FIELD WORKFLOW

Yokogawa AAR181-S50-S2

RTD Input Module

Yokogawa AAR181-S50-S2 is a 12-channel isolated RTD input module for three-wire Pt100 and JPt100 field measurements. The -S50 ordering segment denotes standard construction, no explosion protection and basic type.

Release-gate sequence

1. IDENTIFY
2. ISOLATE
3. INSTALL
4. STATIC CHECK
5. FUNCTION TEST
6. ACCEPT

Before work starts

- Record the complete module and suffix code from the installed nameplate.
- Confirm twelve RTD channels are expected in the node configuration.
- Identify Pt100 versus JPt100 for every field point.
- Record the current channel assignments before removal.
- Inspect the pressure-clamp terminal for damage or contamination.
- Check conductor identification and shield routing.

Field record essentials

MODEL ID

Record AAR181-S50-S2 exactly.

SYSTEM

CENTUM VP field I/O

SETTINGS

Preserve the verified installed configuration.

TEST BASIS

Define static and functional acceptance evidence.

Pre-installation verification

CHECK 01

Record the complete module and suffix code from the installed nameplate.

CHECK 02

Confirm twelve RTD channels are expected in the node configuration.

CHECK 03

Identify Pt100 versus JPt100 for every field point.

CHECK 04

Record the current channel assignments before removal.

CHECK 05

Inspect the pressure-clamp terminal for damage or contamination.

CHECK 06

Check conductor identification and shield routing.

CHECK 07

Measure suspect field circuits before connecting the replacement.

CHECK 08

Confirm the installation does not require explosion protection.

Interface inventory

- Each of the twelve channels is assigned to an RTD measurement point.
- The documented field sensor connection is a three-wire circuit.
- Resistance of the paired signal conductors should be matched.
- The pressure-clamp terminal forms the field termination interface.
- Input circuits are isolated from the system side.
- The module supplies 1 mA measurement current to the RTD circuit.
- Channel data is refreshed at the documented one-second period.
- System configuration must preserve the complete AAR181-S50-S2 identity.

Hold point

Do not continue if the complete model, field-circuit identity, stored settings, protective functions or safe isolation state cannot be verified. Preserve existing wiring records and escalate the exact unresolved item.

Installation sequence

1. Isolate node power and verify a safe de-energized state.
2. Label and release each field conductor without changing channel order.
3. Remove the existing module using the node hardware procedure.
4. Seat AAR181-S50-S2 in the intended position and secure it.
5. Reconnect each three-wire RTD to its documented channel terminals.
6. Inspect clamp engagement and conductor strain relief.
7. Restore power and confirm the system recognizes the module.
8. Validate all channels against known process or reference values.

Commissioning and acceptance

GATE 1

Exact AAR181-S50-S2 identity recorded

GATE 2

Node slot and configuration match

GATE 3

All twelve channel labels reconciled

GATE 4

Pt100 or JPt100 type confirmed per point

GATE 5

Terminal clamps secure

GATE 6

No unexpected open-circuit indication

GATE 7

Channel values checked against references

GATE 8

Acceptance record signed and retained

Fault-response checks

- If one channel is implausible, verify sensor type and three-wire conductor order.
- If a channel reads open, inspect the RTD, field cable and clamp continuity.
- If several channels shift together, check configuration and node-side conditions before replacing the module.
- If the module is not recognized, verify slot assignment and complete suffix identity.
- Compare resistance at the terminal with the control-system value to separate field and module faults.
- Check paired conductor resistance when a stable offset remains.

Acceptance boundary

Release only after the normal state, commanded state, principal fault state and recovery behavior have all been observed at the field device, module and control-system indication.

Reference and handover

SOURCE 1	Yokogawa General Specification GS 33K50F60-50E, Analog I/O Modules, AAR181 table and ordering information.
SOURCE 2	Yokogawa CENTUM VP system documentation identifying AAR181 lifecycle and supported hardware context.

Related products

Verified related products on ApterPower

Yokogawa ALR121-S51 S1
Serial communication module
View Yokogawa ALR121-S51 S1

Yokogawa ANT502-5F S1
Optical ESB bus repeater slave module
View Yokogawa ANT502-5F S1

Yokogawa ATB5S-00 S2
Digital input terminal module
View Yokogawa ATB5S-00 S2

CONFIGURATION
Final settings and mappings archived

WIRING
Terminal and conductor labels reconciled

TEST RECORD
Measured results and fault tests retained

OPERATIONS
Normal indication and response briefed

Contact Apter Power

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Share the exact AAR181-S50-S2 nameplate, application and required quantity for a model-specific quotation.