Yokogawa EC0*A

Engineering Installation, Diagnostic and Acceptance Guide

Yokogawa EC0*A is a 4–20 mA control output isolator card. Its exact marking, installed interfaces and companion equipment must be verified before replacement or commissioning.

01 Work package

Complete model	EC0*A
Product type	4–20 mA control output isolator card
Manufacturer	Yokogawa
Supply condition	New, original product
Technical source	Yokogawa GS 33J60H80-01EN Signal Conditioners

Field decisions

1 Establish identity

Capture the full marking, installed companion components and baseline before disconnection.

2 Inspect interfaces

Verify mounting, cable, connector, armor, approval and environmental boundaries.

3 Fit the exact chain

Preserve the documented probe-cable-Proximitor or sensor-monitor relationship.

4 Prove response

Use the approved stopped-machine and operating acceptance procedure.

5 Record as left

Save markings, configuration, test values and operating observations.

02 Interface and configuration map

Card function	Control output isolator
Style code	*A as supplied
Input signal	4 to 20 mA DC
Input resistance	250 Ω equivalent at 20 mA
Allowable input current	40 mA DC
Output signal	4 to 20 mA DC, one point
Output resistance	500 kΩ or greater
Maximum output load	750 Ω

Load-open detection	Provided
Recommended arrester	AR-HA; not AR-SA
Power supply	24 V DC ±10 %
Maximum current consumption	60 mA
Accuracy	Within ±0.2 % of span
Isolation resistance	100 MΩ at 500 V DC
Withstand voltage	1500 V AC output-to-input/power for 1 minute
Ambient range	0 to 50 °C; 5 to 90 % RH non-condensing

03 Installation workflow

Calculate loop load

Include cable, receiver and barrier resistance and keep the total at or below 750 Ω.

Use the correct arrester

Apply AR-HA for EC0 where the approved design requires an arrester.

Verify 24 V supply

Measure the card supply within ±10 % before loop calibration.

Prove open-load detection

Open the loop only under an approved test and confirm the expected diagnostic.

Check receiving-device direction

Verify that increasing current produces the documented process action.

Record manual-to-auto transfer

Confirm the loop returns to automatic control without a step or unintended movement.

Application checks

Control-valve output isolation

Provide an isolated 4 to 20 mA command to a compatible field load.

Analog control migration

Preserve one control output during an approved CENTUM system change.

Open-load supervision

Detect and diagnose a broken field-output circuit.

Loop acceptance

Prove commanded current, receiving-device movement and controller indication together.

04 Diagnostic decision table

How is the total output load for EC0*A calculated?	Add field-cable resistance, receiving-device input resistance and any approved interface or arrester resistance; the sum must not exceed 750 Ω.
Why is AR-HA specified for EC0*A?	Yokogawa identifies AR-HA as the suitable arrester for EC0 load-open detection; substituting AR-SA can change the intended diagnostic behaviour.

How should open-load detection be tested on EC0*A?	Place the process in the approved safe state, open the loop at the designated test point and verify both the card diagnostic and restoration after reconnection.
What low-mid-high test proves EC0*A?	Command 4, 12 and 20 mA, measure actual loop current and compare receiving-device position or indication at each point.

Release review

Installation relationship	Use the exact model marking and manufacturer wiring or installation information for the delivered hardware.
System boundary	Verify host equipment, companion interfaces, field wiring and configuration before energizing.
Technical reference	Yokogawa GS 33J60H80-01EN Signal Conditioners.

Engineering questions

How is the total output load for EC0*A calculated?	Add field-cable resistance, receiving-device input resistance and any approved interface or arrester resistance; the sum must not exceed 750 Ω.
Why is AR-HA specified for EC0*A?	Yokogawa identifies AR-HA as the suitable arrester for EC0 load-open detection; substituting AR-SA can change the intended diagnostic behaviour.
How should open-load detection be tested on EC0*A?	Place the process in the approved safe state, open the loop at the designated test point and verify both the card diagnostic and restoration after reconnection.
What low-mid-high test proves EC0*A?	Command 4, 12 and 20 mA, measure actual loop current and compare receiving-device position or indication at each point.
How can a saturated output from EC0*A be diagnosed?	Measure supply voltage and total load, then compare commanded current with field current to distinguish excessive resistance from card or receiver faults.
What isolation checks are appropriate for EC0*A?	With the card and field equipment safely isolated, use only the approved method to verify separation of input, output and power circuits.
What should be recorded before replacing EC0*A?	Capture style marking, nest location, input command, field load, arrester type, 24 V supply and valve or receiver baseline.
What acceptance evidence closes work on EC0*A?	Retain low/mid/high currents, open-load diagnostic result, receiving-device response, manual/automatic transfer and final control indication.

Acceptance and support

Retain the full marking, installed-chain identities, test readings and approved machine configuration. Confirm the exact offered item and included scope in the written quotation.

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

Verified related product references

Related product	SDV144-S33
Related product	CP461-10
Related product	S9400UK
Related product	AAB841

Commissioning record template

Installed asset	Machine, bearing, channel or cabinet reference
Companion identities	Probe, cable, sensor, interface or monitor markings
Mechanical datum	Mounting reference, reach, alignment or sealing condition
Electrical datum	Chain length, connector, shield, supply or input assignment
Before-work baseline	Gap, bias, vibration, continuity or channel observation
As-left result	Final measured value and functional proof
Approval basis	Applicable drawing, control requirement or site procedure
Handover	Technician, date, revision and maintenance-record location

Handover note

A replacement is complete only after the installed identity, physical interfaces, measured response and configuration record agree. Escalate any mismatch before the channel returns to protection or monitoring service.

Release checklist

Identity accepted	Complete marking agrees with the order, photographs and installed asset record.
Interfaces accepted	Mechanical fit, connector, wiring and companion components match the approved design.
Environment accepted	Temperature, contamination, vibration and route protection remain inside documented limits.