

Product Specifications

Analog Input Module

Each TMR Analog Input Module has three isolated sets of electronics, called channels, which independently process field data input to the module. Each channel places the processed data in an array and transmits this array, on request, to the MP associated with that channel. The MPs vote the data before passing it to the application. In TMR mode, the data passed is mid-value. In dual mode, the data passed is the average.

AI Modules include complete, ongoing diagnostics for each channel. If the diagnostics detect a failure on any channel, the Fault indicator turns on and activates the system alarm. The Fault indicator identifies a channel fault, not a complete module failure. AI Modules are guaranteed to operate properly in the presence of a single fault

and may continue to operate properly with multiple faults.

AI Modules support a hot-spare module. Each AI Module is mechanically keyed to prevent improper installation in a configured baseplate.

The Model 3351S2 AI Module can be used with these baseplates:

- Model 23512351S2, which is used in typical 4-20 mA applications.
- AI External Termination Baseplate, which is used with the Model 9764-510F RTD/TC/AI External Termination Panel or the Model 9792-310F AI Hazardous Location External Termination Panel.
- Model 2354S2, which is used in 4-20 mA applications and enables communication between HART field devices and Configuration and Asset Management Software running on a PC.

- Model 2354AS2, which is used in 4-20 mA applications in hazardous locations and enables communication between HART field devices and Configuration and Asset Management Software running on a PC.

Model 3351S2 Analog Input Module Specifications

Feature	Specification
Points	32, commoned
Nominal input current	4–20 mA DC
Specified operational current range	2–22 mA DC
Absolute maximum field voltage	33 VDC
Absolute maximum reverse field voltage	– 0.6 VDC
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 $\Omega \pm 0.01\%$
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 earth to protective earth isolation	500 VDC, minimum
Functional earth to functional earth (logic) isolation	800 VDC, minimum