ABB 07EA61R1 GJV3074351R1

Isolated Analog Current Input Module

ANAI Raw-Value, Conversion and Wire-Break Diagnosis

Follow the current loop through raw EA, converted QA and application alarm handling; use the 07EA61 eight-bit path rather than borrowing 07EA63 behavior.

Before You Order

Loop evidence	Identify each 4–20 mA transmitter, its supply/return and the existing channel assignment.
Software evidence	Retain the ANAI call, including U/I and 8/12 selections, and the downstream engineering-unit scale.
Diagnostic evidence	Identify how ERR reaches the plant alarm and which authorized loop-fault test will prove it.

The installed relationship

Current acquisition	Transmitter current -> assigned isolated input -> raw EA.
ANAI interpretation	Current/eight-bit selections -> QA conversion and ERR monitoring.
Plant response	QA and ERR -> actual engineering-unit display, interlock and alarm logic.

Hardware values describe 07EA61 R1. EA/QA ranges, selector codes and wire-break behavior describe the applicable ANAI call with U/I = 0 and 8/12 = 1, not unconditional module alarm outputs. Retain GJV3074351R1 and the installed application configuration; no absolute accuracy, input burden or sample rate is inferred.

Procontic T200 analog acquisition — fault decisions

QA = 0, process state unclear	Read EA and ERR together before declaring either a valid low process value or an open loop.
Missing wire-break error	Check current-mode selection and the raw condition, then trace ERR into the plant application.
Correct current, wrong display	Compare the raw path, conversion selectors and downstream engineering-unit scaling in that order.
Neighbor module proposed	Resolve eight-bit versus twelve-bit conversion and threshold behavior before hardware exchange.

Carry the decision into the installation

1 Retain the eight loop assignments	Identify the transmitter, loop supply/return and application destination of each affected channel.
2 Verify ANAI configuration	For the 07EA61 current-input path confirm U/I = 0 and 8/12 = 1 in the retained function-block call.
3 Observe raw data first	At approved loop-test points compare the received current with the EA value before application scaling.
4 Check converted data separately	Compare QA with the documented 0 to 4080 normal converted range for this eight-bit path.
5 Prove wire-break handling	Under an authorized fault test, observe EA, QA and ERR together and then the plant alarm response.
6 Restore and accept the loop	Return the input to a valid condition and retain final raw, converted and engineering-unit observations.

As-left proof

Valid-current proof

At approved test points, current, EA, QA and engineering units have the intended relationship.

Fault proof

Under the authorized test, the documented ANAI error and the configured plant response are both observed.

Recovery proof

The valid measurement and required alarm-reset behavior recover after the loop is restored.

Interpret the 07EA61 ANAI States

Valid lower end	QA may be zero; use raw EA and ERR to distinguish this from a wire-break result.
Wire-break state	Below 3.6 mA with EA <= 2: ERR = 1, QA = 0 for the documented current-mode path.
07EA63 boundary	Different raw coding and wire-break threshold require conversion and alarm review.

Decisions from the observed installation

An operator sees zero after a cable disturbance

Check raw EA and ERR before changing zero/span; determine whether the current loop is valid.

Current injection looks right but the alarm never arrives

Observe the ANAI error result first, then inspect how the application uses it.

The evidence to retain for 07EA61R1 GJV3074351R1

Test context	Channel/transmitter identity, ANAI selectors, injection method and approved acceptance tolerance.
Valid-state observation	Injected current, raw EA, QA and final engineering-unit value.
Fault/recovery observation	ERR and plant response during the authorized break test and after restoration.

Technical basis

ABB Procontic T200 R1 catalogue GATS121401R2003 and ANAI function-block description 2CDC120133M0201

Related product references

Separate supply references; listing does not establish interchangeability.

ABB CI520V1 3BSE012869R1	Advant Fieldbus Communication Interface; separate supply reference
ABB XO08R1 XOO8R1-B04 1SBP260101R1001	Digital Relay Output Extension Module; separate supply reference

Discuss 07EA61R1 GJV3074351R1 and the installed application with Apter Power.
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