



PF & PFQ SERIES

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GENERAL

PF and PFQ Series plugs and receptacles are engineered for use in high amperage applications. **In order to prevent disconnection under load, electrical interlocking is required.** To ensure proper installation and use of the product, please follow all of the instructions carefully.

RATINGS

PF and PFQ Series plugs and receptacles are UL and CSA listed according to UL 1682 and CSA C22.2 No.182.1 These listings only apply for 300A and 400A devices at 600V or less. 600A devices are not UL or CSA listed. Some PF and PFQ devices are provided with optional auxiliary contacts that make after and break before the phase contacts. The ratings for auxiliary contacts are shown in Table 1.

Device	120VAC	240VAC	480VAC	600VAC
PFQ300	7A	5A	2A*	2A*
PF series	10A*	10A*	10A*	10A*

* Rating is not UL or CSA listed.

INSTALLATION

PF and PFQ devices should be installed by qualified electricians in accordance with all applicable local and national electrical codes. Before starting verify that the power is off, that the product ratings are appropriate for the application, and that the conductors meet NEC code requirements. Tools required for installation include 7/8" (22mm) wrench or socket, 5/16" (8mm) allen wrench and 10 mm wrench for PFQ only.

Device	Main Contacts		Aux. Contacts
	Minimum	Maximum	Maximum
PFQ - 300A	4/0 AWG	350 MCM	10 AWG
PF - 300A	250 MCM	600 MCM	10 AWG
PF - 400A	250 MCM	600 MCM	10 AWG
PF - 600A	250 MCM	600 MCM	10 AWG

Recommended Torques:

Main Contacts: 30 ft-lb. (40 N-m)

Aux/Pilot Contacts: 15 in-lb (1.80 N-m).

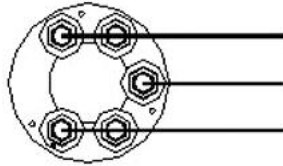
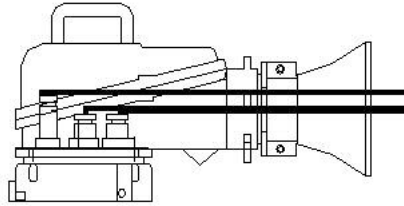
General Notes & Precautions

- To prevent short circuiting the heat shrink sleeves provided must be used over lugs and terminals after wiring.
- The PF and PFQ inlets and receptacles and handles are symmetrical and thus they can be mounted in any of four positions provided that the locking cam on the receptacle remains easily accessible.
- Lugs are not included with devices unless ordered.

WIRING INSTRUCTIONS

The cable sheath should extend at least 2 in. into handle or junction box.

For Plug or Connector with Angled Handle or Receptacle on Box or Inlet on Box



- Use straight type compression lugs with 9/16" or 5/8" hole.
- Run the neutral & ground wires above the phases.
- Apply heat shrink over lugs at terminals.

For Plug or Connector with Straight Handle

- Use 90° lugs with 9/16" or 5/8" hole. Arrange the 90° lugs to minimize the possibility of lugs touching
- Run the neutral & ground wires above the phases.
- Apply heat shrink over lugs at terminals.

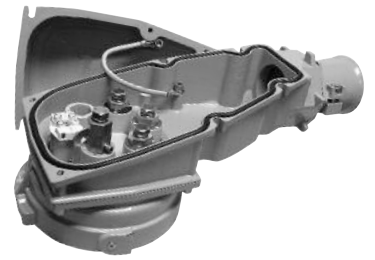
NOTE: Lugs crimped on the conductors must be bolted on the terminals with the supplied M14 screws and washers. In order not to transmit this torque to the molding, contact bodies should be held with a suitable wrench when tightening the M14 screw.



The phase contacts are lower to allow the passage of the ground and neutral above the phases.

ASSEMBLY

Angled Handle to Inlet or Receptacle Assembly



- Attach inlet or receptacle to handle body then open cover on handle.
- Connect the conductors to the terminals as described previously in 'wiring instructions.'
- Attach handle cover using a 8mm allen tool and 6 screws supplied.
- Compress grease coated cable gland by tightening hub. The recommended torque to achieve IP 67 is 150 to 280 ft-lb (200-400 N-m), depending on cable jacket material and diameter.
- Then tighten the cable clamps.

Junction Box to Inlet or Receptacle Assembly

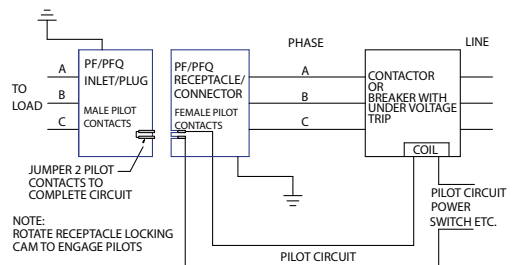


- Attach junction box to conduit. Attach cover to junction box using bolts provided.
- Connect conductors to terminals as described previously in 'wiring instructions.'
- Mount receptacle or inlet to junction box cover using bolts provided.

Auxiliary/Pilot Contacts

▲ In order to prevent disconnection under load electrical interlocking is required.

Typical PF/PFQ Control Circuit



PF: The four pilot/auxiliary terminals are numbered 1 to 4 and color coded. Conductors must be stripped by 0.5 in (12 mm) and fully inserted into their respective spring-assisted, tunnel type terminals. Tighten terminal screws until hand tight with a 4 mm flat screwdriver. Recommended torque is 13 in-lb (1.5 N-m). Terminals will accept flexible conductors up to 10 AWG (6 mm²).

PFQ: Eight pilot/auxiliary contacts are prewired and identified. Pilots are marked P1 and P2, whereas auxiliary contacts are numbered 3 to 8. Conductors provided have a cross-section of 14 AWG (1.5 mm²).

Mechanical Locking: PF Series

The cam has two positions:

Position 1: Unlocked, auxiliary/pilot contacts opened.

Position 2: Locked, auxiliary/pilot contacts closed. The plug is live and can not be removed.

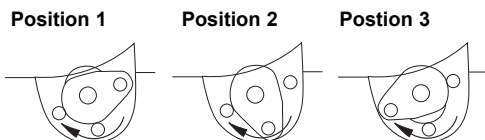
Mechanical Locking: PFQ Series

The cam on the receptacle has three positions:

Position 1: Unlocked, auxiliary and pilot contacts opened. The cover or plug can be removed.

Position 2: Locked, pilot contacts opened. The cover or plug can not be removed but pilot contacts remain open.

Position 3: Locked, auxiliary and pilot contacts closed. The plug is live and can not be removed.



Cam can be locked out in any of the three positions.

OPERATION

To ensure safe and reliable operation Meltric plugs and receptacles must be used in accordance with their assigned ratings. They can only be used in conjunction with mating receptacles or plugs manufactured by Meltric or another licensed producer of products bearing the Marechal **Marechal** technology trademark.

Meltric plugs and receptacles are designed with different keying arrangements, so that only plugs and receptacles with compatible contact configurations and electrical ratings will mate with each other.

Connection

1. Insert the plug into the receptacle. This unlocks the safety shutter on the receptacle and allows it to rotate.
2. Rotate plug approximately 30° clockwise to engage the phase contacts and to make the unit watertight. Turn the cam/mechanical lock to secure the receptacle and engage the pilot contacts which energize the circuit.



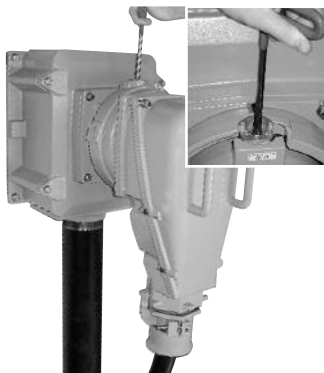
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Disconnection

1. Turn the cam/mechanical lock to disengage the pilot contacts and deenergize the circuit.
2. Twist plug 30° counterclockwise to disengage the phase contacts. Withdraw plug.

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Achieving Rated Watertightness

- ▲ Proper steps must be taken to maintain water tightness at NPT fittings on the plug handles or at the junction box. The use of a sealer tape is recommended.

IP 66/67 rated ingress protection applies to the device when the plug and receptacle are fully mated. When not in use the plug/inlet or connector/receptacle can be kept watertight by utilizing the protective cap. Caps are fully engaged when inserted into receptacle/inlet, rotated 30° clockwise and secured in place with the locking cam.



Using the correct bushing and compression washer size is important. The bushing must have as close a size as possible to the outer cable diameter. The portion of the cable that passes through the bushing must be as circular as possible to maintain ingress protection.



MAINTENANCE

Meltric products require little ongoing maintenance. However it is good practice to periodically perform the following general inspections:

- Check the mounting screws for tightness.
- Verify the weight of the cable is supported by the strain relief mechanism and not by the terminal connections.
- Check the IP gaskets for wear and resiliency. Replace as required.
- Verify the electrical continuity of the ground circuit.
- Check the contact surfaces for cleanliness.

Deposits of dust or similar foreign materials can be rubbed off the contacts with a clean cloth. Sprays should not be used, as they tend to collect dirt. If any significant pitting of the contacts or other serious damage is observed they should be replaced.

MANUFACTURER'S RESPONSIBILITY

Meltric's responsibility is strictly limited to the repair or replacement of any product that does not conform to the warranty specified in the purchase contract. Meltric shall not be liable for any penalties or consequential damages associated with the loss of production, work, profit or any financial loss incurred by the customer.

Meltric Corporation shall not be held liable when its products are used in conjunction with products not bearing the **Marechal** technology trademark. The use of Meltric products in conjunction with mating devices that are not marked with the **Marechal** technology trademark shall void all warranties on the product.

Meltric Corporation is an ISO 9001 certified company. Its products are designed, manufactured and rated in accordance with applicable UL, CSA and IEC standards. Meltric is also a member of BECMA, the international Butt-contact Electrical Connectors Manufacturers' Association. Like all members, Meltric additionally designs and manufactures its products in accordance with BECMA standards established to ensure intermatibility with similarly rated products manufactured by other members.

