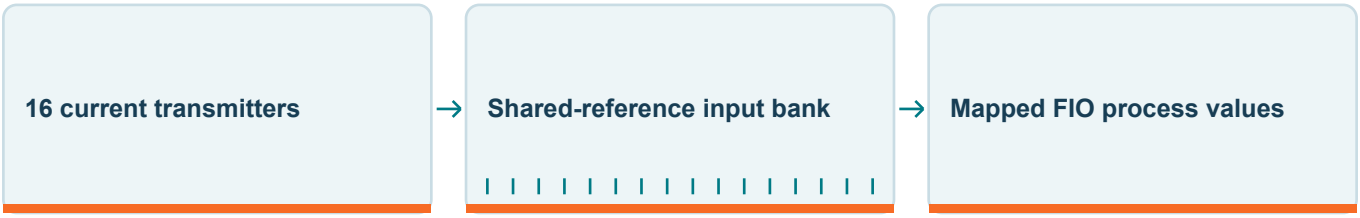
Yokogawa AAI141-H03 S1

Installation, Diagnostics and Acceptance

Work scope

Maintain the channel power-mode and field-reference plan while qualifying G3/temperature execution separately. The H03 module must be combined with a node and termination suitable for the same service environment. Preserve the ATA4S/ATA4D or ATK4A channel route and verify remote EB401 revision separately if HART is used.



01 Before You Order

Evidence to provide	Exact-model selection decision
Dense-bank environmental execution	For AAI141-H03 S1, confirm the H03 G3/temperature duty together with the shared-reference sixteen-input arrangement.
Service-current boundary	Record intended operating and fault currents; the 27 mA allowable input limit is distinct from the normal 4–20 mA span.
Loaded node conditions	Provide node ambient and available 5 V/24 V rail capacity with the other modules fitted, rather than a module-only bench condition.
Replacement connection evidence	Include the actual ATA4S/ATA4D or ATK4A marking, all channel tags and the remote HART revision when used.

02 High-density H03 qualification

Preserve the environmental execution

Keep H03 and S1 identity visible in the replacement record. The documented extended-temperature/G3 selection belongs with a qualified node installation.

Review enclosure and loading

The sixteen-input density must be considered with node power and ambient conditions. The H03 suffix does not independently qualify the cabinet or every neighboring module.

Identify the shared circuit reference

These inputs are non-isolated. Recover field common and supply distribution before unplugging the terminal assembly.

Match terminal and channel labels

Record the actual connector/terminal option and all sixteen tag positions. Similar FIO module dimensions do not guarantee the same installed loop allocation.

03 Qualification-to-signal acceptance path

Observed condition / stage	Action and acceptance interpretation
Check the thermal evidence first	Use the actual cabinet operating condition when assessing temperature-related input variation. Preserve the node qualification and measured ambient with the test results.
Prove compliance at the signal endpoints	Include the input protective voltage drop and field losses in the transmitter supply calculation. A loop that works at low current can lose headroom toward full scale.
Separate speed specifications	Use the applicable 10 ms update and 100 ms input step-response figures for their different purposes. Neither removes controller filtering or process-element delay.
Check common-mode wiring effects	When a controlled current test changes several channels, investigate the shared reference/test connection before condemning conversion hardware.

04 H03 restoration decisions

Observed condition / stage	Action and acceptance interpretation
Ambient-sensitive disagreement	Compare the deviation with the published temperature influence and the test-source uncertainty. Repeating only a room-temperature calibration leaves the service condition unproved.
Analog/HART split	A valid analog reading with failed HART communication points to a different path than a missing loop current. Check the compatible remote-node revision where relevant.
Cross-version proposal	Evaluate an H00 or newer suffix against environmental, terminal and node requirements. Do not infer equivalence from sixteen channels and a 4–20 mA label.
Evidence retained	Close the work with channel mapping, common wiring, qualified ambient, signal-response results and the exact H03 S1 identity; list any field circuit that could not be tested.

05 Quantitative field checkpoints

Check	Verified condition	Practical evidence
Allowable input boundary	27 mA maximum input current	Keep normal calibration inside the 4–20 mA range; do not use the limit as a routine operating set point.
Module rail demand	310 mA at 5 V; 450 mA at 24 V, maxima	Assess each rail with neighboring modules and the qualified H03 node arrangement.
Response interpretation	10 ms update; 100 ms input step response	Record controller filtering and field-device dynamics separately from conversion refresh.

06 Terminal and field-circuit selection map

Order option / circuit	Applicable legacy selection
/A4S00 / /A4S10	ATA4S-00 / ATA4S-10 simplex pressure-clamp selections
/A4D00 / /A4D10	ATA4D-00 / ATA4D-10 dual-redundant selections
/K4A00	ATK4A-00 MIL adapter
Input transmitter power	≥14.8 V at 20 mA; ≤26.4 V at zero current, before field-wire loss

Bare-module supply boundary

The offered AAI141-H03 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 AAI141-H00/H03 electrical and suffix specifications apply to the offered AAI141-H03 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 PW482-S01	Node supply reference: verify the complete node power arrangement.
Yokogawa PW482-10	Node supply reference: verify the complete node power arrangement.
Yokogawa AAI141-S00	Analog I/O portfolio: compare signal direction, isolation and style.
Yokogawa AAR181-S50-S2	Analog I/O portfolio: compare signal direction, isolation and style.

Engineering contact

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