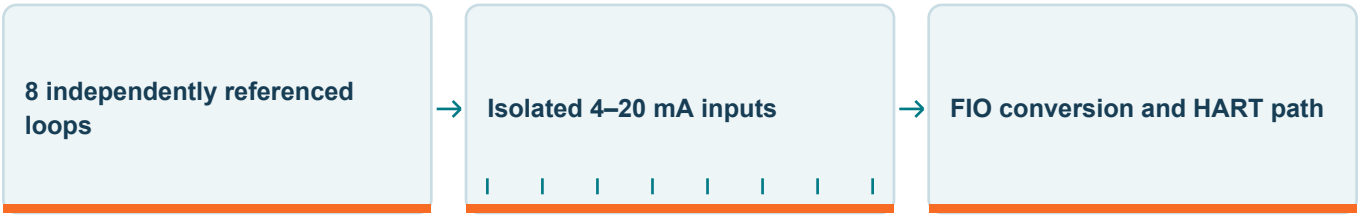
Yokogawa AAI135-H00 S1

Installation, Diagnostics and Acceptance

Work scope

Use the HART-capable legacy node configuration and the termination specified for the actual eight-input assignment. The isolated-input family is used in ESB, ER and compact FIO arrangements with the applicable node. A remote HART path additionally requires EB401 Rev 2 or later; a local current reading does not establish that remote digital path.



01 Before You Order

Evidence to provide	Exact-model selection decision
Eight independent field references	For AAI135-H00 S1, provide the eight transmitter tags and identify field returns that must remain electrically separate.
Input-only termination	Photograph the ATI3A, ATK4A or ATI3S/ATI3D assembly and its mapping; confirm that no output loops are expected from this input-only spare.
Transmitter compliance evidence	Record each two-wire instrument minimum voltage and the cable/barrier losses at 20 mA against the module terminal supply.
Legacy HART execution	Supply the H00 S1 label and installed node type; include EB401 revision if the digital path uses an ER remote node.

02 Eight isolated input loops: readiness

Identify the current-input duty

Allocate each of the eight inputs to its transmitter loop. The AAI135 has no analog-output channels; keep output-loop restoration on the separate output hardware.

Recover the termination option

Identify the installed ATI3A/ATK4A or applicable ATI3S/ATI3D arrangement before disconnecting. A connector match alone does not establish the channel-to-field terminal allocation.

Budget transmitter compliance

Allow for the module input burden at the operating current. The protective voltage drop makes the effective input resistance current dependent, so a single 250-ohm assumption is inadequate.

Preserve the isolation boundary

Separate channel-to-channel isolation from field-to-system isolation. Document any external common connection that joins otherwise isolated field circuits.

03 Input restoration and functional proof

Observed condition / stage	Action and acceptance interpretation
Map before applying current	Restore the recorded channel mapping and transmitter powering mode. Keep test-current polarity and reference on the intended isolated loop rather than a neighboring circuit.
Choose meaningful test points	Use controlled input currents within the documented input range and compare the channel indication with the expected engineering-unit conversion. A plausible midrange value does not prove correct span.
Interpret update versus process response	The 10 ms data-update period is not a guarantee for the response of the transmitter, barriers and application filtering. Record the complete test path when interpreting a delayed indication.
Prove the HART route	Where the installed node uses HART, establish the applicable communication path and node hardware. Remote-node operation requires the documented EB401 revision boundary, not just a HART-capable field transmitter.

04 Isolation and loop diagnosis

Observed condition / stage	Action and acceptance interpretation
Current correct locally, value wrong	Check terminal-to-channel assignment and controller scaling before changing the transmitter. Preserve the actual current and display reading as paired evidence.
Transmitter drops out near full scale	Recalculate the available transmitter voltage at the higher operating current, including the module burden and field components. Correct compliance loss before treating it as an input-conversion fault.
Unexpected coupling between circuits	Inspect external returns and test-equipment references. The module isolation specification does not remove a field-created common connection.
Release evidence	Retain the eight-channel mapping, power arrangement, current/display pairs and HART path when used. Distinguish an untested circuit from a circuit proved by a neighboring input.

05 Quantitative field checkpoints

Check	Verified condition	Practical evidence
Current-input compliance	≥15 V at 20 mA before external losses	Measure the transmitter terminal voltage near the high-current end; include the installed cable and barrier path.
Isolation test boundary	500 V AC for 1 min at module boundaries	Inspect external commons and the MIL harness rating; do not apply a module type-test voltage to connected field equipment.
Node rail reservation	360 mA at 5 V; 450 mA at 24 V, maxima	Reserve each supply rail independently with all node modules fitted.

06 Terminal and field-circuit selection map

Order option / circuit	Applicable legacy selection
/13A00	ATI3A-00 pressure-clamp adapter
/K4A00	ATK4A-00 MIL adapter
/13S00 / /13S10	ATI3S simplex terminal selections, without/with surge option
/13D00 / /13D10	ATI3D dual-redundant terminal selections, without/with surge option

Bare-module supply boundary

The offered AAI135-H00 S1 identity has no terminal-adapter option appended. Recover the installed terminal identity from its own label before assigning one of these selections to the replacement job.

Technical applicability

Legacy AAI135-H00/H03 electrical and suffix specifications apply to the offered AAI135-H00 S1. S1 is retained as the offered style marking; it does not establish compatibility with later H50/H53 styles.

Technical basis

Yokogawa Analog I/O Modules (for FIO), GS 33M50F30-40E, 5th Edition

Related product navigation

Compare the separate system, revision and interface requirements on each linked product page. These portfolio references do not establish interchangeability.

Yokogawa CP461-10	CENTUM system reference: retain its own host and configuration boundary.
Yokogawa SDV144-S33	Discrete I/O portfolio: use its own signal and channel specification.
Yokogawa ADV159-P00	Discrete I/O portfolio: use its own signal and channel specification.
Yokogawa AAI841-H00	Analog I/O portfolio: compare signal direction, isolation and style.

Engineering contact

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