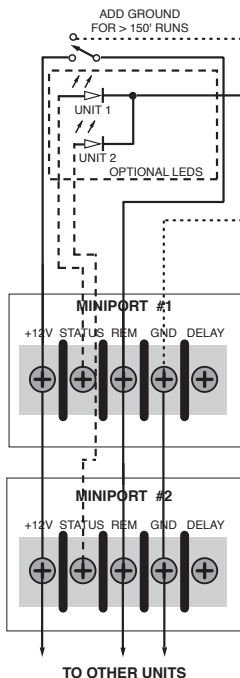
MP-15 MP-20 MP-15Q MP-20Q



FURMAN
MINIPORTS

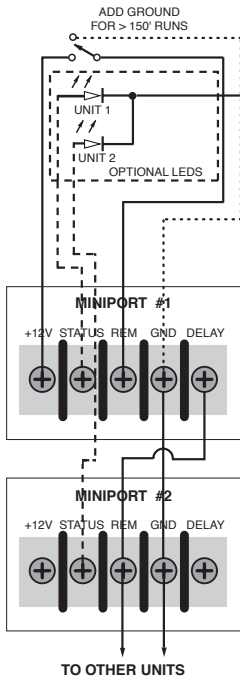
MiniPort-20 Wiring Diagram

Figure 1. Connections for single or multiple MiniPort-20 units, Momentary or Maintained mode.



For control from more than one location, use Momentary Mode and parallel switch connections.

Figure 2. Connections for amplifier inrush current reduction, using delayed turn-on feature. (Turn-off is not delayed.)



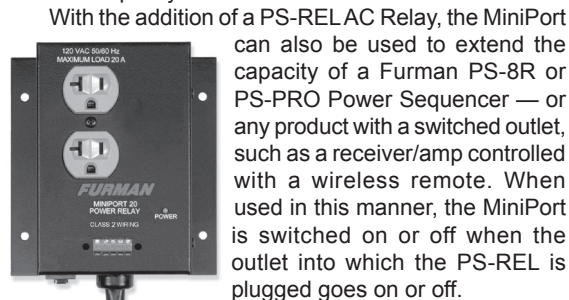
If using the delay feature and momentary switches, first unit must be in Momentary Mode, all others in Maintained Mode. For control from more than one location, parallel switch connections to Unit 1.

General Information

The **MP-20 Power Relay** provides a 20 amp relay switched 120 VAC outlet, with a terminal strip that allows remote control via safe, inexpensive, low voltage Class 2 control wiring. The **MP-15** is identical to the MP-20, but is rated at 15 amps. Both units include an internal 12 VDC supply. They are housed in a rugged all-metal enclosure and come equipped with a heavy duty, 10 foot AC cord. The MP-20 and -15 are listed by NRTL for use in the U.S. and Canada. The MP-15Q and 20Q are designed for quad box mounting and have fewer features.

The MP-20 and MP-15 can be used independently with an RS-1 System Control Panel, or with any other momentary or maintained-action SPST switch. MiniPorts can also be used with the Furman PowerLink or ASD-120

for extra capacity.



Momentary vs. Maintained Contact Switching

An on-off switch of either kind may be used to actuate the MiniPort. Maintained switches, such as most toggle switches, push-on/push-off button switches, and the Furman RS-1 locking key switch, stay open until switched, then stay closed until switched again. Momentary switches, usually pushbutton types, are normally open and stay closed only as long as the button is pressed.

Maintained switches are most convenient when there is only one remote switch location; momentary switches allow turn-on or turn-off from multiple locations.

MiniPorts come factory-configured for maintained operation. They may be easily converted to momentary operation by moving a jumper on the MiniPort's circuit board. To do this, first disconnect the unit from AC power. Remove the four screws that secure the bottom cover. In the middle of the circuit board (as viewed from the bottom of the unit), there are two pairs of terminals, one labeled "MAINTAINED" and the other "MOMENTARY." There is a small black jumper linking the MAINTAINED terminals. Slide it up and off, and replace it securely over the MOMENTARY terminals. Reattach the cover.

Maintained Mode

In the simplest configuration, to control a single MiniPort from a single remote location, connect a maintained-action SPST switch to the REM and +12V terminals. Power will be available at the MP-15/20's AC outlet when the switch is open, and will be removed when it is closed. If the cable run is greater than 150 feet, we recommend that the REM wire be tied to ground during operation rather than leaving it floating, using an SPDT switch as shown in Figure 1.

Momentary Mode

In Momentary Mode, the MP-20 and MP-15 have "memory" — they only need a momentary signal on the remote terminal to change their state from OFF to ON, or ON to OFF.

When first plugged in (or after power is lost

and reapplied for any reason) the memory state is OFF, meaning that no power will be available at the outlet. It will stay OFF until turned ON by a momentary connection of the REM terminal to +12V. It will then stay ON until turned OFF by a second momentary connection. The ON or OFF state begins on the rising edge of the signal.

IMPORTANT NOTE REGARDING MOMENTARY MODE: If multiple MiniPorts are being controlled in Momentary Mode, power loss to any one of the units will likely cause its memory to be different than that of the other units. Not only will this be irritating, it can also be dangerous, as it may be ON when the others are OFF. To correct this potential problem (as exists in any simple momentary switch product), our thoughtful engineers devised a simple method of holding the switch down (REM to +12) for at least four seconds. This resets all units to the OFF condition, and avoids having to disconnect AC power from all units.

Linking Multiple Units

Multiple MiniPorts may be connected together so that all are controlled by a single switch closure. All the units must be set to the same mode depending on the type of switch or switches to be used (use momentary mode and momentary switches if more than one switch is required.) All the units must be paralleled by tying together all the +12V terminals, all the REM terminals, and all the GND terminals (see Figure 1).

Multiple MiniPorts may be linked so that they all turn on simultaneously, as discussed above, or in a delayed sequence. In a delayed sequence, only the turn-ons are delayed (all turn-offs occur simultaneously.) This feature is particularly useful in staggering the turn-on of large power amps to avoid large inrush currents that might trip the house circuit breakers. The delay interval is approximately two to three seconds (the first unit turns on with the switch closure, the second in the chain about 3 seconds later, the third unit 3 seconds after the second, etc.)

The choice of delayed or simultaneous linking is available regardless of whether maintained or momentary switching is used. However, if delayed linking is used with momentary switching, only the first MiniPort should be set to momentary mode, and all momentary switches should be connected in parallel between the first unit's +12V and REM terminals. The second and subsequent MiniPorts must be left in maintained mode. See Figure 2.

Optional Remote LED Indicator

The MiniPort terminal labeled STATUS is an output that may be used to illuminate an LED at a remote location indicating that power is available at the MiniPort's outlets.

If it is HIGH (+12V relative to the GND terminal), the unit is ON; if LOW, the unit is OFF. Simply connect the indicator LED between STATUS and GND (do not use a series resistor). If multiple units are used, a separate LED must be used to indicate the status of each. Do not connect the STATUS terminals of multiple units together.

MP-20Q/15Q Quad Box Power Relays

The 20-amp MP-20Q and the MP-15Q (15 amps) provide a pair of remotely-activated, relay-controlled outlets, set up for mounting in any standard electrical quad box, either directly or with a "mud ring" attached. Due to the space limitations of a quad box, the MiniPort "Q" models have a smaller feature set than the MP-15 and MP-20.

MiniPort-Q's have no internal power supply; a maintained 8-15 VDC supply capable of providing 10 mA is required to turn on the outlets. This can be supplied by a Furman PowerLink, ASD-120.

(See diagram on the back for more details)

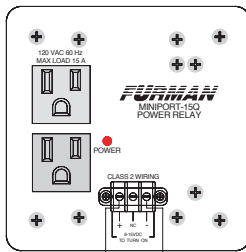
Accessories: RS-1, RS-2

The Furman RS-1 Remote System Control Panel is an attractively finished key switch designed for use in single-gang wall mount boxes. From one location it can control most Furman power products with remote capability. The RS-2 Remote System Control Panel is identical to the RS-1 in most respects, but with a momentary function rather than maintained. The RS-2 is ideal for installations requiring multiple remote switches.

Three Year Limited Warranty

Furman Sound, LLC., having its principal place of business at 1690 Corporate Circle, Petaluma, CA 94954 ("Manufacturer") warrants its MP-15, MP-20, MP-15Q, MP-20Q (the "Product") as follows:

Manufacturer warrants to the original Purchaser of the Product that the Product sold hereunder will be free from defects in material and workmanship for a period of three years from the date of purchase. The Purchaser of the product is allowed fifteen days from the date of purchase to complete warranty registration by mail or on-line at the Furman website. If the Product does not conform to this Limited Warranty during the warranty period (as herein above specified), Purchaser shall notify Manufacturer in writing of the claimed defects. If the defects are of such type and nature as to be covered by this warranty, Manufacturer shall authorize Purchaser to return the Product to the Furman factory or to an authorized Furman repair location.



Apply 8-15 VDC to turn on
MP-15Q / MP-20Q

Warranty claims should be accompanied by a copy of the original purchase invoice showing the purchase date; this is not necessary if the Warranty Registration was completed either via the mailed in warranty card or on-line website registration. Shipping charges to the Furman factory or to an authorized repair location must be prepaid by the Purchaser of the product. Manufacturer shall, at its own expense, furnish a replacement Product or, at Manufacturer's option, repair the defective Product. Return shipping charges back to Purchaser will be paid by Manufacturer.

THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Manufacturer does not warrant against damages or defects arising out of improper or abnormal use of handling of the Product; against defects or damages arising from improper installation, against defects in products or components not manufactured by Manufacturer, or against damages resulting from such non-Manufacturer made products or components. This warranty shall be cancelable by Manufacturer at its sole discretion if the product is modified in any way without written authorization from Furman Sound. This warranty also does not apply to Products upon which repairs have been affected or attempted by persons other than pursuant to written authorization by Manufacturer.

THIS WARRANTY IS EXCLUSIVE. The sole and exclusive obligation of Manufacturer shall be to repair or replace the defective Product in the manner and for the period provided above. Manufacturer shall not have any other obligation with respect to the Products or any part thereof, whether based on contract, tort, strict liability or otherwise. Under no circumstances, whether based on this Limited Warranty or otherwise, shall Manufacturer be liable for incidental, special, or consequential damages. Manufacturer's employees or representatives' ORAL OR OTHER WRITTEN STATEMENTS DO NOT CONSTITUTE WARRANTIES, shall not be relied upon by Purchaser, and are not a part of the contract for sale or this limited warranty. This Limited Warranty states the entire obligation of Manufacturer

with respect to the Product. If any part of this Limited Warranty is determined to be void or illegal, the remainder shall remain in full force and effect.

Service

Before returning any equipment for repair, please be sure that it is adequately packed and cushioned against damage in shipment, and that it is insured. We suggest that you save the original packaging and use it to ship the product for servicing. Also, please enclose a note giving your name, address, phone number and a description of the problem.

NOTE: All equipment being returned for repair must have a Return Authorization (RA) Number. To get an RA Number, please call the Furman Service Department (707-763-1010 ext.120 or 121) between 8 a.m. and 5 p.m. U.S. Pacific Time.

Please display your RA Number prominently on the front of all packages.

Specifications

Input Voltage: 120VAC 50/60 HZ

Input / Output Current:

MP-15, MP-15Q: 15A

MP-20, MP-20Q: 20A

Circuit Breaker/ Fuse:

MP-15: 15A Fuse

MP-20: 20A Thermal

MP-15Q/20Q: None

Dimensions:

MP-15Q/20Q:
4.5" (H) x 4.5" (W) x 1.5" (D)

MP-15/20:

Body: 5.5" (H) x 3.75" (W) x 2" (D)

Baseplate: 5.25" x 5.5"

Weight:

MP-15/20: 3.50 lbs.

MP-15Q/20Q: 1 lb

FURMAN

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