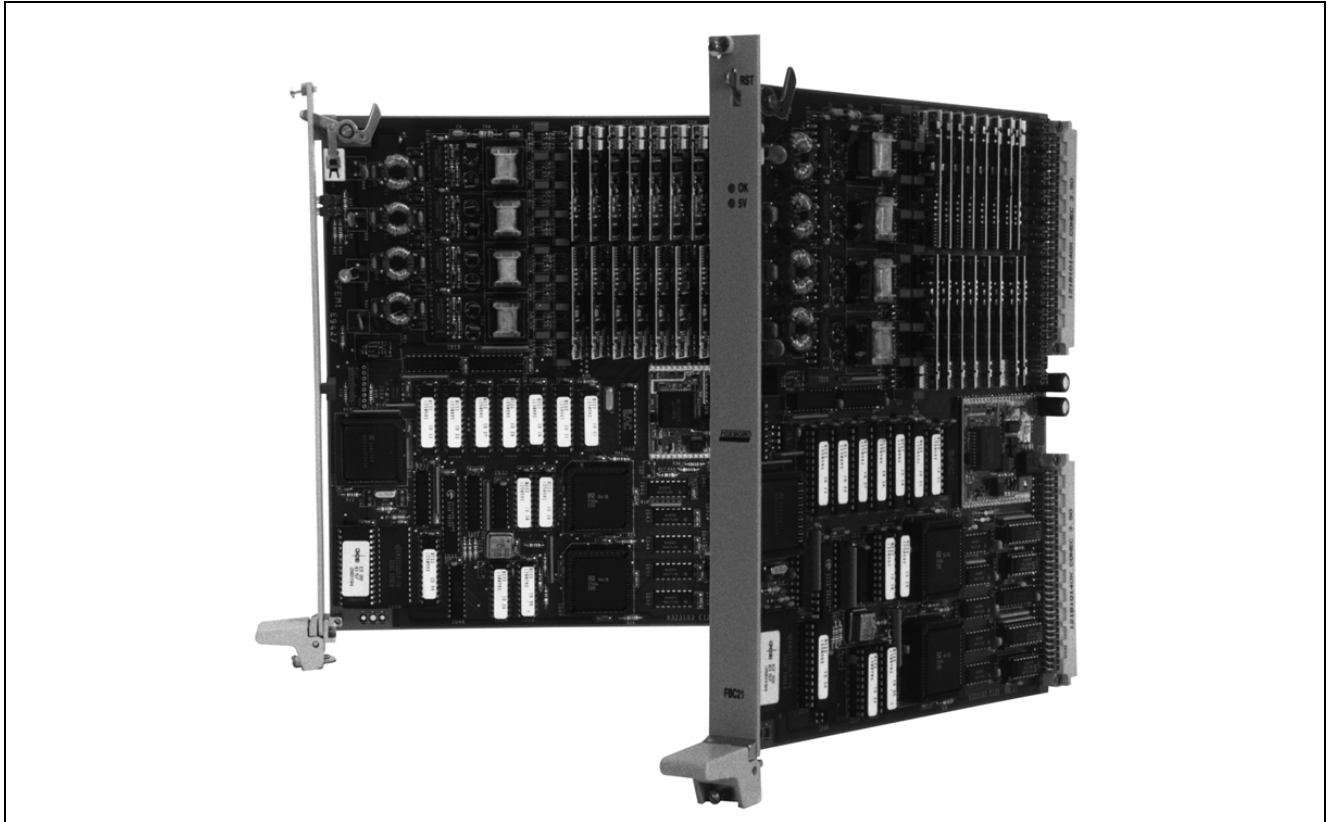


I/A Series® Hardware

16 Channel Isolated Analog Input Fieldbus Card

0 to 20 mA (FBC21)



The I/A Series Analog Input Fieldbus Card, FBC21, consists of 16 isolated analog input channels for 0 to 20 mA inputs. Each channel provides an A-to-D conversion and accepts an analog sensor such as a 0 to 20 mA transmitter that is FBC21-powered or field-powered through an input Adaptor Module with 50 Ω sense resistors. If the transmitter loops are field-powered by an external common power supply, up to 16 input channels become group isolated with all channels powered from the same power supply non-isolated from each other.

NOTE

When FBC21 is powered, each channel is powered independently.

The FBC21 performs 0 to 20 mA signal conversions required to interface to the I/A Series Fieldbus via the Fieldbus Processor 10 (FBP10). The FBC21 mounts directly into a single slot of the Industrial Chassis 12 (ICH12) and Industrial Chassis 19 (ICH19). Signal wiring is via the discrete wire type, plug type, or ring

lug type Termination Cable Assembly (TCA) connected at the rear of the chassis.
The FBC21 card supports redundancy.

FUNCTIONAL SPECIFICATIONS

Input

- INPUT CHANNEL
 - 16 Isolated
- INPUT CONNECTIONS
 - (Figure 1)
- ISOLATION
 - 500 V dc, channel-to-earth (ground) and channel-to-channel
- INPUT
 - 0 to 20 mA
- EXTERNAL CURRENT SENSE RESISTOR
 - 50 ohms $\pm 0.1\%$ located in the Input Adaptor
- MAXIMUM TOTAL EXTERNAL RESISTANCE
 - 930 ohms
- CONVERSION TIME
 - 50 ms
- SETTLING TIME
 - 100 ms (approximately)
- LINEARITY
 - $\pm 0.1\%$ (referred to 27°C)

- RESOLUTION (12 BIT)
 - 0.025%
- EXTERNAL LOOP LOAD RESISTANCE
 - 930 ohms maximum (including 50 ohm Sense Resistor)
- ACCURACY
 - $\pm 0.15\%$ (referred to 27°C)
- TEMPERATURE DRIFT
 - 0.025%/K °

Power Requirements

- INPUT VOLTAGE
 - +5.25 V dc at 0.95 A
 - +24 V dc at 0.73 A with FBC-Powered Loops or, 0.25 A with Externally-Powered Loops
- CONSUMPTION
 - 22.5 W (maximum) with FBC-Powered Loops or, 11.0 W (maximum) with Externally-Powered Loops
- HEAT DISSIPATION
 - 11.0 W (maximum)

ENVIRONMENTAL SPECIFICATIONS

Operating

- TEMPERATURE
 - 0 to +70°C (32 to +158°F)
- RELATIVE HUMIDITY
 - 20 to 80% (Noncondensing)

Transportation and Storage

- TEMPERATURE
 - 40 to +70°C (-13 to +158°F)
- RELATIVE HUMIDITY
 - 20 to 80% (Noncondensing)

Contamination

Class G1 (Mild) as defined in ISA Standard, S71.04

PHYSICAL SPECIFICATIONS

Mounting

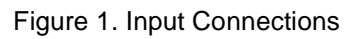
ICH12, ICH19 Chassis, single I/O slot

Mass

0.7 kg (1.5 lb)

Field Termination Connections

Discrete Wires from External Termination Assemblies to the Input Adaptor. The TCAs are discrete wire type, plug type, or ring lug type.



- Non-isolated - Each channel is referenced to ground and the card itself is referenced to ground.
- Group-isolated - Electrically separate card-to-card but not channel-to-channel on the same card.
- Isolated - Each channel is electrically separated from any other channel, card, group, building, site, etc.

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