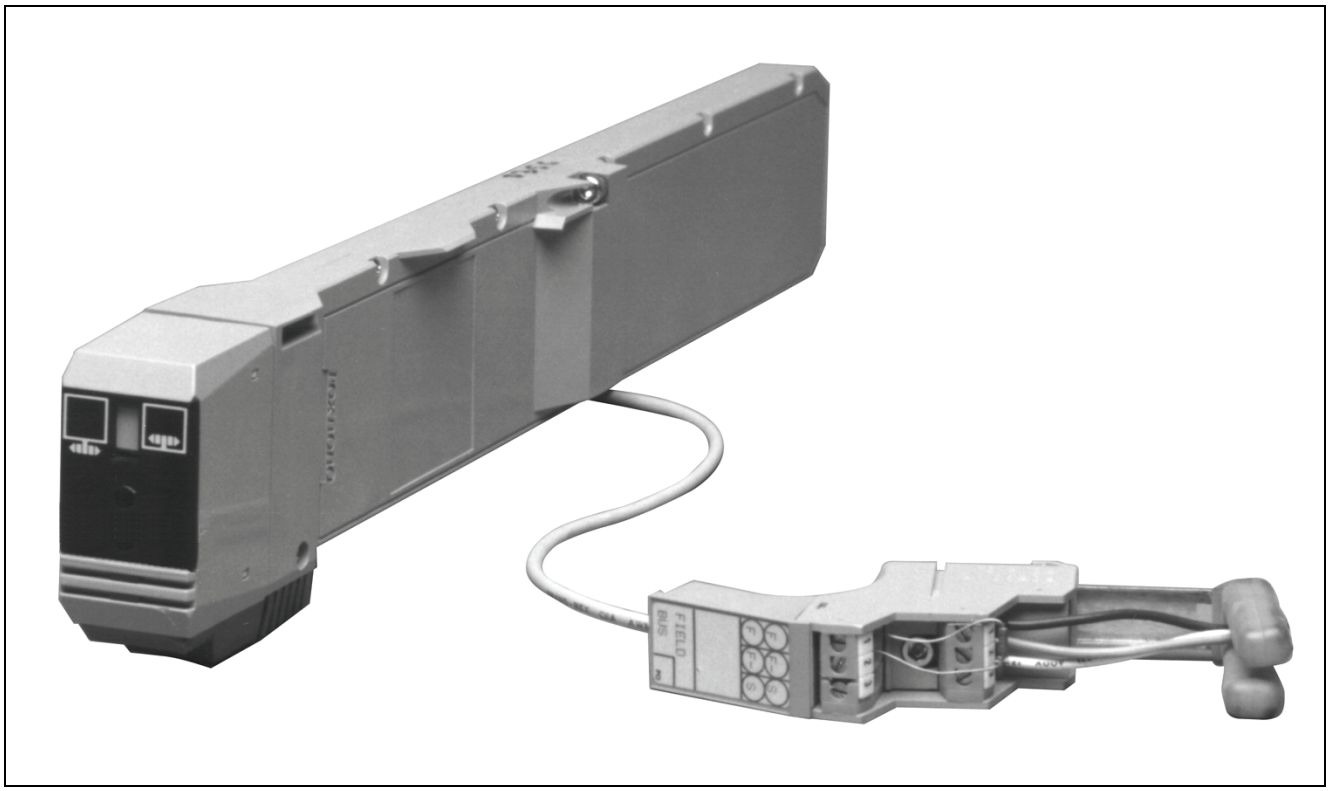
I/A Series® Hardware Fieldbus Isolator



The Fieldbus Isolator is a half-size Y-module used to provide galvanic isolation and to reduce digital interference between a remote Fieldbus (via Fieldbus Extension) and Fieldbus cluster.

Fieldbus Isolators are installed directly in 1x8, 1x8 FBM, and 1x12 FBM Mounting Structures, or indirectly via a Y-adapter in Industrial Enclosures 16 and 32, IEMFA/IEMFR, FEM 8, and Field Enclosure 8. For redundant configurations, two Fieldbus Isolators are required: one for “A” and one for the “B” portion of the redundant Fieldbus. An example of a redundant Fieldbus Isolator is shown in Figure 1.

A Fieldbus Isolator can support up to twenty-four Fieldbus Modules on its local Fieldbus over a maximum length of 30 ft (9.1 m). It transfers data at a fixed rate of 268.5 KBaud.

Four LED indicators on the Fieldbus Isolator’s TCA indicate:

- network activity to/from the Fieldbus Extension and the Fieldbus Isolator’s Local Fieldbus,
- and the status of the Fieldbus Isolator’s internal clock.

Fieldbus Isolators do not affect the I/A Series system software or configurators in any way.

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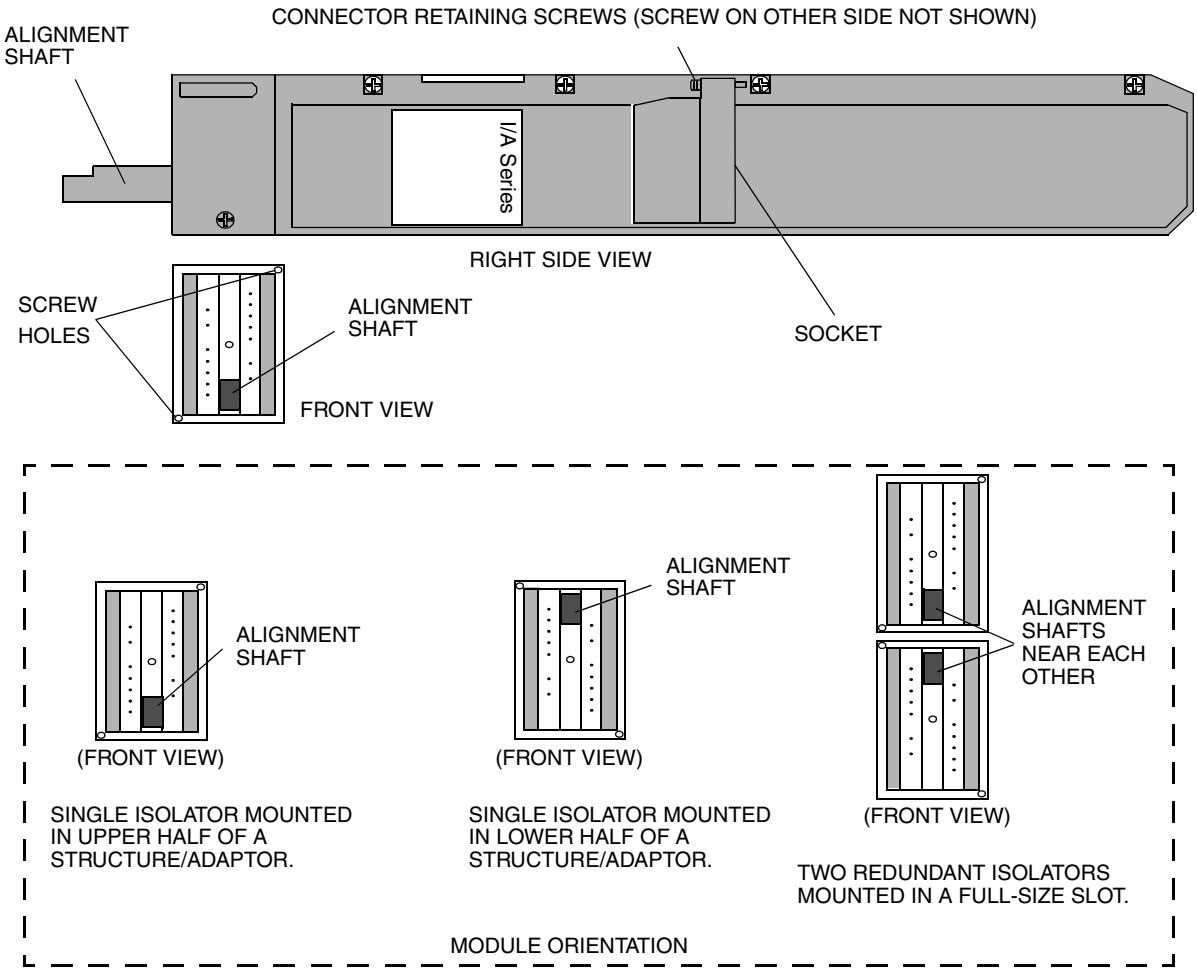

Figure 1. Fieldbus Isolator Module Connections

PHYSICAL SPECIFICATIONS

Mounting

WITH Y-ADAPTER
Installable in Industrial Enclosures 16 and 32, IEMFA/IEMFR, FEM 8, and Field Enclosure 8

WITHOUT Y-ADAPTER
Installable only in the 1x8 and 1x12 FBM mounting structure

Mass

0.3 kg (0.7 lb)

Size

LENGTH
17.9 in (413 mm)

HEIGHT
2.63 in (69 mm)

WIDTH
1.4 in (36 mm)

FUNCTIONAL SPECIFICATIONS

Maximum Number of FBMs Supported
24

Maximum Distance on Local Fieldbus
30 ft (9.1 m)

Indicators (mounted on Termination Connector Assembly)
NETWORK ACTIVITY INDICATORS
Fieldbus Extension
Active (Amber)
Inactive (Off)
Local Fieldbus
Active (Amber)
Inactive (Off)
INTERNAL CLOCK INDICATORS
Active (Green)
Inactive (Red)

Input Power
VOLTAGE
Normal Operating Range
26 V dc to 42 V dc
OPERATING CURRENT @ 21 V dc
155 mA, maximum
POWER DISSIPATION @ 42 V dc
3.5 W, maximum
HOLDUP TIME @ 39 V dc
100 mS, minimum

Battery Backup Power
VOLTAGE
Typical
18 V dc
Minimum
15 V dc
Maximum under Battery Operation
21 V dc

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 +85°C (-40 to +192°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

Radiated RFI Susceptibility
26 to 1000 MHz:10 V/m

Magnetic Field Effects
20 Gauss@ 50 and 60 Hz

Electrostatic Discharge (Any Surface)
6 kV current discharge

High Frequency Transients (Ref. IEC 801-4)
1 kV (I/O)

Switching/Indirect Lightning Transients (Ref. IEC 801-5)
ac Connected Lines (direct coupling)
1 kV common mode
1 kV normal mode

Mechanical Vibration
0.5 g at 5 to 500 Hz

(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.}

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