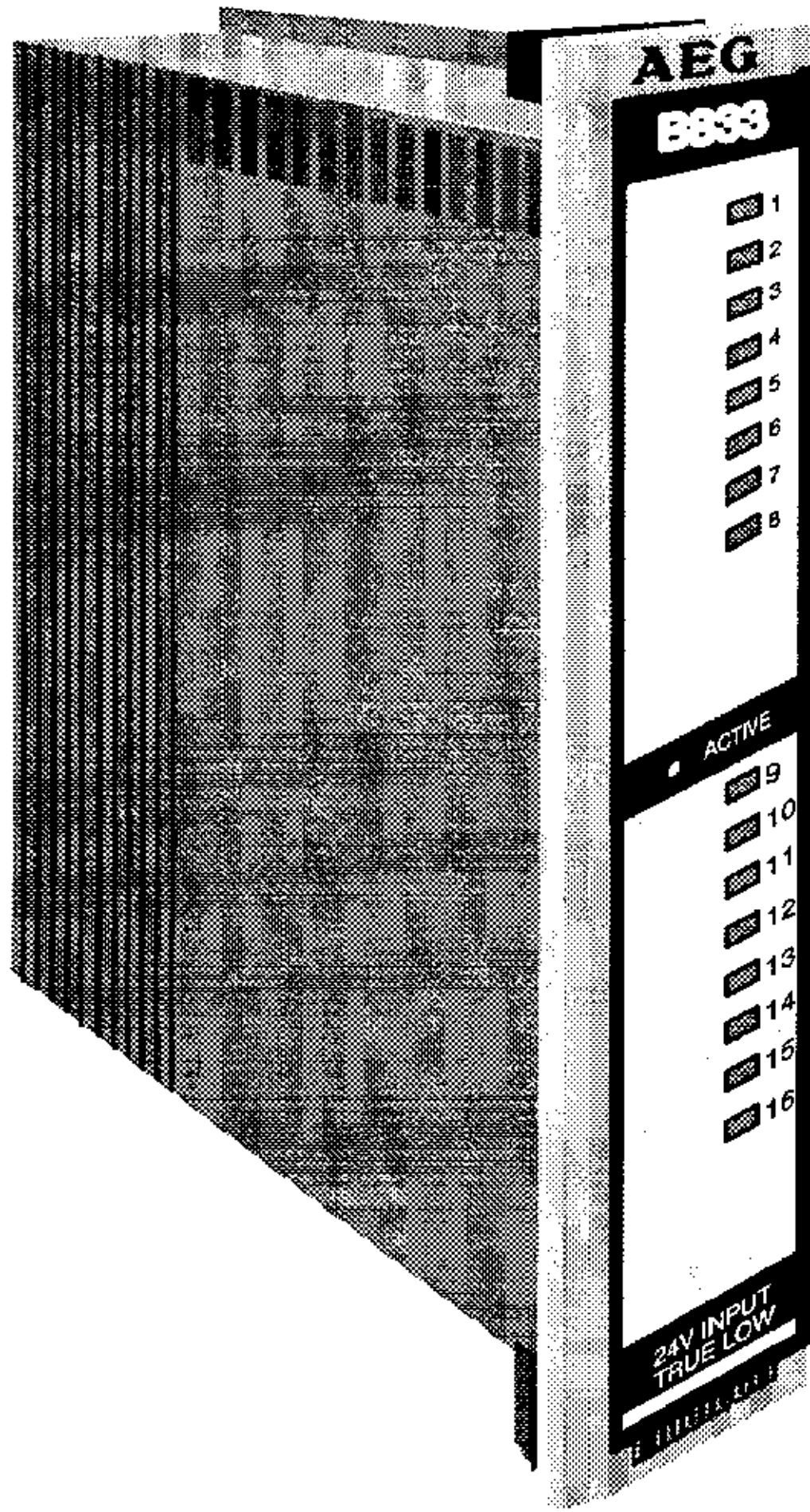


Modicon B833-016/24 VDC, 16 Point, Input Module (True Low) Installation Instructions

PI-B833-001 Rev. D

AEG



MODICON

Features

- Sixteen independent 24 VDC inputs per module
- Circuit isolation of 1500 VAC/2500 VDC
- True Low 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

The MODICON B833-016, 24 VDC True Low Input Module consists of a single group of sixteen independent inputs.

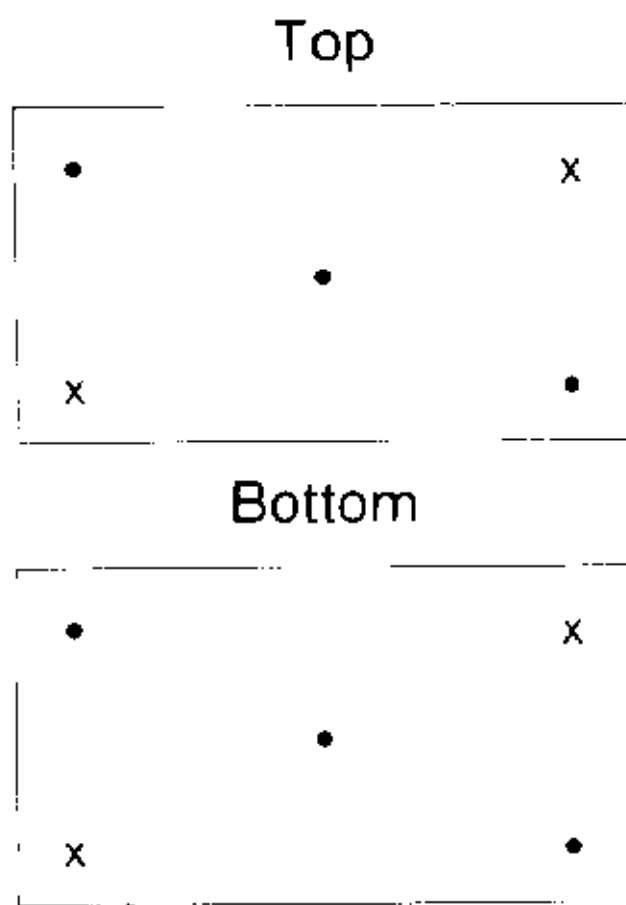
The B833-016, 24 VDC True Low Input Module senses and converts switched input signals into logic voltage levels used by the programmable controller (PC). Inputs can be received from push buttons, limit and proximity switches, and other sources. The module provides sixteen inputs that share an external supply voltage.

Input voltages are sensed by comparing the incoming voltage against a fixed threshold. The threshold is a function of the user-supplied field voltage.

A hysteresis circuit helps ensure the module of reliable operation in the presence of electrical noise. Each input is electrically isolated from the controller by optical isolators. The inputs are designed to withstand the extreme voltage transients often encountered in an industrial environment.

Field-side LEDs display each input's on/off state. The ACTIVE lamp is lit as long as communication exists between the module and controller. If communication fails, the ACTIVE lamp goes off and all inputs in the PC default to an off condition.

Figure 1
Key Pin Locations



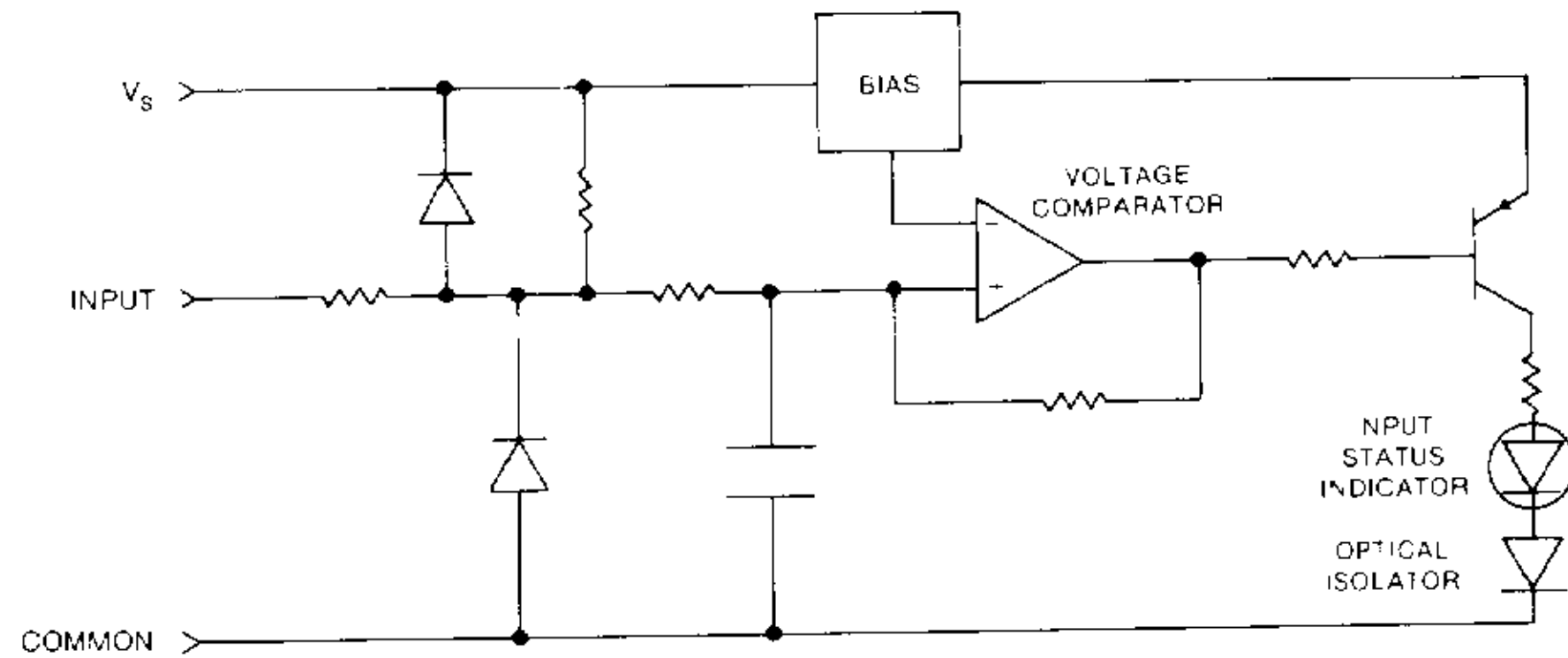
The B833 can be inserted into any location in the MODICON 800 Series I/O Housing. The module slides easily into the housing and does not interfere with any other module. An optional mechanical keying system can be used to match the module with a particular slot in the housing. This ensures proper module placement. User connections are made to a standard screw terminal strip. The wiring system permits the module to be removed or replaced 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 2
Simplified Schematic



Specifications

Electrical Characteristics

Input Signal Requirements

On Condition

≤ 2.6 VDC or 0.13 of V_S , whichever is greater. 200 ohms max. resistance to common. Input indicator ON.

Off Condition

≥ 21 VDC or 0.75 of V_S , whichever is less. 10,000 ohms min. resistance to common. Input indicator OFF.

Contact Wetting Current

6 mA at 24 VDC.

Specifications (continued)

Electrical Characteristics (continued)

Power Supply
Loading:*

<u>+5VDC</u> 27 mA	<u>-5VDC</u> 0 mA	<u>+4.3VDC</u> 1.2 mA
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*Refer to electrical specifications of the power supply that will be used for this module.

Maximum Input Voltage 100V for 3ms

Circuit Characteristics

Topology 16 inputs per module

Isolation Voltage
Field to System,
Between Inputs
and Earth Ground 1500 VAC steady state maximum at 60 Hz
for one minute
2500 VDC for 60 seconds

Response Time ON to OFF, 11.0 ms (max)
OFF to ON, 11.0 ms (max)

Visual Indicators One LED per input. LED ON when input conditions
are in excess of defined ON levels
One ACTIVE LED indicator, ON for as long as good
communication exists between module and PC

Environment


Operating
Temperature 0 to 60°C (32 to 140°F)
Humidity 0 to 95% (non-condensing) at 60°C

Storage
Temperature -40 to 85°C (32 to 140°F)
Humidity 0 to 95% (non-condensing) at 60°C

Shock
Operating +/-10 G peak, 11 ms, half-sine wave

Vibration
Operating 0.625G, 50-500Hz

Dimensions
(W x H x D) 2.1 x 10.47 x 8.25 in.
(53.3 x 265.9 x 209.6 mm)

 **Note** The B833-016 is compatible with the B832-016 24VDC True Low Output Module.

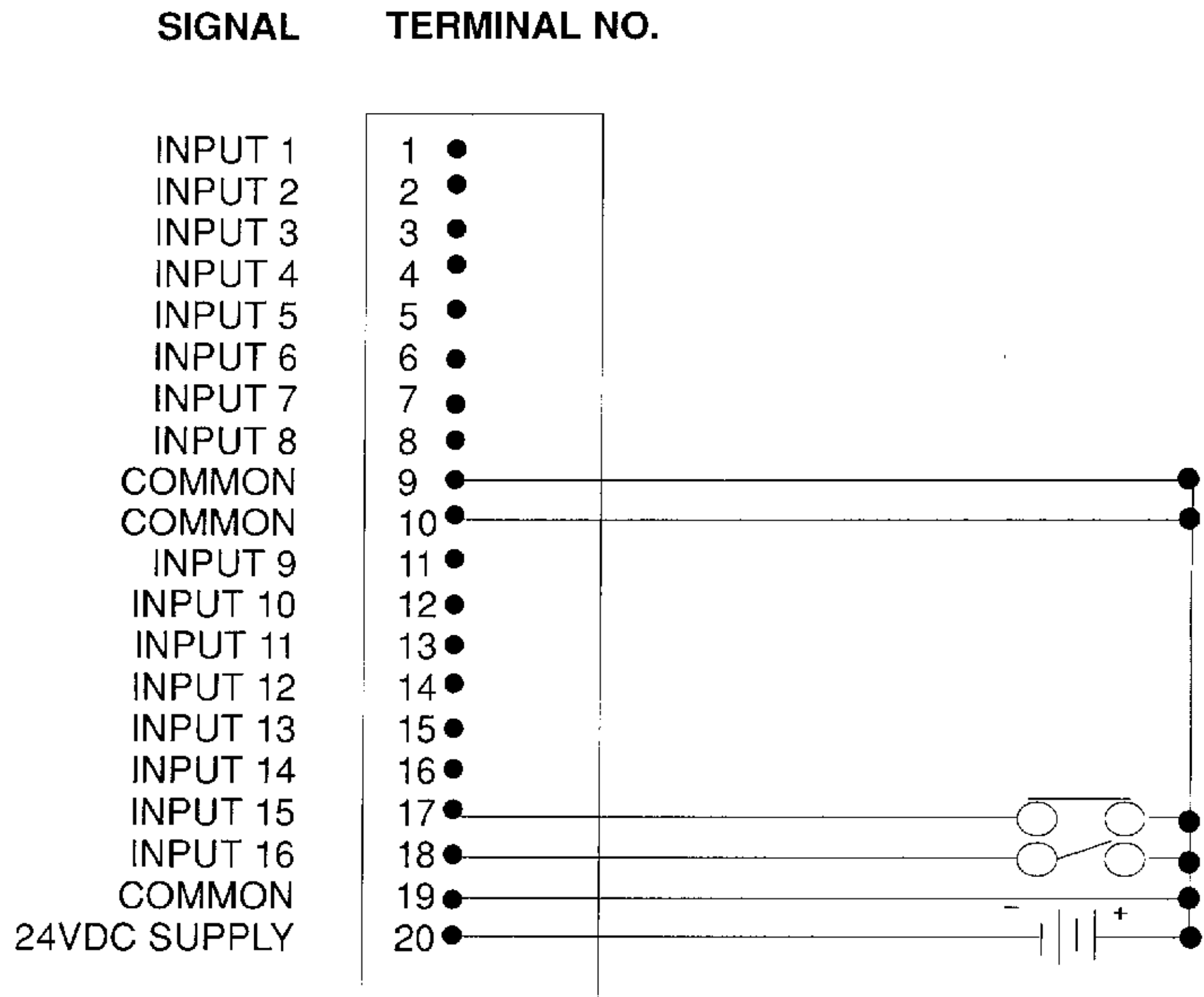


Figure 3 Terminal Numbering and Input Connections