Trident
Version 1.2

Planning and Installation Guide

Triconex
An Invensys Company

Analog Input Module

The following analog input components are available.

Model	Description	Current	Type
3351	Analog Input Module	4–20 mA	Commoned
2351	Analog Input Baseplate		Direct Termination
2352	Analog Input External Termination Panel Baseplate		External Signal Conditioners

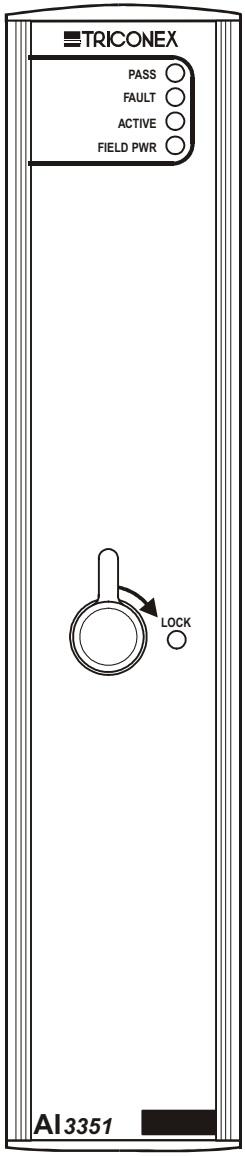
The Analog Input (AI) Module has three independent input channels. Each input channel receives variable voltage signals from each point, converts them to digital values, and transmits the values to the three MPs on demand. One value is then selected using a mid-value selection algorithm to ensure correct data for every scan. Sensing of each input point is performed in a manner that prevents a single failure on one channel from affecting another channel.

The AI Module sustains complete, ongoing diagnostics for each channel. If the diagnostics detect a failure on any channel, the module's Fault indicator is activated, which in turn activates the system alarm. The Fault indicator points to a channel fault, *not* a complete module failure. The AI Module is guaranteed to operate properly in the presence of a single fault and may continue to operate properly with multiple faults.

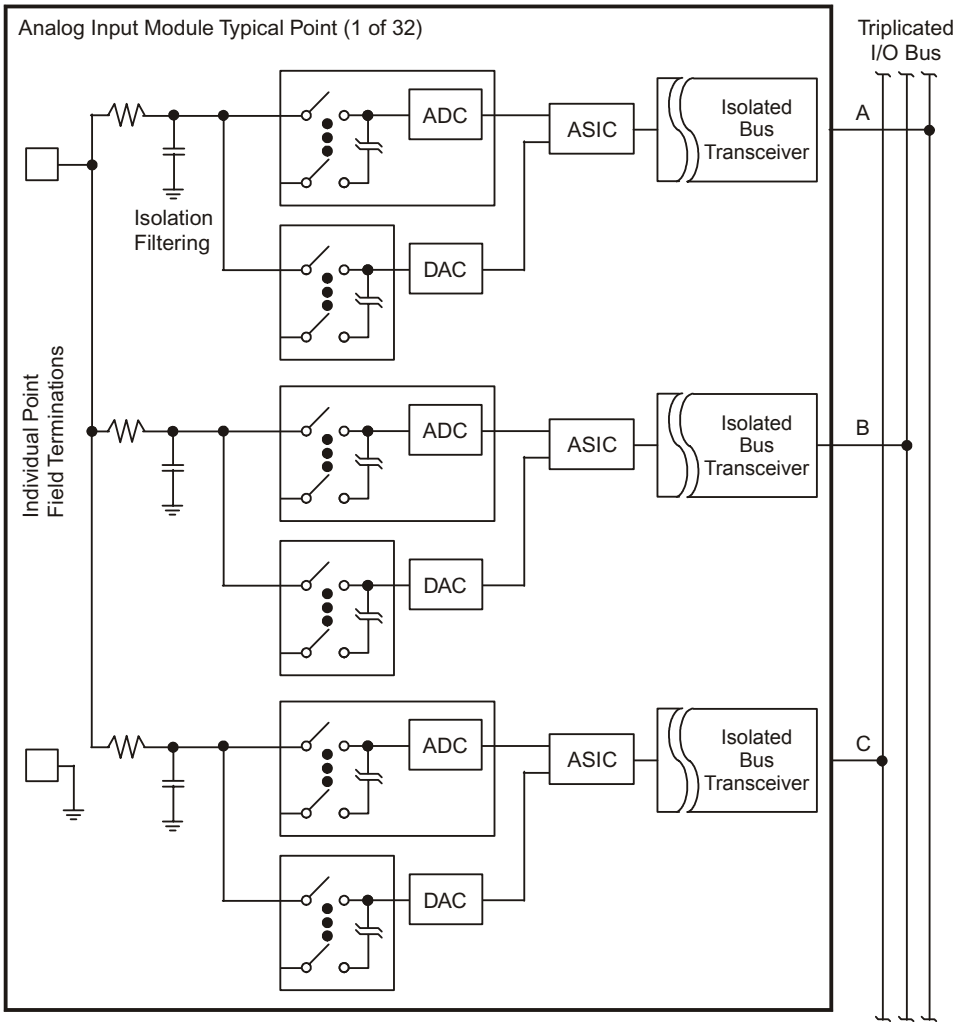
The AI Module supports hot sparing for online replacement of a faulty module or continuous back-up to an active module. The AI Module is mechanically keyed to prevent improper installation in a configured baseplate.

Model 3351 Analog Input Module

AI Module
Front Panel



Model 3351 Analog Input Module Simplified Schematic



Model 3351 Analog Input Module Specifications

Feature	Specification
Points	32, commoned
Nominal input current	4–20 mA DC
Operational current range	2–22 mA DC
Absolute maximum field voltage	33 V DC
Absolute maximum reverse field voltage	– 0.6 V DC
Absolute maximum input current	50 mA DC
Input bandwidth (3dB)	16 Hz
Source impedance	180 Ω
Input impedance (with baseplate)	250 Ω
I to V resistor	100 Ω, ±0.01%
Resolution	12 bits
Absolute error	0.15% of full scale (20 mA)
Diagnostic	Force-to-value diagnostic (FVD)
Scan time	<1 ms for all 32 points
Functional-to-protective-earth isolation	500 V DC, minimum
Functional-to-functional-earth (logic) isolation	800 V DC, minimum