

Modicon AS-B824-016 24 V DC Discrete Output Module User and Technical Reference Manual Modicon 800 Series

1. Introduction

The AS-B824-016 is a discrete DC output module designed for use in Modicon 800 Series programmable controller systems.

This manual provides detailed technical information intended for system designers, installation personnel, and maintenance engineers.

The module is designed for reliable operation in industrial automation environments.

2. Product Overview

The AS-B824-016 provides sixteen discrete 24 V DC output channels.

Each output channel is independently controlled by the PLC application program.

The module supports true high DC output operation, supplying positive voltage to the load when energized.

3. Functional Description

The module functions as an interface between PLC logic circuits and field-level devices.

It converts logic-level control signals into electrical outputs capable of driving industrial loads.

The design emphasizes predictable switching behavior and electrical robustness.

4. Output Configuration

The module contains sixteen output channels arranged into two independent groups.

Group one includes outputs 0 through 7.

Group two includes outputs 8 through 15.

Each group shares a common power connection.

5. Electrical Specifications

Operating voltage range is 20 to 28 volts DC.

Nominal operating voltage is 24 volts DC.

Each output channel supports up to 2 amperes of continuous current.

Short-duration surge current capability allows reliable operation with inductive loads.

6. Current Management

The total current for each output group must not exceed the specified group limit.

The combined current of all outputs must remain within the module maximum rating.

Proper current distribution reduces thermal stress and improves module longevity.

7. Internal Power Supply

Internal operating power is supplied through the PLC rack backplane.

This power supports logic circuits, isolation components, and monitoring functions.

External load power is supplied separately and is not drawn from the backplane.

8. Power Consumption

Internal power consumption remains stable regardless of output loading conditions.

The module design minimizes power draw to reduce heat generation in the rack.

Stable power consumption supports high-density system configurations.

9. Isolation and Protection

Each output channel is optically isolated from the PLC logic circuitry.

Isolation reduces the impact of electrical noise and ground potential differences.

Protection features help prevent damage from abnormal load conditions.

10. Wiring Guidelines

All wiring must comply with applicable electrical standards.

Correct polarity must be observed when connecting external power supplies.

Wiring should be performed with power removed from the system.

11. Typical Wiring Configuration

Loads are connected between the output terminals and the external DC power return.

Each output supplies positive voltage when energized.

Inductive loads may require additional suppression components.

12. Installation

The module occupies one standard slot in a Modicon 800 Series rack.

The module should be firmly seated to ensure reliable backplane connection.

All power sources must be disconnected before installation or removal.

13. Commissioning

After installation, outputs should be tested individually using the PLC program.

Verify that each connected load responds correctly.

Any wiring or configuration issues should be corrected before normal operation.

14. Operation

During normal operation, outputs follow the logic states defined by the application program.

The module provides consistent switching behavior under rated conditions.

System diagnostics may be used to monitor output status.

15. Maintenance

The module requires minimal routine maintenance.

Periodic inspection of wiring connections is recommended.

The module should be replaced if physical damage or persistent faults are detected.