

DC Quick Connect Kit

(For use with NEWMAR PM/PFM and RPS Power Systems)

Models:
QCK-3
QCK-6

INSTALLATION GUIDE

I) General Information

The QCK quick connect kit simplifies parallel wiring installation of multiple Power Modules (PM Series) with the Power Function Manager (PFM), and also facilitates "hot change-out" of modules for repair or replacement. *Note: The QCK is for use only with systems which incorporate NEWMAR PM Series Power Modules and the NEWMAR Power Function Manager, and is designed for relay rack or cabinet (rear access) installation. The QCK may also be factory installed as part of an RPS Rackmount Power System.*

The kit consists of a DC power wiring harness with wires which are pre-cut to proper length and terminated with appropriately-sized ring lugs. The harness is factory tie-wrapped into proper position for a simple and professional installation.

Model QCK-3 is used for wiring the PFM and two to three PM's; model QCK-6 is for wiring the PFM and four to six PM's.

II) Materials List

Prior to installation, check to ensure that the following hardware items have been included with the QCK installation kit. For any missing items please contact the factory.

QCK-3

- (1) Cable Harness/Assembly (for 3 PM units max.)
- (3) Hex Head Screws, 1/4"-20
- (3) Hex Nuts, 1/4"-20
- (3) Flat Washers, 1/4"
- (3) Splitlock Washers, 1/4"

QCK-6

- (1) Cable Harness/Assembly (for 6 PM units max.)
- (4) Hex Head Screws, 1/4"-20
- (4) Hex Nuts, 1/4"-20
- (4) Flat Washers, 1/4"
- (4) Splitlock Washers, 1/4"

M-QCK
As of JAN 2002

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III) Installation Guidelines

A) PM/PFM Rack Arrangement: In order to properly install the QCK, the Power Modules must be installed one atop another with all PM's stacked above the PFM and the return/ground bus bar (BBA-400, provided with PFM) installed above the topmost PM (see Wiring Illustration).

B) AC and Battery Power: Both AC input to the Power Modules and battery input to the PFM should be disconnected during installation. However, once the QCK is properly installed, it is not necessary to remove AC or battery power to connect or disconnect individual Power Modules using the keyed quick connect terminals (though the PM must be shut off prior to removal).

C) Proper Polarity Attachment: The Power Module/Power Function Manager system may be used in either positive or negative ground applications. Therefore, the wires are not color coded, nor labeled (+) and (-). Instead, the wires are all black and labeled "HOT" and "RTN/GND" where the ring lug terminals are attached.

1) PFM and Return/Ground Bus Bar

The wires which connect to the bus bar (return/ground) and PFM (hot) are bundled at each end of the harness and those which connect to each Power Module in the system are free and detachable in the middle of the harness.

For **All** installations: The multiple bundled wires labeled "RTN/GND" are oriented to the top of the rack and attached to the bus bar (BBA-400) as shown in the photo illustration. The multiple bundled wires labeled "HOT" are oriented toward the bottom of the rack with all heavy gauge (6 AWG) wires attached to the bus bar labeled "INPUT (POWER MODULE)" on the rear of the PFM, and the light gauge (12 AWG) wire attached to the terminal labeled "RETURN/GND". To avoid accidental shorts, it is recommended that all of these wires be attached as indicated, even if there are fewer Power Modules in the system than the QCK can accommodate.

2) Power Modules

With the bundled ends of the QCK attached, the position of each free individual connector pair will be at the proper height and length for attachment to the adjacent Power Module.

Note: The V2 terminal of the Power Module is not used in parallel installations--no connection will be made to the V2 terminal in this installation.

Harness Conductor		System Voltage		
		-48V	+24V	+12V
HOT =		-	+	+
RTN/ GND =		+	-	-

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For **Positive Ground** installations: Connect the "RTN/GND" wire to the (+) V OUT terminal and the "HOT" wire to the (-) V OUT terminal of the Power Module.

For **Negative Ground** installations: Connect the "RTN/GND" wire to the (-) V OUT terminal and the "HOT" wire to the (+) V OUT terminal of the Power Module.

Ensure that the keyed quick connects are securely plugged into one another after attaching the wires. If there are fewer than three (QCK-3) or fewer than six (QCK-6) Power Modules in the system, store the extra 10" leads labeled "HOT" and "RTN/GND" for potential future system expansion. The conductor in the keyed plug which remains on the harness is recessed to prevent the possibility of accidental shorting.

D) Polarity Verification Test: Before connecting the battery or applying power to the Power Modules, perform the following test with an ohmmeter in the R X 1 resistance measuring position:

- 1) Verify near-zero resistance between the the return/ground bus bar and each RTN/GND connection on the rear of each Power Module.
- 2) Verify near-zero resistance between the "INPUT (POWER MODULE) HOT" bus bar on the rear of the PFM and the "HOT" terminal on the rear of each Power Module.
- 3) Measure resistance between the "INPUT (POWER MODULE) HOT" bus bar on the rear of the PFM and the return/ground bus bar. You should read 10 ohms or more with the ohmmeter probes connected in either direction. *Caution: If less than 10 ohms is measured, recheck all QCK wiring connections.*



With the QCK properly installed, batteries may be attached and (assuming all other aspects of installation are complete) AC applied to the PM/PFM system. Using the QCK disconnects (and easily disconnected Status Contact wiring plugs which are included with the PFM) there will be no need to shut down the system should an individual Power Module need removal or replacement, or when adding another PM (though the PM must be shut off prior to removal or installation). *Note:* Quick replacement of Power Modules assumes installation of plug-type AC input.

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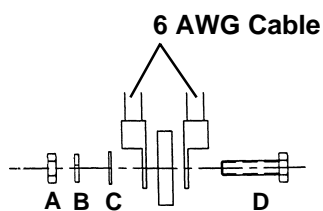
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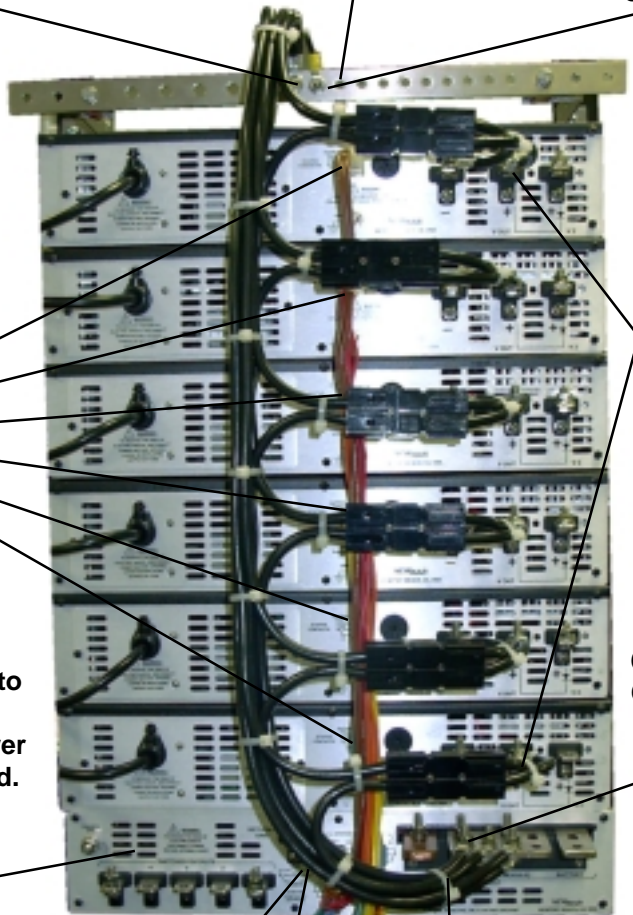
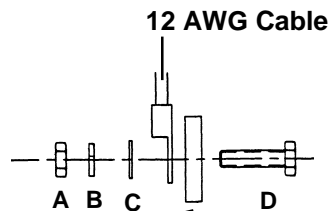
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Wiring Illustration

(Model QCK-6 Shown)



RTN/GND
(Return/Ground Bus)



**Status Contact Wire
Color Codes:**

- Brown: PM # 1
- Red: PM # 2
- Orange: PM # 3
- Yellow: PM # 4
- Green: PM # 5
- Blue: PM # 6

Note: Status Contact Wiring Harness is provided with PFM installation kit. Refer to PFM instructions for color coding with fewer than six PM's installed.

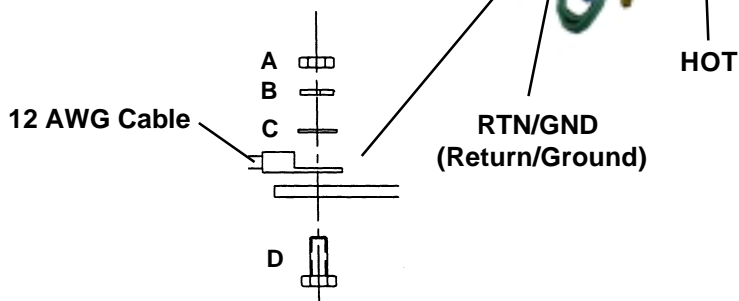
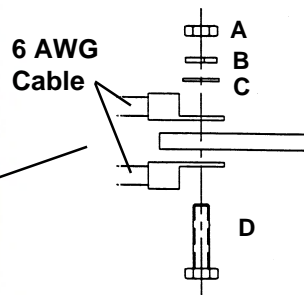
POWER MODULE OUTPUT WIRING

Negative Ground Systems:

- 1) Connect RTN/GND wire to (-) V OUT terminal
- 2) Connect HOT wire to (+) V OUT terminal

Positive Ground Systems:

- 1) Connect RTN/GND wire to (+) V OUT terminal
- 2) Connect HOT wire to (-) V OUT terminal



Hardware Codes:

- A: Hex Nut, 1/4"-20
- B: Lock Washer, 1/4"
- C: Flat Washer, 1/4"
- D: Hex Head Screw, 1/4"-20

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