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PRAMAC AC03

PRAMAC AC03 Generator Control Module

USER MANUAL

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of the PRAMAC AC03 Generator Control Module. The AC03 is an Advanced Digital Control System designed for the protection and control of generators, featuring an Automatic Transfer Switch (ATS) display. It is an original ComAp IntelliLite NT PRAMAC module, ensuring reliable performance for engine and generator management.

2. Safety Information

Warning: Improper installation or operation can result in serious injury or damage to equipment. Always ensure that installation and maintenance are performed by qualified personnel.

- Disconnect all power sources before performing any installation, wiring, or maintenance.
- Ensure proper grounding of the module and associated equipment.
- Adhere to all local and national electrical codes and regulations.
- Do not operate the module if it appears damaged.

3. Product Overview

The PRAMAC AC03 module is an engine control unit designed for generator applications. It features a clear display and intuitive controls for monitoring and managing generator operations.

3.1 Front Panel Controls and Display



Figure 1: Front view of the PRAMAC AC03 module.

The front panel includes a liquid crystal display (LCD) for status information and various control buttons:

- **MODE buttons (Left/Right arrows):** Used to navigate through different operating modes or menu options.
- **START button (Green):** Initiates the generator start sequence.
- **STOP button (Red):** Halts the generator operation.
- **FUEL PUMP button:** Manually controls the fuel pump.
- **FAULT RESET button:** Resets active fault conditions.
- **PAGE button:** Cycles through different display pages.
- **Navigation arrows (Up/Down/Left/Right):** Used for menu navigation and parameter adjustment.
- **CR / CG buttons:** Specific control functions related to the generator or mains.

3.2 Rear Panel Connections



Figure 2: Rear view of the PRAMAC AC03 module with connection terminals.

The rear panel provides various terminals for connecting to the generator, mains, and other control systems:

- **Generator Current (0-5A):** Terminals for current transformer inputs.
- **Generator Voltage (3x277A/480VAC):** Terminals for generator voltage sensing.
- **Mains Voltage (3x277A/480VAC):** Terminals for mains voltage sensing.
- **Binary Inputs:** Configurable digital inputs for various signals.
- **Analog Inputs:** Inputs for analog sensors (e.g., oil pressure, coolant temperature).
- **RPM:** Input for engine speed sensing.
- **Binary Outputs:** Configurable digital outputs for control functions.
- **Power (8-36 VDC):** DC power supply input.
- **CAN:** CAN bus communication interface.
- **Extension Module:** Connector for optional extension modules.
- **Communication Module:** Connector for communication interfaces.

4. Setup and Installation

Installation of the PRAMAC AC03 module requires careful attention to wiring and mounting. Refer to the

detailed wiring diagrams provided with the product or consult the manufacturer's documentation (e.g., document 1905031A).

4.1 Mounting

- Mount the module on a flat surface within a Type 1 enclosure.
- Ensure adequate ventilation and maintain the specified ambient temperature range for operation.

4.2 Wiring Connections

All wiring should be performed by a qualified electrician. Use copper conductors only. Refer to the torque values specified in the installation instructions for terminal connections.

- **Power Supply:** Connect a stable 8-36 VDC power source to the designated terminals. Observe polarity.
- **Voltage Sensing:** Connect generator and mains voltage inputs according to the wiring diagram. Ensure correct phase rotation.
- **Current Sensing:** Connect current transformers (CTs) to the generator current inputs. Ensure correct CT ratios and polarity.
- **Binary Inputs/Outputs:** Connect control signals and actuators as per the system design.
- **Analog Inputs:** Connect engine sensors (e.g., oil pressure, water temperature) to the analog input terminals.
- **RPM Input:** Connect the engine speed sensor.
- **Communication:** Connect CAN bus or other communication modules as required.

5. Operating Instructions

Once installed and powered, the AC03 module can be operated using the front panel controls.

5.1 Basic Operation

- **Starting the Generator:** Press the **START** button. The module will initiate the pre-programmed start sequence.
- **Stopping the Generator:** Press the **STOP** button. The module will initiate the pre-programmed stop sequence.
- **Mode Selection:** Use the **MODE** arrow buttons to cycle through different operating modes (e.g., Manual, Auto, Test).
- **Display Navigation:** Use the **PAGE** button to view different screens displaying generator parameters, alarms, and status. Use the navigation arrows to scroll within a page or adjust settings in configuration menus.
- **Fault Reset:** If a fault occurs, address the underlying issue, then press the **FAULT RESET** button to clear the alarm.

5.2 Display Information

The LCD displays critical information such as:

- Generator voltage, current, frequency, and power.
- Engine parameters (RPM, oil pressure, coolant temperature, fuel level).
- Mains voltage and frequency.
- Operating hours and maintenance timers.
- Active alarms and fault history.

6. Maintenance

Regular maintenance ensures the longevity and reliable operation of the AC03 module.

- **Cleaning:** Periodically clean the front panel with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Connections:** Annually inspect all wiring connections for tightness and signs of corrosion. Re-tighten terminals as necessary, observing specified torque values.
- **Firmware:** Check the manufacturer's website for any available firmware updates. Updates should only be performed by qualified personnel.

7. Troubleshooting

This section provides basic troubleshooting steps for common issues. For complex problems, contact technical support.

Problem	Possible Cause	Solution
Module does not power on	No power supply; incorrect wiring; blown fuse	Check DC power input (8-36 VDC); verify wiring; check external fuses.
Generator fails to start	Low fuel; low battery; engine fault; incorrect mode	Check fuel level and battery voltage; inspect engine for faults; ensure module is in 'Auto' or 'Manual' mode.
Display shows a fault code	Active alarm condition	Note the fault code, refer to the detailed fault list in the full manual, rectify the issue, then press FAULT RESET .
Incorrect readings on display	Sensor malfunction; incorrect calibration; wiring issue	Verify sensor connections; check sensor functionality; consult full manual for calibration procedures.

8. Specifications

- **Model:** AC03 (ComAp IntelliLite NT PRAMAC)
- **Manufacturer:** ComAp
- **Hardware Version:** 1.6 - SI
- **Power Supply:** 8-36 VDC
- **Generator Voltage Input:** 3x277A/480VAC
- **Mains Voltage Input:** 3x277A/480VAC
- **Generator Current Input:** 0-5A
- **Dimensions (L x W x H):** Approximately 25 x 25 x 25 millimeters (1 x 1 x 1 inch)
- **Weight:** Approximately 50 grams
- **Enclosure Requirement:** For use on a flat surface of a Type 1 enclosure.
- **Ambient Temperature:** Max. ambient temperature 70°C.

9. Warranty and Support

Warranty information for the PRAMAC AC03 module is typically provided at the point of purchase or directly by the manufacturer, ComAp. Please retain your proof of purchase for warranty claims.

For technical support, detailed wiring diagrams, or advanced troubleshooting, please refer to the official ComAp documentation or contact your authorized PRAMAC/ComAp distributor. The document number 1905031A may provide further technical details.