Allen-Bradley 1756-PSCA2

01 Assess the redundant power assembly

1 Identify the complete power path

Record the chassis catalog number and series, both redundant power-supply references and both cable identities before changing the adapter. The passive 1756-PSCA2 is the common chassis connection; two supplies do not create two independent chassis backplanes. Compare the assembly with the applicable chassis-series compatibility instructions.

2 Establish a power budget

Add the populated chassis module demand for each DC rail and the total power. Assess the selected supply at the actual cabinet temperature. The surviving supply must carry the full load after its partner is unavailable; the adapter current capacities must not be used as a substitute for the supply output limits.

3 Prepare the maintenance sequence

Agree a controlled shutdown or other approved system maintenance state before touching the common adapter. Identify both sources and any separately powered annunciator wiring. Keep the required cable routing, enclosure grounding and original unit photographs with the job record so the final assembly can be compared with the approved arrangement.

Assembly identity	Chassis series, supply A, supply B and both cables
Power review	Rail demand, total load and single-supply capacity
Work boundary	Common adapter and both supply connections

1756-PSCA2 / Isolate and fit the chassis adapter

02 Isolate and fit the chassis adapter

1 Remove energy from both connections

Confirm that both backplane power sources are removed before disconnecting the 1756-CPR2 cables. A supply being switched off does not prove that the common adapter is de-energized when the other source remains connected. Protect disconnected contacts against damage and contamination while maintaining the cable identification.

2 Inspect guides and backplane contacts

Check the left-side chassis card guides and the adapter circuit-board edge for damage. Align the adapter with the guides and slide it back until it is flush with the chassis front. Do not force it to compensate for a bent contact, damaged guide or incompatible chassis arrangement.

3 Retain enclosure and grounding integrity

Complete panel fabrication before exposing the installed electrical assembly to debris. Remove metal fragments and maintain the chassis-to-panel bonding arrangement. A redundant supply system does not compensate for a loose protective or functional grounding connection, and wiring bundles must not obstruct ventilation.

Energy check	Both supply paths isolated
Mechanical check	Adapter flush; guides and contacts intact
Cabinet check	Clean assembly, retained bonding and ventilation

1756-PSCA2 / Connect and restrain both supply paths

03 Connect and restrain both supply paths

1 Route the dedicated cables

The 1756-CPR2 cable in the referenced arrangement is 0.91 m long and requires a 12.7 cm bend radius. Plan the supply positions and routing before fastening the cables. Maintain the chassis clearance as well as the cable bend requirement; do not compress a bend to make the cabinet door close.

2 Seat each connector at the correct end

Connect the cable male end to the adapter and its female end to the redundant supply. Tighten the retention screws fully so the connector remains seated. Repeat for the second path, checking that neither cable is carrying mechanical strain or hiding an incompletely engaged connector.

3 Keep source wiring distinct

The external AC or DC input is wired to the corresponding power supply, not directly to the adapter. Use the instructions for the exact supply revision for conductor preparation, terminal torque and protection. Preserve the separation between input wiring, low-voltage interconnect cables and annunciator conductors.

Cable orientation	Male to adapter; female to supply
1756-CPR2 routing	0.91 m cable; 12.7 cm bend radius
Retention	Both cable connectors securely fastened

1756-PSCA2 / Verify monitoring and supply continuity

04 Verify monitoring and supply continuity

1 Check annunciator operation

Trace the solid-state annunciator contacts on each redundant power supply to the monitoring input. These contacts are closed in normal operation and open when that supply fails or is switched off. Verify the configured input interpretation and the alarm response, rather than checking only that the chassis remains powered.

2 Use a compatible monitoring circuit

The supply annunciator output is intended for resistive loads and is not to drive an electromagnetic relay coil directly. Keep its wiring within the specified length and separation requirements. Confirm that an alarm-circuit power loss produces the response intended by the project design.

3 Conduct an approved single-source test

With the process placed in the agreed test condition, prove each source path separately using the approved supply operating procedure. Observe chassis activity and the associated alarm. Restore the normal dual-source arrangement and investigate any reset, unstable indication or missing alarm before release.

Normal state	Both supply indications healthy
Single-source state	Chassis response and correct supply alarm recorded
Restored state	Both sources available; alarms cleared as intended

1756-PSCA2 / Handover the verified assembly

05 Handover the verified assembly

1 Record what was actually fitted

Retain the 1756-PSCA2 series marking, chassis series, both supply references and cable photographs. Record the power-budget result and cabinet ambient conditions used in the assessment. Include the final annunciator input mapping so future maintenance can distinguish an adapter connection problem from a supply alarm.

2 Close temporary maintenance conditions

Remove temporary test arrangements only through the approved return-to-service sequence. Confirm both power paths and connector retention once more, then document any limitations that remain. The common adapter and cables still require maintenance even when the supply-pair continuity test has passed.

Technical basis: Rockwell Automation ControlLogix Chassis and Power Supply, 1756-IN005C-EN-P; Power Supplies Specifications, 1756-TD005E-EN-E.

Related product navigation

- Allen-Bradley 1756-A13
- Allen-Bradley 1756-A17
- Allen-Bradley 1756-CPR2

These are related references, not confirmed substitutes or an automatically approved assembly.