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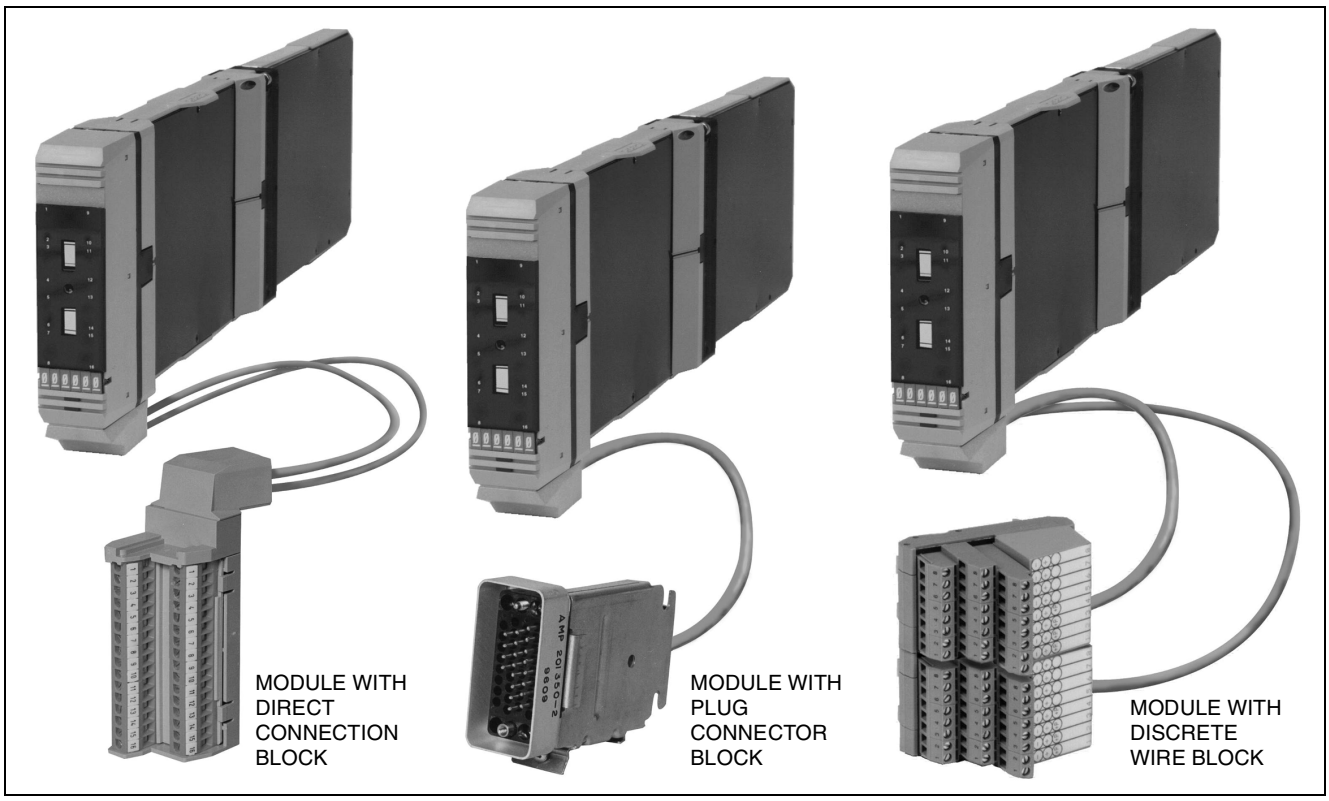
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FOXBORO®

PSS 21H-2B5 B4

I/A Series® Hardware
Platinum and Nickel
RTD Input Interface Module (FBM03)



The RTD Input Interface Module (FBM03) contains eight Resistance Temperature Detector (RTD) input channels. Each channel accepts either a 2- and 4-wire RTD, or 3-wire RTD sensor input within a 0 to 320 ohm resistance range. Within the same module, 3-wire RTDs may not be mixed with 2- or 4-wire RTDs. The module performs the signal conversion required to interface the electrical input signals from the RTD to the redundant Fieldbus. The module is a main type, and independently connects to the redundant Fieldbus.

This module executes the Analog Input application program. The configurable options for this program are Analog Input Resolution (on a per module basis), Fieldbus Switching Enable, and Fieldbus Switching Time.

invensys™

Product Specifications

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FUNCTIONAL SPECIFICATIONS

Input
8 isolated and independent channels

Input Range (each channel)
0 to 320 ohms

Sensor Current
0.75 mA dc

Accuracy
±0.025% of span (±0.08 ohms)
CONFORMITY
±0.25°C
ACCURACY TEMPERATURE COEFFICIENT
±25 ppm/°C

Communication
Via a redundant Fieldbus

Input Connections
Supports 2-, 3- and 4-wire variable-resistance temperature sensors (see Figure 1).

Conversion Time (software configurable)
See Table 1 on page 3 (Input Specifications)

Typical Resistance Temperature Sensors
Platinum (DIN), Platinum (SAMA), Platinum (IEC), or Nickel (SAMA)
Platinum - 100 ohms nominal at 0°C
Nickel - 235 ohms nominal at 0°C

Power Requirements
INPUT VOLTAGE RANGE (REDUNDANT)
26 to 42 V dc
CONSUMPTION
9 W (maximum)
HEAT DISSIPATION
9 W (maximum)

Isolation
The module can withstand, without damage, a potential of 600 V ac applied for one minute between any channel and earth (ground), or between a given channel and any other channel.

NOTE
This does not imply that these channels are intended for permanent connection to hazardous voltage circuits. Connection of these channels to voltages greater than 30 V ac or 60 V dc violates electrical safety code requirements and may expose users to electric shock.

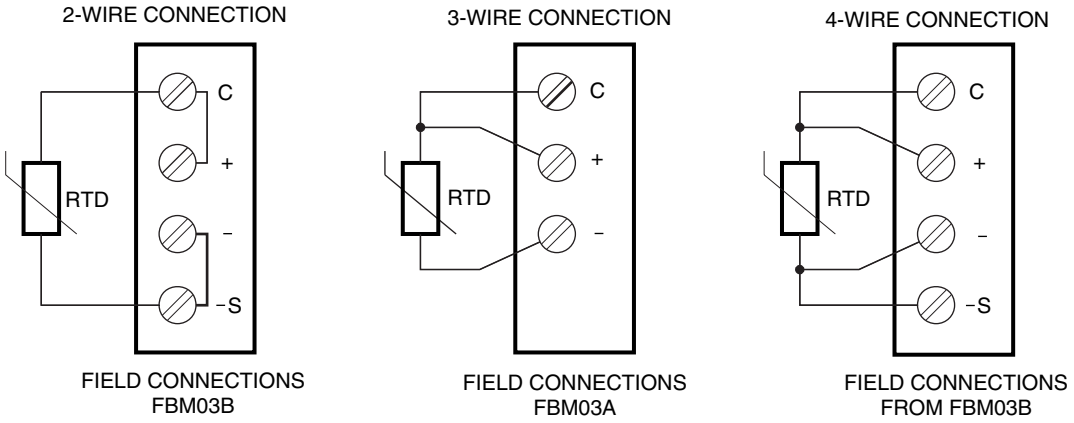


Figure 1. Input Connections

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Table 1. Input Specifications

Conversion Time (Seconds)	Update Time (Milliseconds)	Settling Time(a) (Seconds)	Linearity Error(b,c) (% of Range)	Resolution (Bits)(c)
0.1	10	0.4	0.0125	12
0.2	10	0.6	0.0075	13
0.5	25	1.2	0.005	14
1.0	50	2.4	0.005	15

(a) Value settles within a 1% band of steady state for an input step change of 30 to 320 ohms.

(b) Monotonic; assures that the signal for Fieldbus communications either increases or remains the same for increasing analog input signals.

(c) Represents the accuracy of the FBM only.

ENVIRONMENTAL SPECIFICATIONS(a)

Operating
TEMPERATURE
0 to 60°C (32 to 140°F)
RELATIVE HUMIDITY
5 to 95% (Non-condensing)
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 limits of this module may be enhanced by the type of enclosure containing the module. {Refer to the applicable Product Specification Sheet (PSS) which describes the specific type of 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)

Indicators (mounted on termination connector)
OPERATIONAL STATUS
Red and green light-emitting diodes (LEDs)

Field Termination Connections(a)
DISCRETE WIRE BLOCK
3-Wire RTD
24 screw-clamp terminals
2- and 4-Wire RTD
32 screw-clamp terminals, (2 blocks, each using 16 terminals)
DIRECT CONNECTION BLOCK
32 screw-clamp terminals
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

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

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