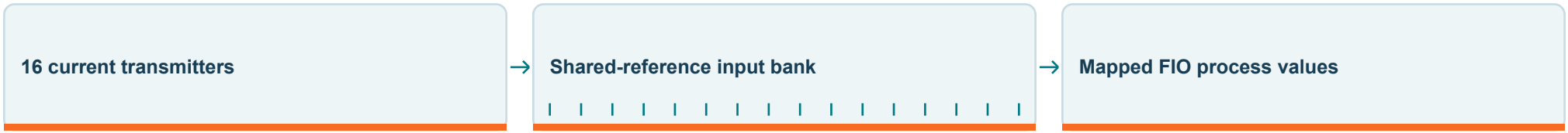
Yokogawa AAI141-H00 S1

Complete Product Information

Non-Isolated Analog Input Module

A sixteen-channel FIO input module acquires standardized current signals without interchannel isolation. The H00 selection supplies the basic HART-capable execution for dense analog measurement.



01 Product summary and native information

Engineering field	Value, condition or decision
Manufacturer part number	AAI141-H00 S1
Manufacturer	Yokogawa
Product Category	DCS Systems
Spare Part Number	AAI141-H00 S1
Shipping	Swift global dispatch
Condition	New, original product
Shipping size (est.)	3.3cm x 10.7cm x 13cm
Country of Origin	Japan

01 Product summary and native information — continued

Engineering field	Value, condition or decision
Weight	0.28 kg
Tariff Code	8537101190

02 Selected features

Input density

Sixteen 4–20 mA inputs in one legacy FIO module.

Reference boundary

Non-isolated construction differs from the eight-channel AAI135 arrangement.

Acquisition timing

A 10 ms update and 100 ms input step response describe different parts of the signal path.

03 Technical parameters

Parameter	Verified value / condition
Analog inputs	16 channels
Input signal	4–20 mA DC
Input current limit	27 mA
Input accuracy	±16 µA
Data update	10 ms
Powered input resistance	400 Ω at 20 mA; 1000 Ω at 4 mA

03 Technical parameters — continued

Parameter	Verified value / condition
Unpowered input resistance	≥500 kΩ
Transmitter voltage at 20 mA	≥14.8 V
Transmitter voltage at zero current	≤26.4 V
5 V supply consumption	310 mA maximum
24 V supply consumption	450 mA maximum
Temperature drift	±16 µA / 10°C
Channel isolation	Non-isolated
Input step response	100 ms

Parameter applicability

Legacy AAI141-H00/H03 electrical and suffix specifications apply to the offered AAI141-H00 S1. S1 is retained as the offered style marking; it does not establish compatibility with later H50/H53 styles.

04 Overview

Sixteen current measurements share a non-isolated module architecture, making field-reference compatibility central to selection.

Selection and adjacent-model differences

AAI141-H00 S1 prioritizes input density rather than channel separation. Replacing an isolated AAI135 with this module changes the electrical reference architecture as well as the channel count, so terminal compatibility cannot be decided from connector appearance. Each input has a two-wire/four-wire transmitter setting. The sixteen channels are non-isolated, so a high-density termination must preserve the intended shared references as well as the channel numbering.

Operating relationship

Each current input supports the documented two-wire or four-wire transmitter selection. The powered input burden varies with current because its protection circuit adds a voltage drop; transmitter supply margin must be assessed under load rather than inferred from the open-circuit voltage. The input burden is 250 Ω plus a protective drop of up to 3 V divided by loop current: 400 Ω at 20 mA and 1000 Ω at 4 mA. This explains why checking a single nominal resistance is insufficient for transmitter compliance.

Interface and installation implications

The legacy AAI141 specification permits a higher input current than the AAI841 input bank, but it remains a standardized measurement input rather than an unrestricted current sink. Node configuration, engineering range and installed wiring must be checked together when an overrange condition is evaluated. The available transmitter voltage is at least 14.8 V at 20 mA and at most 26.4 V at zero current. ATA4S-00, ATA4S-10, ATA4D-00 and ATA4D-10 are distinct simplex/dual and surge-option termination selections, not part of the bare module code.

Controller platform reference

CENTUM FIO analog I/O. Match node, termination and loop design.

05 Applications / Compatibility

AAI141-H00 S1 is an input-only current module for the compatible CENTUM FIO local/remote node architecture.

Integration boundary

Group sixteen signals only where their field electrical references are compatible with a non-isolated input module. A /K4A00 selection uses ATK4A-00, while /A4S00 and /A4D00 use the corresponding ATA4S and ATA4D pressure-clamp routes. Check the selected terminal mapping before changing a sixteen-loop bank.

Application decisions

Dense transmitter marshalling

Consolidate sixteen current measurements while preserving channel numbering through the terminal assembly.

Powered and unpowered transmitter interfaces

Per-channel mode selection accommodates the documented two-wire/four-wire arrangements.

Legacy HART input access

The H execution enables digital communication subject to the supporting node and software path.

Dual-redundant input acquisition

A redundant project requires the corresponding hardware and termination design; one installed card is not the complete pair.

06 Product Precautions

Preserve the non-isolated field-reference design when replacing or extending this sixteen-input group.

Installation and diagnostic actions

Review signal references

Check grounded transmitters and shared field connections before grouping the loops.

Identify all sixteen positions

Trace terminal-to-channel assignment instead of assuming an eight-channel predecessor’s map.

Calculate full-current burden

Use the protection-drop contribution when checking source compliance.

Keep output work separate

This module has no current-output bank; do not transfer actuator wiring to an input terminal.

Use the appropriate safety interface

The specified design excludes direct Zener-barrier connection.

Allow input settling

Separate update cadence from step response when setting an acceptance dwell time. Keep current-injection equipment referenced to the approved bank common. Apply the channel powering setting before connecting a four-wire source so the source and module do not drive one another.

07 Lifecycle Status

Engineering field	Value, condition or decision
Exact identity	AAI141-H00 S1 is the retained legacy HART/basic-type identity.
Phase boundary	A definitive manufacturer lifecycle phase for that complete identity is not established.

07 Lifecycle Status — continued

Engineering field	Value, condition or decision
Migration concern	A change to isolated inputs alters channel density and field-reference design, not merely software naming.
Supply planning	Request this complete style and its required terminal execution in the quotation.

08 Available Unit Details

Engineering field	Value, condition or decision
Module scope	AAI141-H00 S1, sixteen current inputs and no analog outputs.
Separate connection items	ATK4A, ATA4S, ATA4D and connector-cover options are not implied by the supplied base order string.
S1 record	The offered style marking is retained separately from the H00 communication/environment suffix.

09 Alternative Names

Variant	Complete-model spelling
1	Yokogawa AAI141-H00 S1
2	Yokogawa AAI141 H00 S1

10 Engineering FAQ

Full-model technical question	Engineering answer
Why is an isolated-input project not automatically compatible with AAI141-H00 S1?	The module combines sixteen non-isolated inputs. Review field references and terminal grouping before replacing a design that relies on independently isolated input circuits.
How can source compliance be checked for AAI141-H00 S1 before installation?	Calculate cable loss and the powered input’s current-dependent burden, then verify the source can maintain the upper test current. An open-circuit voltage check alone is insufficient.
Why should an AAI141-H00 S1 loop test dwell longer than one data update?	The input step response is slower than its refresh interval. Hold each applied current long enough for a settled indication before attributing a transient error to calibration.

10 Engineering FAQ — continued

Full-model technical question	Engineering answer
Does AAI141-H00 S1 accept actuator-output wiring from a combined I/O card?	No. Identify every conductor by function: this card receives current signals and does not generate actuator commands. A combined I/O migration needs a separate output plan.
What distinguishes a wiring fault from an engineering-range error on AAI141-H00 S1?	Apply known currents at the module-side input and compare raw/current interpretation with the configured process range. Correct current with incorrect process units points toward range configuration rather than field conversion.
How should four-wire transmitter loops be restored on AAI141-H00 S1?	Confirm that the transmitter has its own supply, restore the matching channel setting and compare the loop drawing. Do not add module transmitter power merely because it is available.
What is missing if AAI141-H00 S1 is fitted but input redundancy is assumed?	A single module does not establish the documented dual-redundant arrangement. Check the companion path, terminal configuration and project redundancy setup before claiming redundant acquisition.
Can a newer H50 designation be treated as identical to AAI141-H00 S1?	The legacy H00 and later H50 identities are different order executions. Compare applicable hardware, node and revision documentation rather than transferring newer electrical limits into this S1 record.

11 Downloads

Engineering field	Value, condition or decision
Technical reference	Original legacy suffix-selection page for the AAI141 H00/H03 family. PDF, 1 page.
Engineering guide	Apter Power engineering guide for CENTUM FIO analog I/O. Group sixteen signals only where their field electrical references are compatible with a non-isolated input module. PDF, 3 pages.

12 What happens after you enquire

Engineering field	Value, condition or decision
1 Review your reference	Send the full marking, quantity and label photos. We review the item and any version details that need clarification.
2 Confirm the offer	Check the quoted reference, condition, included items and expected dispatch date before approving your order.
3 Arrange dispatch	Confirm delivery details and receive the tracking number when it becomes available.

13 Ordering checks

Engineering field	Value, condition or decision
Match the complete marking	Include AAI141-H00 S1 and every revision or approval marking visible on the item. Keep the exact reference on your enquiry and quotation.
Check the offered item before ordering	Request available label and interface photos. Have your maintenance team compare the offered AAI141-H00 S1 reference with the installed equipment and applicable Yokogawa documentation.

14 Sourcing and service information

Engineering field	Value, condition or decision
Title-area support	Sourcing Support; 12-Month Warranty
Dispatch Confirmation	Quantity and dispatch date confirmed in quotation.
Dedicated Manager	Personalized one-to-one VIP service
ISO 9001:2015 Certified	Trusted quality management
Warranty Policy	Review the applicable warranty coverage and claim process.
Return Notice	Obtain return approval before sending an item back.
Shipping Method	Worldwide shipping; freight and timing confirmed in quotation.
Parts Availability	Quantity, dispatch date and lead-time start confirmed in quotation.

15 Technical notes

Engineering field	Value, condition or decision
Input burden model	The terminal-view resistance includes 250 Ω plus a protection voltage drop of up to 3 V divided by current.
Acquisition interpretation	A fast data refresh does not remove the analog step-response settling requirement.
Barrier compatibility	An external isolation barrier must be selected for intrinsically safe duties; the non-isolated module is not itself that barrier.

16 Before You Order

Information to provide	Selection and acceptance context
Sixteen-loop mapping	Provide the complete AAI141-H00 S1 label and the terminal-to-channel drawing for all sixteen non-isolated inputs.
Bank common and power-mode settings	Photograph the field common and per-channel two-wire/four-wire selections before the terminal bank is disturbed.
Pressure-clamp or MIL route	Identify the fitted ATA4S/ATA4D execution, including any surge option, or the /K4A00 ATK4A route.
Endpoint loop evidence	Supply transmitter compliance requirements at the 4 mA and 20 mA endpoints; powered input burden changes with current.

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 ADV151-P00 S2	Discrete I/O portfolio: use its own signal and channel specification.
Yokogawa AFV10D S2	CENTUM system reference: retain its own host and configuration boundary.
Yokogawa CP451-50 S2	CENTUM system reference: retain its own host and configuration boundary.
Yokogawa AAI543-S00 S1	Analog I/O portfolio: compare signal direction, isolation and style.

Engineering contact

Discuss the complete unit and installed application with Apter Power.
sales13@apterpower.com | +86 18030235313