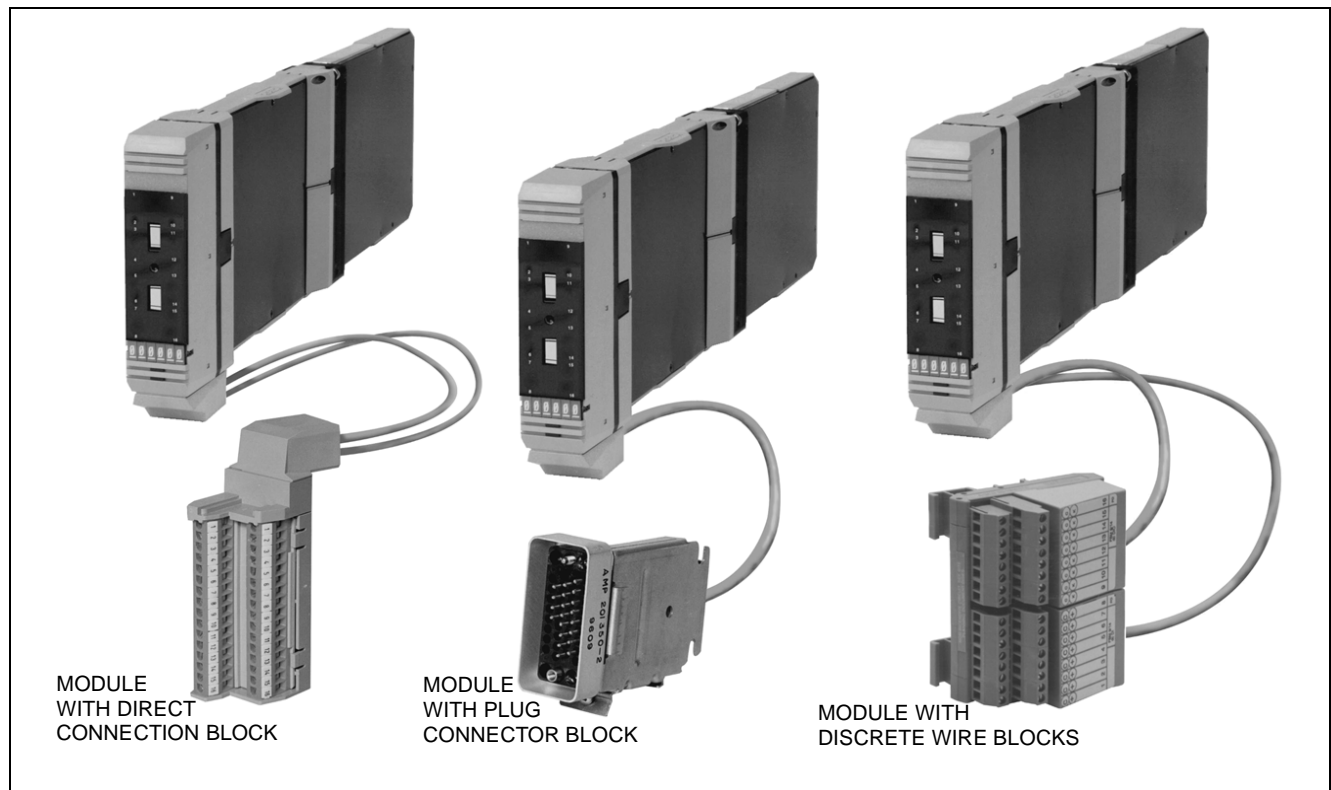


I/A Series[®] Hardware

Contact/125 V dc Input Interface Module (FBM24) and Contact/125 V dc Expansion Input Interface Module (FBM25)



The Contact/dc Input Interface Module (an expandable main module) and its counterpart Contact/dc Expansion Input Interface Module individually function as a 15- or 16-channel contact sensor or 16-channel dc voltage monitor. Each module performs the signal conversion required to interface digital input signals from the field sensors to the redundant Fieldbus. The expandable main module independently connects to the Fieldbus and is capable of supporting a single expansion module. The expansion module connects to the Fieldbus via any expandable main module and is functionally dependent on the supporting main module.

The main module is capable of executing any one of the application programs identified in the following schedule:

- When used alone or in conjunction with an expansion module that interfaces field input signals only, the main module executes the Digital I/O, Sequence of Events Monitor, Pulse Count Inputs or Ladder Logic program. The configurable option for each program is Input Filter Time.
- When used with an expansion module that interfaces field input and output signals, the main module executes either the Digital I/O or Ladder Logic program. Configurable options for each program are Input Filter Time, Fail-safe Configuration, Fail-safe Fallback, and Sustained or Momentary Outputs. If the Momentary Output configuration is selected, then Pulse Output Interval is also configurable.

Configurable options for inputs are exercised on a per module basis; those for outputs are exercised on a per channel basis.

The functional, environmental and physical specifications are applicable to both modules.

FUNCTIONAL SPECIFICATIONS

Common Characteristics

ISOLATION(a)

The module can withstand, without damage, a potential of 1250 V ac applied for one minute between any channel and earth (ground). FBM24A and FBM25A will withstand, without damage, a potential of 1250 V ac applied for one minute between a given channel and any other channel(a).

NOTE

This does not imply that these channels are intended for permanent connection to voltages of these levels. Exceeding the limits for input voltages, as stated elsewhere in this specification, violates electrical safety codes and may expose users to electric shock.

FILTER TIME

Configurable (4, 8, 16, or 32 ms)

POWER REQUIREMENTS

Input Voltage Range (Redundant)
26 to 42 V dc

Consumption

Main Module

8 W (maximum)

Expansion Module

5 W (maximum)

HEAT DISSIPATION

Main Module

15 W (maximum)

Expansion Module

12 W (maximum)

(a) FBM24B, FBM24C, FBM25B, and FBM25C inputs (i.e., input to input) are not isolated.

(b) The discrete wire or plug connector block is available on termination cable assemblies for all enclosures excluding local enclosures, Field Enclosure 4 and Multiple (Bridged) Industrial Enclosure 32. The direct connection block is available only on the termination cable assembly for local enclosures and Field Enclosure 4. Multiple (Bridged) Industrial Enclosure 32 uses the plug connector block only.

INDICATORS (MOUNTED ON TERMINATION ASSEMBLY)

Operational Status

Two light-emitting diodes (LEDs) (one red and one green)

Input Channel Status

16 LEDs (1 per channel)

FIELD TERMINATION CONNECTIONS(b)

Discrete Wire Blocks

32 screw-clamp terminals (2 blocks using 16 terminals per block)

Plug Connector Block

34-pin connector. Mates with:

- Burndy MSD 34 PM 118 (plug with bar-type cable clamp)
- Burndy MSD 34 PM 124 (plug with clamshell hood)
- Burndy MSD 34 PM 824 (plug with suitcase hood)
- or equivalent

Direct Connection Block

32 screw-clamp terminals

COMMUNICATION

Via the redundant Fieldbus (main module only)

FUNCTIONAL SPECIFICATIONS (Cont.)

Input Functions

CAPACITY

16 independent channels (15 for contact sensor with external supply)

FILTER TIME

Configurable (4, 8, 16, or 32 ms)

Contact Sensor - See Figure 1 (Input Configurations)

Open-Circuit Voltage

48 V dc nominal

Short-Circuit Current

2.5 mA \pm 20%

ON-State Resistance

1 k Ω (maximum)

OFF-State Resistance

100 k Ω (minimum)

External Contact Supply Voltage Range

48 V dc to 150 V dc

Voltage Monitor - See Figure 1 (Input Configuration)

ON-State Voltage

33 to 150 V dc

OFF-State Voltage

0 to 10 V dc

Current

2.5 mA (typical) at 10 to 150 V dc

Source Resistance Limits

ON-State

1 k Ω (maximum) at 33 V dc

OFF-State

100 k Ω (minimum) at 150 V dc

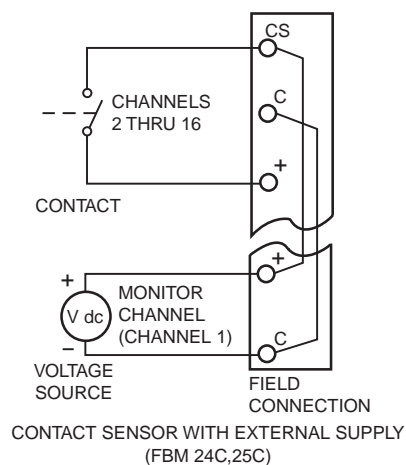
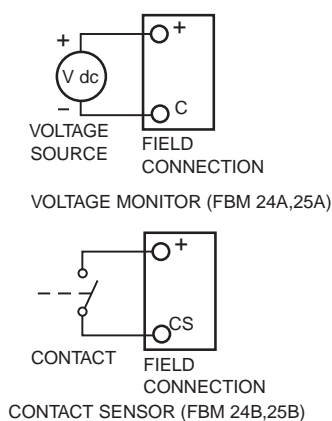


Figure 1. Input Configurations

ENVIRONMENTAL SPECIFICATIONS(a)

Operating

TEMPERATURE
0 to 60°C (32 to 140°F)
RELATIVE HUMIDITY
5 to 95% (noncondensing)
ALTITUDE
-300 to +3,000 m (-1,000 to +10,000 ft)

Storage

TEMPERATURE
-40 to +70°C (-40 to +158°F)
RELATIVE HUMIDITY
5 to 95% (noncondensing)
ALTITUDE
-300 to +12,000 m (-1,000 to +40,000 ft)

Contamination

Class G3 (Harsh) as defined in ISA Standard
S71.04

(a) The environmental ranges can be extended by the type of enclosure containing the module. {Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.}

PHYSICAL SPECIFICATIONS

Mounting

WITH Y-ADAPTER
Installable in the 1x8 Mounting Structure,
I/A Series Industrial Enclosures and Field
Enclosure 8.
WITHOUT Y-ADAPTER
Installable in I/A Series Field Enclosure 4 and the
1x8 FBM Mounting Structure

Mass

1 kg (2.2 lb)

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