

01 Readiness and operating boundary

Schneider Electric AS-S908-110

RIO Processor

Schneider Electric AS-S908-110 is a single-port S908 remote-I/O head processor option for the documented 984-685E and 984-785E/K/D controller configurations. It links the controller to remote drop adapters through the planned coaxial RIO cable system.

Match the controller and executive

AS-S908-110 is listed as a one-port option module for 984-685E and 984-785E/K/D controllers. The executive controls the supported remote-drop allocation. The head is the network master; remote adapters communicate with that head rather than acting as independent masters.

01	AS-E908-016	15 remote drops for the listed controllers
02	AS-E908-131	31 remote drops for the listed controllers
03	Head port count	One
04	Network role	RIO head / master node

Evidence: 35014629 pp.13,18

Keep a valid single-trunk architecture

A single-cable linear network links the head to remote adapters through taps and drop cables. Two-path redundant cabling requires two ports on both the head and the drop adapters, so it must not be advertised as a function of the single-port AS-S908-110.

01	AS-S908-110 layout	Single-port head and planned linear cable path
02	Tap function	Couples the drop and isolates it from the trunk and other drops
03	Normal splitter limit	One trunk splitter
04	Hot-standby exception	Second splitter for the documented connection between two heads

Evidence: 35014629 pp.16,20-26

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02 Configuration and interface setup

Assign each drop independently

The drop's configured address is independent of its physical position on the trunk. Use one adapter per tap drop port. Labels should identify cable segments and taps by the corresponding PLC I-O-map drop, preserving the relation between the electrical layout and the application configuration.

01	Address rule	Unique address for every remote adapter
02	984 drop switch type	DIP switches
03	Quantum drop switch type	Rotary switches
04	Connection rule	One adapter per tap drop port
05	Service information	Adapter identity, PROM revision and configured drop reference

Evidence: 35014629 pp.15,61,124,140

Select and route the actual coaxial media

RG-11 is generally used as trunk media and RG-6 as drop media; small networks may use RG-6 trunks where the loss calculation permits. Protect the cable from excessive pull, bend and unsupported routing. Keep RIO media away from AC and DC power routes and cross power cables at right angles.

01	Trunk selection	Approved flexible or semirigid coax, according to the design
02	Drop selection	Approved RG-6 or RG-11, according to loss and noise conditions
03	EMI controls	Shielding, power-route separation and right-angle crossings
04	Mechanical controls	Cable-maker pull and bend limits, plus adequate support

Evidence: 35014629 pp.42,44,47

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03 Installation decision sequence

Terminate trunk and unused ports correctly

The last tap's trunk-out port must hold the trunk terminator; the trunk must not be terminated by a direct connection to a drop adapter. Unused tap drop ports remain terminated even if installed for later expansion. Confirm which older adapters require external drop termination.

01	Trunk end	52-0422-000, 75-ohm terminator at last tap
02	Unused tap port	52-0402-000 terminator
03	J890/J892-00x	External in-line drop termination required
04	J890/J892-10x	Internal termination documented
05	Extended drop disconnection	Provide suitable 75-ohm termination rather than leaving an open branch

Evidence: 35014629 pp.16-17,52,137

Preserve the permanent grounding path

Use a common low-impedance cable-system ground near the RIO head in the same equipotential room. Other taps remain isolated from grounded metal unless intentionally chosen as the central ground. Disconnecting the head must not disconnect the permanent cable-system ground.

01	Central ground	Approved tap, splitter or ground block
02	Other taps	Isolated from grounded metallic surfaces
03	Connected equipment	Ground all nodes according to the installed design
04	Head disconnection	Maintain the cable system's permanent earth connection

Evidence: 35014629 pp.48,50,138

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04 Verification and fault isolation

Budget the complete head-to-drop loss

For the listed slot-mount S908 configuration, calculate all losses between the head and each drop against the 35 dB limit. Cable alone is not the path. Include the taps, splitters, splices, connectors and feed-through terminators; preserve operating margin instead of designing at a barely detectable receive level.

01	Dynamic-range basis	35 dB for the listed slot-mount controllers
02	Tap drop loss	14 dB
03	Tap insertion loss	0.8 dB
04	Loss ledger	Cable plus every intervening media component
05	Practical check	Allow margin for receive-level variation

Evidence: 35014629 pp.13,45,53,62

Inspect the connector before blaming the head

Excessive retries often arise from noise, grounding or installation defects. Inspect connectors for correct seating and ensure braid strands do not short to the center conductor. Use off-line media tests where the fault is not visible; on-line statistics alone do not prove cable integrity.

01	Routing fault	Coax close to AC or DC power services
02	Ground fault	Missing or ineffective low-impedance earth path
03	Connector fault	Loose attachment or braid-to-center short
04	Hidden media defect	Requires documented network testing
05	On-line evidence	Indicators and statistics assist fault isolation

Evidence: 35014629 pp.142,144-146

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05 Acceptance and service handover

Use staged network-integrity tests

Document acceptance measurements after installation so later maintenance has a baseline. The minimum recommended test group covers pre-installation cable integrity, visual installation, induced voltage, grounding, oscilloscope noise analysis, time-domain reflectometry and attenuation sweep testing. Appropriate test equipment and qualified personnel are required.

01	Visual inspection	Taps, cable routing, grounding and connectors
02	Induced-voltage test	Potentially hazardous AC voltage on the cable system
03	Grounding test	Shield condition and low-impedance earth connection
04	Noise analysis	Power spikes and noise floor
05	Electrical integrity	TDR testing and end-to-end attenuation sweep

Evidence: 35014629 pp.140,142-143

Release each configured drop, not only the head

Reconcile the drop map with the physical adapters and their firmware revisions. Verify communication to every configured drop and retain the network test results. A functioning head indication does not replace topology, termination, grounding and media acceptance checks.

Evidence: 35014629 pp.15,61,140-146

Related portfolio navigation

These separate product pages are reference navigation, not a statement of interchangeability or approval for the installed system.

Schneider Electric 140NRP95400	View Schneider Electric 140NRP95400 page
Schneider Electric 140CHS11000	View Schneider Electric 140CHS11000 page
Schneider Electric 140XBP01000	View Schneider Electric 140XBP01000 page

Technical evidence record

S908 Remote I/O Cable, System Planning and Installation Guide - 35014629, 07/2017

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