

I/A Series® Hardware

0 to 20 mA Output Interface Module (FBM37)



The 0 to 20 mA Output Interface Module (FBM37) contains eight 20 mA dc analog output channels. Each output channel drives an external load and produces a 0 to 20 mA output. The module performs the signal conversion required to interface the electrical output signals to the field sensors and actuators from the redundant Fieldbus. The module is a main type, and independently connects to the redundant Fieldbus.

This module executes the analog output application program. The configurable options for this program are Analog Output Fail-Safe Fallback Data, (on a per channel basis), Fieldbus Switching Enable, and Fieldbus Switching Time.

The discrete wire style termination cable assembly includes built-in bypass jacks for each output channel on the field connection end of the cable assembly. The jacks accept a bypass plug from the I/A Series Output Bypass Station.

FUNCTIONAL SPECIFICATIONS

Common Characteristics

POWER REQUIREMENTS

Input Voltage Range (Redundant)
26 to 42 V dc

Consumption
14 W (maximum)

Heat Dissipation
12 W (maximum)

Isolation

The module withstands, 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.

Output Channels

OUTPUT

8 isolated and independent channels
OUTPUT RANGE (EACH CHANNEL)

0 to 20.4 mA dc

OUTPUT LOAD (MAXIMUM)
735 Ω

COMPLIANCE VOLTAGE
18.6 V nominal at 20 mA dc at I/O field terminals
ACCURACY

±0.05% of span (25°C)

OUTPUT TEMPERATURE COEFFICIENT
100 ppm/°C

COMMUNICATION

Via a redundant Fieldbus

SETTLING TIME

100 ms to settle within a 1% band of steady state
for a 10 to 90% input step change

LINEARITY ERROR
±0.025% of span (monotonic)

RESOLUTION
12 bits

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 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)

Bypass Jacks

Standard on the discrete wire style termination cable
assemblies

Field Termination Connections**DISCRETE WIRE BLOCK WITH BYPASS JACKS***Output Channels*

16 screw-clamp terminals

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