AAI143-S00 S1

Yokogawa / isolated FIO analog input module

Yokogawa AAI143-S00 S1 is an isolated FIO analog input module for 4–20 mA process measurements in a configured CENTUM FIO station.

Product identity and system role

AAI143-S00 S1 belongs to the AAI143 isolated analog-input family. Sixteen 4–20 mA process loops are acquired into the FIO station, with isolation between the input and the system. Each channel is assigned in the configured control project.

The AAI143 reference specifies ±16 µA analog accuracy, a 10 ms data-update period and 24 mA allowable input. A setting pin selects a two-wire or four-wire transmitter arrangement by channel. Loop supply and the complete field wiring path must be evaluated for the selected transmitter.

Verified technical characteristics

I/O role	Analog input
Reference design	AAI143-S
Channels	16
Signal	4–20 mA
Allowable input	24 mA
Accuracy	±16 µA
Data update	10 ms
Isolation	Input-to-system isolation
Transmitter wiring	2-wire or 4-wire setting by channel

Engineering context

Process transmitter acquisition

Read isolated 4–20 mA signals from compatible pressure, flow, level or other process transmitters.

Mixed transmitter wiring

Support channel-specific two-wire or four-wire connections in the approved terminal arrangement.

Control-loop feedback

Provide measured analog values to regulatory control and alarm logic in the FIO station.

Analog I/O restoration

Replace a matched input module while preserving channel scaling, transmitter wiring and redundancy where used.

Configuration and verification

Set transmitter mode: Record and restore each two-/four-wire selection.

Review loop supply: Check current and voltage drop at the field transmitter.

Preserve scaling: Save channel ranges and alarm configuration.

Protect the process: Use approved loop bypass and isolation procedures.

Selected engineering questions

How is a two-wire transmitter connected to AAI143-S00 S1?
Select the documented two-wire channel setting and verify the loop supply and voltage-drop budget in the installed terminal arrangement.

How should a four-wire transmitter be checked on AAI143-S00 S1?
Confirm the channel setting and external transmitter supply, then verify the measured loop current.

Does AAI143-S00 S1 provide channel-to-channel isolation?
The AAI143 reference specifies input-to-system isolation. Do not infer an unlisted channel-to-channel barrier from that description.

What could cause a 4–20 mA reading on AAI143-S00 S1 to be low?
Check loop supply, transmitter output, wiring resistance, terminals, channel setting and scaling.

Can a Zener barrier be connected directly to AAI143-S00 S1?
The AAI143 reference requires an appropriate isolation-barrier arrangement for the specified intrinsically safe use; check the approved system design.

What should be retained before exchanging AAI143-S00 S1?
Save channel scaling, two-/four-wire settings, terminal map, alarms and redundant pairing.

Source and application boundary

Yokogawa GS 33J60F60-01EN, Analog I/O Modules for FIO.

AAI143-S technical figures are reference-design values. Match the complete offered style, host and terminal configuration before applying them.

Related product references

Separate product listings for project review; confirm each order code and system fit independently.

Yokogawa VI702 S1	Yokogawa ADV551-P03 S2
Yokogawa ADV161-P00 S2	Yokogawa AAT141-S00 S2

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Send the complete model and installed-system details when requesting a quotation.