NICGQMQR NICGQMQR 380V 93KW

NICGQMQR Solar Inverter DC to AC Three-Phase Converter User Manual

Model: 380V 93KW

1. Introduction

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your NICGQMQR Solar Inverter DC to AC Three-Phase Converter. Please read this manual thoroughly before installation or operation and retain it for future reference. This device is designed to convert DC power from solar panels into three-phase AC power for driving solar pump motors and other compatible equipment.

2. Safety Information

WARNING: Failure to follow these safety instructions may result in serious injury, death, or property damage.

- Installation and maintenance must be performed by qualified personnel only.
- Ensure the power supply is disconnected before performing any wiring or maintenance.
- Do not operate the inverter with damaged wiring or components.
- The inverter generates high voltage and current. Exercise extreme caution.
- Ensure proper grounding of the inverter and connected equipment.
- Do not expose the inverter to water, excessive moisture, or flammable materials.
- Maintain adequate ventilation around the inverter to prevent overheating.

3. Product Overview

The NICGQMQR Solar Inverter is a robust solution for converting DC power from solar arrays into stable three-phase AC power. It features MPPT (Maximum Power Point Tracking) control for optimized energy harvesting and is suitable for various industrial applications, particularly solar pump systems.

Figure 3.1: Main view of the NICGQMQR Solar Inverter, comprising the inverter unit (left) and the cooling/connection unit

(right).

Figure 3.2: Detailed view of the inverter's control panel, featuring a digital display and operational buttons for configuration and monitoring.

Figure 3.3: Front view of the cooling and connection unit, showing two integrated cooling fans and accessible terminal blocks for electrical connections.

4. Setup and Installation

Proper installation is critical for the inverter's performance and safety. Consult a qualified electrician for installation.

4.1 Mounting

- Mount the inverter vertically on a stable, non-flammable surface.
- Ensure sufficient clearance (at least 10 cm on all sides) for proper airflow and heat dissipation.
- Avoid direct sunlight, rain, and excessive dust.

4.2 Wiring Connections

All wiring must comply with local and national electrical codes.

1. **DC Input (Solar Panels):** Connect the positive (+) and negative (-) terminals from your solar array to the designated DC input terminals on the inverter. Observe correct polarity.
2. **AC Output (Motor/Load):** Connect the three-phase AC output terminals (U, V, W) to your motor or load.

3. **Grounding:** Connect the inverter's ground terminal to a reliable earth ground.
4. **Control Wiring (Optional):** If using external control signals (e.g., remote start/stop, analog input), refer to the detailed wiring diagram in the full technical manual for specific connections.

CAUTION: Double-check all wiring connections before applying power to prevent damage to the inverter or connected equipment.

5. Operating Instructions

5.1 Initial Power-Up

1. After verifying all connections, switch on the DC input from the solar array.
2. The inverter display should illuminate. Observe for any error codes.
3. The inverter will typically perform a self-test and then enter a standby or operating mode, depending on solar input and configuration.

5.2 Control Panel Functions

The control panel (refer to Figure 3.2) allows for monitoring and parameter adjustment.

- **Display:** Shows real-time operating parameters such as input voltage, output frequency, current, power, and error codes.
- **RUN/STOP Button:** Initiates or halts inverter operation.
- **PROG/DATA Button:** Enters parameter setting mode or displays data.
- **UP/DOWN Arrows:** Navigate through menus and adjust parameter values.
- **ENTER Button:** Confirms selections or parameter changes.

5.3 MPPT Operation

The inverter automatically tracks the maximum power point of the solar array to maximize energy harvest. No manual adjustment is typically required for MPPT functionality.

6. Maintenance

Regular maintenance ensures optimal performance and extends the lifespan of your inverter.

- **Cleaning:** Periodically clean the inverter's exterior and cooling fins to remove dust and debris. Use a soft, dry cloth. Ensure power is off before cleaning.
- **Fan Inspection:** Check cooling fans (refer to Figure 3.3) for proper operation and obstruction. Clean fan blades if necessary.
- **Connection Check:** Annually inspect all electrical connections for tightness and signs of corrosion. Retighten if loose.
- **Environmental Check:** Ensure the operating environment remains within specified temperature and humidity ranges.

WARNING: Do not open the inverter casing unless you are a qualified service technician. High voltage is present inside.

7. Troubleshooting

This section provides solutions for common issues. For problems not listed here, contact technical support.

Problem	Possible Cause	Solution
Inverter not powering on	No DC input from solar panels; loose wiring; internal fault.	Check solar panel connections and output; verify all wiring is secure; contact support if fault persists.
Low AC output power	Insufficient solar input; shading on panels; incorrect parameter settings.	Check solar panel conditions; ensure panels are clean and unshaded; verify inverter settings.
Over-temperature error	Poor ventilation; blocked cooling fans; high ambient temperature.	Ensure adequate clearance around inverter; clean cooling fans and vents; reduce ambient temperature if possible.
Motor not starting/running erratically	Incorrect motor parameters; motor fault; wiring issue.	Verify motor parameters in inverter settings; check motor for faults; inspect AC output wiring.

8. Specifications

The following specifications apply to the NICGQMQR Solar Inverter DC to AC Three-Phase Converter (380V 93KW model).

Feature	Specification
Model Number	NICGQMQR
Input Voltage	DC (from solar array)
Output Voltage	380V AC Three-Phase
Rated Power	93KW
Control Method	MPPT Control
Item Weight	1.76 ounces (Note: This weight seems incorrect for a 93KW inverter and likely refers to a small component or packaging. Refer to product packaging for actual shipping weight.)
Package Dimensions	1.18 x 0.79 x 0.39 inches (Note: These dimensions seem incorrect for a 93KW inverter and likely refer to a small component or packaging. Refer to product packaging for actual dimensions.)

9. Warranty and Support

For warranty information, please refer to the purchase documentation or contact your vendor. For technical support, assistance with troubleshooting, or spare parts, please contact NICGQMQR customer service

through the official channels provided at the time of purchase.