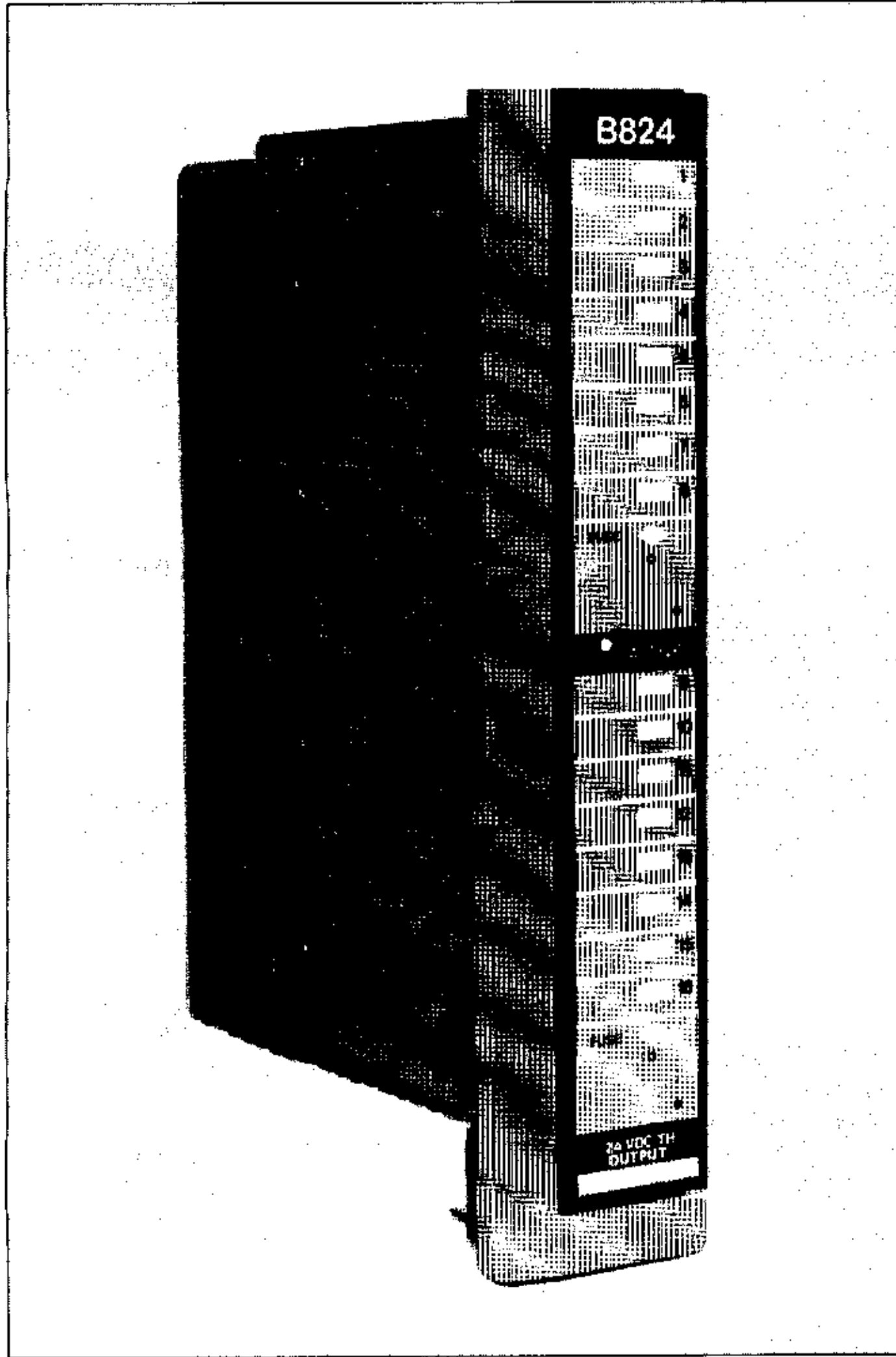


# B824-016/24 VDC, 16 Point, Output Module (True High) Installation Instructions

PI-B824-001 Rev. E

**AEG**



**MODICON**

## Features

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- Sixteen independent 24 VDC outputs per module
- 2 Amperes per output
- Circuit isolation of 1500 VAC/2500 VDC
- True High operation
- Field-side status indicators
- Front panel ACTIVE lamp
- Transient protection
- Communication failures automatically detected
- Designed for harsh industrial environments
- Safe, non-conductive module front permits easy access for test probes

## General Description

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The MODICON B824-016, 24 VDC True High Output Module consists of sixteen independent outputs divided into two groups of eight.

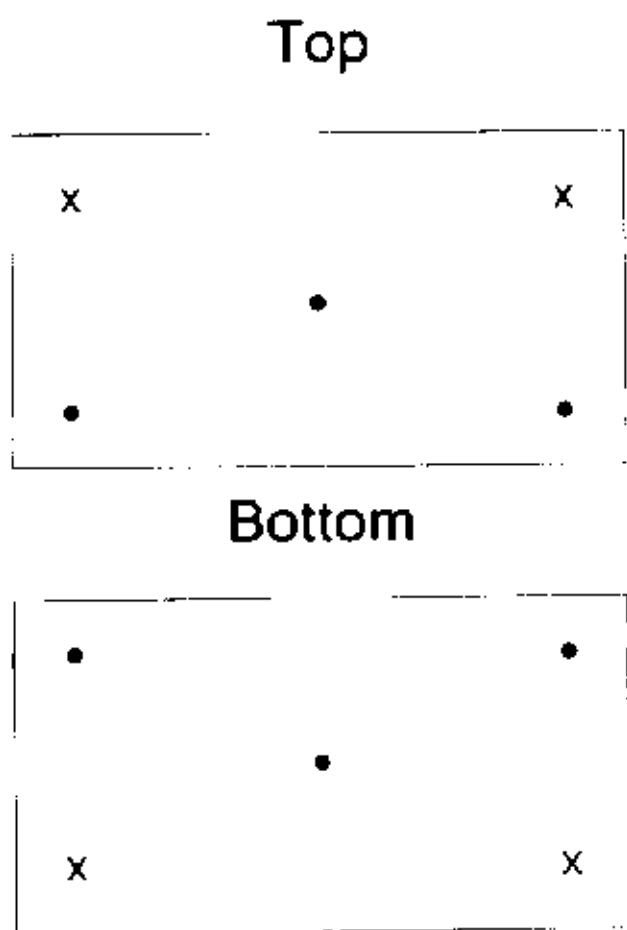
The B824-016, 24 VDC True High Output Module converts signals used within the programmable controller into sixteen independent outputs. Outputs are capable of driving motor starters, relays, and a variety of other loads. Sixteen transistor switches are used to control loads connected to an external power source.

The module's sixteen outputs are in two groups, eight outputs per group. Each group is fused to protect the outputs from overload currents and polarity reversal. An optical coupler isolates each output from the controller. The outputs are designed to withstand the extreme voltage transients often encountered in an industrial environment.

Field-side LED's display each output's on/off state. The ACTIVE lamp is lit as long as communication exists between the controller and module. If communication fails, the ACTIVE lamp and all outputs go off within 300 milliseconds of the failure.

Figure 1-1

Key Pin Locations



The B824 can be inserted into any location in the MODICON 800 Series I/O Housing. The module slides easily into the housing and does not interfere with any other module. An optional mechanical keying system can be used to match the module type with a particular slot in the housing. This ensures proper module placement. User connections are made to a standard screw terminal strip. The wiring system permits the module insertion or removal without disturbing the field wiring.

The module's protective case shields logic circuitry from electrical interference and minimizes the possibility of noise being coupled from the user side of the circuitry to adjacent modules. The housing's backplane provides an earth ground when the module is inserted into the housing.

When facing housing, place the knurled end of the key pins into the holes indicated by the "X". Use a 1/2" plastic head mallet or equivalent to drive the pin into the housing approximately 1/4 of an inch.

► **NOTE** The keying system is optional.

Figure 1-2

Simplified Schematic

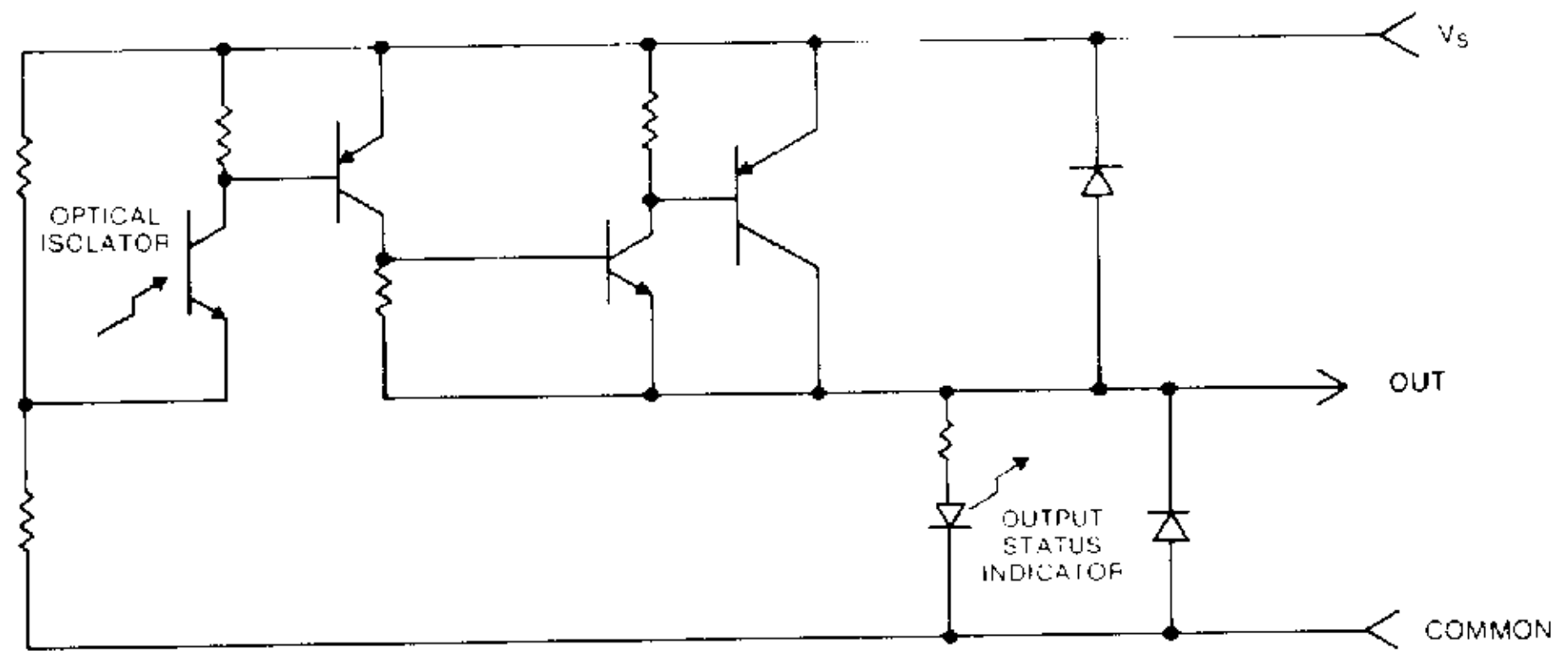
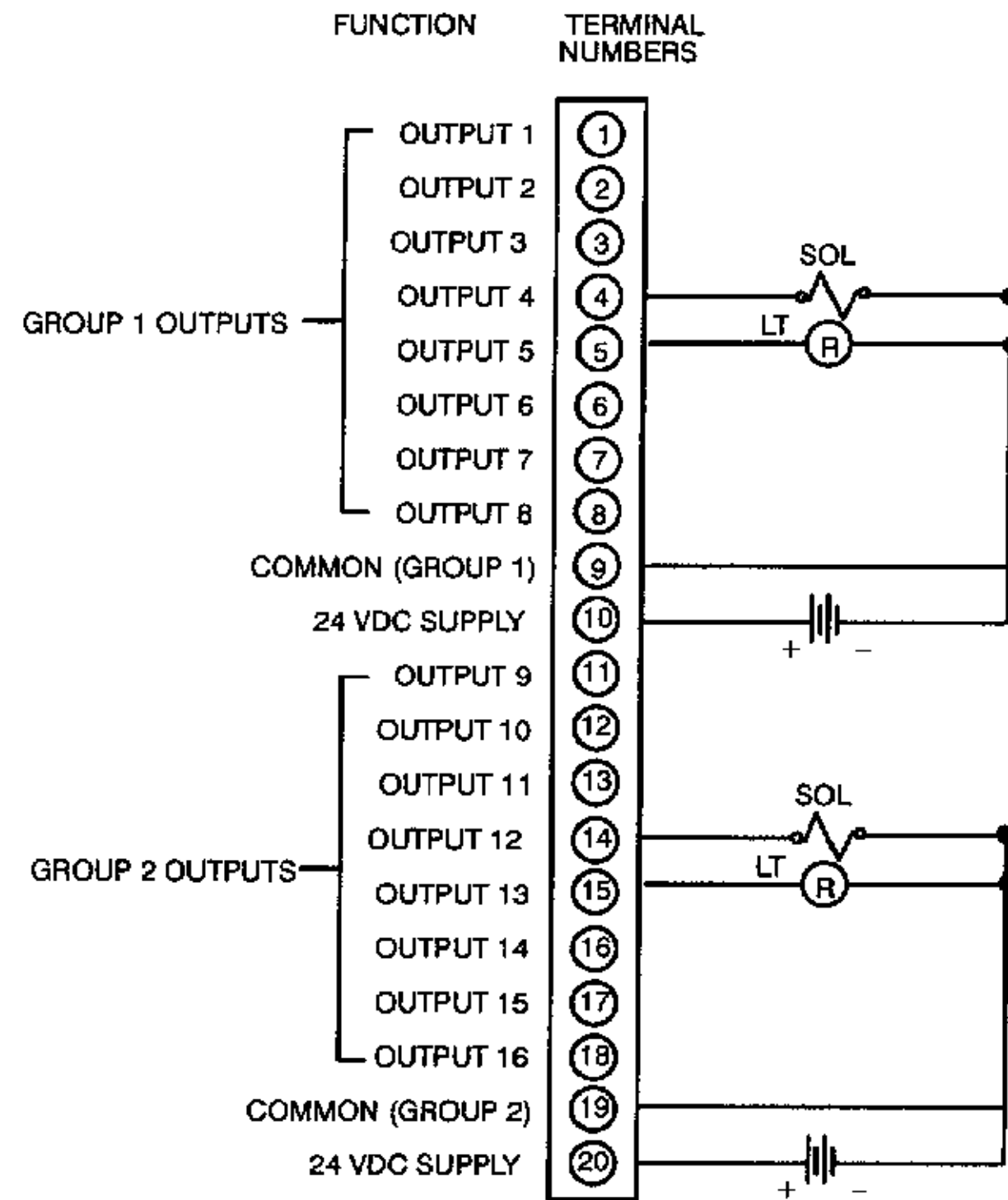


Figure 1-3

**Terminal Numbering and Input Connectors**



## Specifications

### Electrical Characteristics

<b>Working Voltage</b>	20 to 28 VDC
<b>On State Voltage Drop</b>	1.8 VDC at 2 Amperes.
<b>Maximum Module Output</b>	12 Amperes per module, 6 Amperes per group
<b>Maximum Load Current</b>	2 Amperes per output, continuous.
<b>Maximum Surge Current</b>	5 Amperes per output for 10 ms.

# Specifications (continued)

## Electrical Characteristics (continued)

Off State Leakage Current	1 mA max.		
Power Supply Unit Loads	$\frac{+5\text{VDC}}{1.6(32\text{mA})}$	$\frac{-5\text{VDC}}{0(0\text{mA})}$	$\frac{+4.3\text{VDC}}{1.2(260\text{mA})}$
External Power Supply	24 VDC, $\pm 4\text{V}$ at 175 mA.		

## Circuit Characteristics

Topology	16 outputs per module divided into two groups of eight.
Isolation Voltage	1500 VAC RMS at 60 Hz. for 60 seconds; 2500 VDC for 60 seconds.
1. Between output groups.	
2. Between outputs and controller.	
3. Between outputs and cover.	
Response Time	Off to On, 1 ms max. On to Off, 1 ms max.
Front Panel Indicators	One field-side LED per output: illuminates when output is on. One ACTIVE LED: illuminates as long as communication exists between the controller and module.
Fuses	One 8 Ampere fuse per group.

## Environment

Temperature Operating Storage	0 to 60°C – 20 to 80°C
Humidity	0 to 95% non-condensing.
Shock	10 G for 11 ms.
Vibration	0.625 G, 50-500 Hz.
Dimensions (W x H x D)	2.1 in. x 10.47 in. x 8.25 in. (53.3 mm x 265.9 mm x 209.6 mm)

- **NOTE** The B824-016, 24 VDC True High Output Module is compatible with the B825-016, 24 VDC True High Input Module.