PRODUCT INFORMATION DASHBOARD

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.

PRODUCT ROLE

Twelve isolated RTD input channels

SYSTEM

CENTUM VP field I/O

INTERFACE

Three-wire Pt100 measurement with JPt100 support

SERVICE FOCUS

Pressure-clamp terminal field connection

Exact-model highlights

- Twelve isolated RTD input channels
- Three-wire Pt100 measurement with JPt100 support
- One-second data update period
- Pressure-clamp terminal field connection

Release questions

IDENTITY

Is the complete AAR181-S50-S2 code confirmed?

INTERFACE

Do field signals and companion equipment match?

SETTINGS

Are installed parameters and mappings preserved?

ACCEPTANCE

Have normal, fault and recovery states been tested?

Technical data

Product function	Isolated resistance-temperature-detector input module
Input channels	12 isolated channels
Primary sensor	Pt100, three-wire type
Additional sensor	JPt100
RTD standard	JIS C1604:1997 and IEC 751:1995
Allowable input voltage	+/-5 V
Withstand voltage	1500 V AC / 1 min, input-to-system
RTD accuracy	+/-120 mOhm
Measurement current	1 mA
Wiring resistance	<=40 Ohm per wire
Data update period	1 second
External connection	Pressure-clamp terminal
Suffix -S	Standard type
Suffix 5	No explosion protection
Suffix 0	Basic type

Application safeguards

SAFEGUARD 1

De-energize the node and field circuits before inserting, removing or rewiring the module.

SAFEGUARD 2

Confirm the complete AAR181-S50-S2 code on the physical unit before replacement.

SAFEGUARD 3

Use only documented three-wire Pt100 or JPt100 circuits; do not apply transmitter current or voltage signals.

SAFEGUARD 4

Keep each conductor within the documented wiring-resistance limit and match the paired signal-conductor resistance.

Common applications

Process temperature acquisition

Collects twelve Pt100 or JPt100 resistance-temperature measurements for the control system.

Multi-point equipment monitoring

Brings several three-wire RTD points from vessels, piping or rotating-equipment auxiliaries into one isolated module.

Control-system maintenance

Supports exact-model replacement where the installed terminal arrangement and suffix code must be retained.

Loop fault investigation

Provides a defined channel structure for checking sensor, conductor and termination faults before module replacement.

Interface checklist

- 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.

Installation snapshot

STEP 1

Isolate node power and verify a safe de-energized state.

STEP 2

Label and release each field conductor without changing channel order.

STEP 3

Remove the existing module using the node hardware procedure.

STEP 4

Seat AAR181-S50-S2 in the intended position and secure it.

Model-specific FAQ

Q1 What signal type does Yokogawa AAR181-S50-S2 accept?

It accepts three-wire Pt100 and JPt100 RTD signals.

Q2 How many channels are available on Yokogawa AAR181-S50-S2?

It provides twelve isolated RTD input channels.

Q3 What update period applies to Yokogawa AAR181-S50-S2?

The data update period is one second.

Q4 Which field terminal is used with Yokogawa AAR181-S50-S2?

It uses a pressure-clamp field terminal.

Q5 What does the S50 segment mean in Yokogawa AAR181-S50-S2?

S denotes standard type, 5 denotes no explosion protection and 0 denotes basic type.

Q6 What must match when replacing Yokogawa AAR181-S50-S2?

Match the complete AAR181-S50-S2 order code, node slot, terminal arrangement and configured RTD channel assignments.

Q7 What wiring check is important for Yokogawa AAR181-S50-S2?

For each three-wire RTD, keep wiring resistance at 40 ohms or less per wire and keep the paired signal-conductor resistance equal.

Q8 How should Yokogawa AAR181-S50-S2 be accepted after installation?

Verify the exact code, inspect every clamp, energize the node, and compare each configured channel against a known temperature or resistance reference.

Product precautions

1. De-energize the node and field circuits before inserting, removing or rewiring the module.
2. Confirm the complete AAR181-S50-S2 code on the physical unit before replacement.
3. Use only documented three-wire Pt100 or JPt100 circuits; do not apply transmitter current or voltage signals.
4. Keep each conductor within the documented wiring-resistance limit and match the paired signal-conductor resistance.
5. Use the specified pressure-clamp terminal and check every clamp for secure conductor retention.
6. Do not infer an explosion-protection approval: suffix 5 denotes no explosion protection.
7. Preserve the final -S2 identifier until an exact project or manufacturer code record confirms its meaning.
8. Commission one channel at a time and compare the indicated temperature with a known reference before release.

Related products

Verified related products on ApterPower

Yokogawa EC401-10 S2
Bus coupler module
View Yokogawa EC401-10 S2

Yokogawa ATA4S-00 S2
I/O terminal module
View Yokogawa ATA4S-00 S2

Yokogawa SNB10D-425/CU2N
Safety node unit
View Yokogawa SNB10D-425/CU2N

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