Pentair PA220GF

Pentair PA220GF 2-Pole GFCI Circuit Breaker User Manual

Model: PA220GF

1. Introduction

This manual provides essential information for the safe and proper installation, operation, and maintenance of the Pentair PA220GF 2-Pole GFCI Circuit Breaker. This device is designed to provide ground fault protection for electrical circuits, commonly used in pool and spa applications. Please read this manual thoroughly before installation or use.



Image 1.1: Front view of the Pentair PA220GF 2-Pole GFCI Circuit Breaker, showing the test button and wiring terminals.

2. Safety Information

WARNING: Risk of Electric Shock or Electrocution.
Installation and servicing of this electrical device must be performed by a qualified electrician in accordance with all applicable national and local electrical codes. Failure to do so can result in serious injury, death, or property damage.

- Always disconnect power at the main service panel before installing or servicing the circuit breaker.
- Ensure proper grounding and bonding of all electrical components.
- Do not operate the circuit breaker if it appears damaged.
- This GFCI circuit breaker is designed for specific applications; ensure it is suitable for your intended use.

3. Setup and Installation

The Pentair PA220GF is a 2-pole, 20-ampere GFCI circuit breaker designed for use in compatible electrical panels. Professional installation is strongly recommended.

3.1 Pre-Installation Steps

1. Verify that the main power to the electrical panel is turned OFF at the utility meter or main disconnect. Use a voltage tester to confirm no power is present.
2. Ensure the electrical panel is compatible with Siemens-type or Pentair-branded circuit breakers.
3. Confirm the circuit breaker's amperage (20-Ampere) and GFCI type are appropriate for the circuit it will protect.

3.2 Installation Procedure

1. Carefully remove the existing circuit breaker, if applicable, from the panel bus bar.
2. Connect the load wires (typically black and red for 2-pole) to the designated load terminals on the GFCI breaker. Ensure connections are tight and secure.
3. Connect the white neutral wire from the load to the designated neutral terminal on the GFCI breaker.
4. Connect the white pigtail wire from the GFCI breaker to the neutral bus bar in the electrical panel.
5. Carefully snap the GFCI circuit breaker onto the appropriate bus bar stabs in the electrical panel. Ensure it is fully seated.
6. Double-check all wiring connections for tightness and correctness.
7. Close the electrical panel cover.
8. Restore power to the electrical panel.



Image 3.1: Angled view illustrating the wiring terminals for load and neutral connections.

4. Operating Instructions

Once installed and power is restored, the GFCI circuit breaker is ready for operation.

4.1 Normal Operation

In normal operation, the breaker handle will be in the 'ON' position, and power will be supplied to the protected circuit. If a ground fault is detected, the breaker will trip, moving the handle to the 'TRIP' (center) position.

4.2 Testing the GFCI

It is crucial to test the GFCI circuit breaker monthly to ensure proper function. This test verifies the ground fault protection mechanism.

1. Ensure the circuit breaker is in the 'ON' position.

2. Press the 'TEST' button located on the front of the breaker.
3. The breaker should immediately trip to the 'TRIP' position, and power to the circuit will be interrupted.
4. To reset the breaker, first push the handle fully to the 'OFF' position, then push it to the 'ON' position.
5. If the breaker does not trip when the 'TEST' button is pressed, or if it does not reset, it may be faulty and should be replaced immediately by a qualified electrician.



Image 4.1: Front view of the breaker, indicating the 'TEST' button for monthly functionality checks.

5. Maintenance

The Pentair PA220GF circuit breaker requires minimal maintenance beyond the monthly test. Keep the area around the electrical panel clean and free of obstructions. Do not attempt to open or repair the circuit breaker. If it is damaged or malfunctions, it must be replaced.

6. Troubleshooting

6.1 Breaker Trips Frequently (Nuisance Tripping)

If the GFCI breaker trips frequently without an apparent ground fault, consider the following:

- **Overload:** The circuit may be drawing more current than the 20-ampere rating. Disconnect some devices from the circuit to reduce the load.
- **Ground Fault:** Even if not immediately obvious, a persistent ground fault may exist. This could be due to moisture, damaged wiring, or faulty appliances connected to the circuit. Inspect all connected equipment and wiring for damage.
- **Motor Start-up Current:** Some motors, especially variable speed pumps, can draw high inrush current during start-up, which might be misinterpreted as a fault by standard GFCIs. The Pentair PA220GF is designed to be more tolerant of these conditions, but if issues persist, consult a qualified electrician to assess the electrical system and connected equipment.
- **Faulty Breaker:** Although rare, the GFCI breaker itself might be faulty. Perform the monthly test as described in Section 4.2. If it fails the test or continues to trip without cause, it should be replaced.

6.2 Breaker Does Not Reset

If the breaker does not reset after being pushed to the 'OFF' then 'ON' position:

- **Persistent Fault:** A continuous ground fault or short circuit is present on the line. Disconnect all loads from the circuit and attempt to reset. If it resets, reconnect loads one by one to identify the faulty device.
- **Internal Damage:** The breaker may have internal damage. It must be replaced by a qualified electrician.

7. Specifications

Attribute	Value
Brand	Pentair
Model Number	PA220GF
Current Rating	20 Amps
Circuit Breaker Type	GFCI
Number Of Poles	2
Mounting Type	Panel Mount (compatible with Siemens-type panels)
Product Dimensions	12.5 x 10 x 5 inches
Item Weight	15.8 ounces
UPC	788379803537

8. Warranty and Support

For warranty information and technical support regarding your Pentair PA220GF 2-Pole GFCI Circuit Breaker, please refer to the official Pentair website or contact Pentair customer service directly. Keep your purchase receipt for warranty claims.

Pentair Official Website: www.pentair.com

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