Yokogawa AAM50

01 Analog Current Output Module / system role

Product function

Yokogawa AAM50 places the controller demand into the receiving instrument loop, where cable burden and receiver scaling determine usable operation.

Selected configuration

The output stage drives a complete current loop, so the receiving instrument and cable burden form part of the electrical design. Output resistance describes the current-source behavior and must not be mistaken for the permissible external load.

Integration checkpoints

- Valve positioning
- Process reference output
- Control-loop restoration
- Analog acceptance testing

Signal role	Regulated process-current command
Integration	Analog I/O module nest and software range selection
Service focus	Complete-loop response and receiving-device action

Range selection is configured in software. The nominal process span and the wider available output range serve different purposes; receiver scaling and application limits must agree before using values outside the ordinary process span.

AAM50

02 Technical operating envelope

Output signal	4 to 20 mA DC	Temperature effect	+/-32 microampere per 10 degC change
Output resistance	500 kOhm or more	Load-change effect	+/-16 microampere for 0 to 75 Ohm change
Allowable load	0 to 750 Ohm	Data update	20 ms
Output range	1.0 to 21.5 mA DC	Step response	100 ms
Output voltage limit	25.5 V DC or less	Current consumption	250 mA or less at 5 V DC
Open-output detection	0.65 mA or less	Isolation withstand	1500 V AC for one minute
Accuracy	+/-48 microampere	Software requirement	System software R2.07 or later

Use the exact hardware execution with the supported system configuration and installation conditions.

Can a current range change on AAM50 be made without adjusting the receiver?

Only if the existing receiver scaling remains valid. Otherwise the electrical command and engineering-unit indication diverge. Coordinate controller limits, receiver range and final element behavior, then test low, middle and high operating points.

What can cause AAM50 calibration results to vary with ambient temperature?

Temperature influences output accuracy, while load changes also contribute a separate effect. Record ambient conditions and loop burden during comparison. Establish a stable reference before treating a small difference as permanent calibration drift.

AAM50

03 System integration and applications

Valve positioning

Command a compatible current-input positioner through a correctly burdened loop.

Process reference output

Transmit an analog demand to an independent receiving instrument.

Control-loop restoration

Restore output range and nest position with the retained controller configuration.

Analog acceptance testing

Compare electrical output with receiver indication and final element response.

System and supply context

AAM50 belongs to the Yokogawa analog I/O installation described by the technical reference. Connected equipment and accessories must be included explicitly in the configured assembly.

Application boundary

The following uses describe supported engineering roles; they do not establish interchangeability with another model or remove application-specific validation.

AAM50

04 Engineering selection decisions

Why can AAM50 reach the commanded current with one receiver but not another?

The complete loop burden must stay within the permitted load range. Add cable resistance and every series receiver or test instrument. A current that clips only near the upper command may indicate excessive burden rather than incorrect software scaling.

Why should an AAM50 step test allow time beyond one data update?

The update interval and analog step response describe different stages. Wait for the output and receiving device to settle before recording the final value. A sample taken immediately after the command can overstate error or conceal oscillation downstream.

Why does AAM50 system-software compatibility need a station-wide check?

Support requires the whole system at R2.07 or later. Checking only an engineering workstation version does not establish the release of every participating station. Confirm the installed system baseline before adding or replacing the output module.

How should an AAM50 output be accepted after a receiving instrument is changed?

Verify load and polarity, command controlled values across the working span and compare both measured current and receiver indication. Finally confirm that the controlled equipment moves in the correct direction without an unexpected limit or saturation.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and manufacturer-support stage for this exact model is not confirmed.

Replacement assessment

Compare the complete AAM50 identity, installed connections and configuration before selecting a replacement. The module is installed in its compatible analog I/O nest and uses the nest terminals for field connections. Whole-system software must support the module. Output insulation between systems does not turn the current loop into an independently powered field supply.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; use it together with the applicable manufacturer instructions.

Technical basis

Yokogawa GS 33G06K40-01E, September 2009.

Related product navigation

- Yokogawa AAP135-S00 S2
- Yokogawa AAP135-S03 S2
- Yokogawa AAI135-S50 S3

Related products for separate application assessment; verify the platform and interface. No interchangeability is implied.

Product enquiries