Yokogawa AAI841-H03 S1

Installation, Diagnostics and Acceptance

Work scope

Retain the required environmental suffix while qualifying non-isolated circuit references and remote-node load conditions. Use the selected ATA4S/ATA4D or ATK4A termination with the recorded shared commons and all sixteen direction-labeled circuits. H03 ambient qualification, node rail capacity and remote HART revision are independent fit conditions.

8 non-isolated current inputs → **FIO shared-reference I/O** → **8 current-output receivers**

01 Before You Order

Evidence to provide	Exact-model selection decision
H03 shared-reference topology	For AAI841-H03 S1, provide the G3/ambient requirement and the eight-input/eight-output common wiring; H03 does not add channel isolation.
Hot-load evidence for eight outputs	If the qualified remote node operates at 60–70°C, supply each receiver branch resistance and its worst-case tolerance.
Node rail and interface fit	Record the complete node load, selected ATA4S/ATA4D or ATK4A adapter and the installed remote HART path.
Dual-direction service proof	Supply separate input and output acceptance records at the relevant ambient rather than a single adjusted input point.

02 H03 eight-by-eight readiness map

Qualify ambient and node together

H03 selection alone does not qualify all installed hardware for -20 to 70 °C operation. Preserve the applicable node/enclosure conditions and G3 requirement.

Audit shared references

This mixed module is non-isolated. Record common wiring across eight inputs and eight outputs before connecting test equipment or replacing the termination.

Review high-temperature output loading

For the eligible remote installation at 60–70 °C, retain the 200–750 ohm receiver-load condition. Review every output, not only a representative circuit.

Allocate supply demand

Include the applicable 310 mA at 5 V and 500 mA at 24 V maximum module demands in the complete node budget, within the documented arrangement.

03 Coupled thermal and signal validation

Observed condition / stage	Action and acceptance interpretation
Check input voltage headroom	Use the effective burden at the actual current and external voltage losses to assess transmitter compliance. A nominal resistance check does not cover the module protective drop.
Validate outputs under their service load	Compare commanded and measured current with each receiver indication. Record the resistance and ambient that make the result applicable to service.
Evaluate unequal response deliberately	Input and output step-response conditions differ: 100 ms versus 40 ms. Include controller filtering and field-device dynamics before diagnosing a timing discrepancy.
Separate analog and HART evidence	If the field design uses HART, confirm the qualified communication route and remote-node revision independently of the analog proof.

04 Service-condition diagnostic decisions

Observed condition / stage	Action and acceptance interpretation
Temperature-dependent errors	Compare the change with the applicable ±0.1% per 10 °C influence and test uncertainty. Retain the actual temperature interval, not an assumed cabinet value.
Output works on bench, fails in cabinet	Compare bench load, service receiver resistance and node ambient. Preserve the hot-load constraint before replacing a current-output circuit.
Cross-suffix spare review	A substitute must preserve environmental execution, shared-reference topology, terminal mapping and node fit. The H03 and S1 tokens cannot be discarded from the acceptance record.
Final evidence set	Include environmental qualification, all direction-labeled loops, individual load conditions, signal/timing results and any communication checks used by the installed system.

05 Quantitative field checkpoints

Check	Verified condition	Practical evidence
Hot receiver acceptance	200–750 Ω in qualified 60–70°C remote use	Document each output branch and any temporary test shunt.

05 Quantitative field checkpoints — continued

Check	Verified condition	Practical evidence
Temperature influence	±0.1% per 10°C published temperature influence	Compare equivalent test points and the actual temperature interval.
Shared topology	Eight non-isolated inputs plus eight outputs	Keep direction labels and commons with the terminal map when testing simultaneous process signals.

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 AAI841-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 AAI841-H00/H03 electrical and suffix specifications apply to the offered AAI841-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 CP461-50 S2	CENTUM system reference: retain its own host and configuration boundary.
Yokogawa ALR121-S00 S1	CENTUM system reference: retain its own host and configuration boundary.
Yokogawa ADV551-P10 S2	Discrete I/O portfolio: use its own signal and channel specification.

Engineering contact

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