Allen-Bradley 1756-PSCA2

01 Function and selected configuration

Product function

Allen-Bradley 1756-PSCA2 separates the chassis connection from the power-conversion units, supporting a dual-supply arrangement in which either correctly sized supply can carry the chassis load.

Selected configuration

Passive dual-input chassis power adapter for a compatible ControlLogix redundant-power assembly. The redundant supplies normally share the load; a surviving supply must be able to support the entire populated chassis if its partner fails. The adapter current capacities are 1.5 A at 1.2 V DC, 4 A at 3.3 V DC, 15 A at 5.1 V DC and 2.8 A at 24 V DC. These are adapter limits, not a promise that every rail can be fully loaded simultaneously by the selected supplies.

Functional path

Supply A / supply B

Dedicated power cables

1756-PSCA2 adapter

ControlLogix backplane

Power path	One or two redundant supplies feed one chassis connector
Adapter current capacity	4 A at 3.3 V DC; 15 A at 5.1 V DC
Environment	0 to 60 °C operation; open-style construction

The standard 1756-PSCA2 operates from 0 to 60 °C in a suitable enclosure with noncondensing humidity. Supply-status annunciation is provided by the redundant power supplies, rather than by a configurable communication interface in the passive adapter. Cable retention, chassis grounding and the supply alarm circuit all remain part of the completed power system.

1756-PSCA2 / Technical operating envelope

02 Technical operating envelope

Supply connections	2 redundant supply cable inputs
Current capacity at 1.2 V DC	1.5 A
Current capacity at 3.3 V DC	4 A
Current capacity at 5.1 V DC	15 A
Current capacity at 24 V DC	2.8 A
Operating temperature	0 to 60 °C
Storage temperature	-40 to 85 °C
Relative humidity	5 to 95%, noncondensing
Operating vibration	2 g at 10 to 500 Hz
Operating shock	30 g
Enclosure rating	Open style
Connection wire category	Category 3 on 1756-CPR2 connections

Keep the adapter limits separate from the power-supply output budget. The selected supply must carry the complete chassis load during a single-supply failure. The standard PSCA2 temperature rating must not be replaced by the wider PSCA2XT rating.

1756-PSCA2 / System integration and applications

03 System integration and applications

Dual AC supplies

Use the adapter with a compatible pair of AC redundant supplies and dedicated supply cables when the installed chassis design uses AC input sources.

Dual DC supplies

Connect a compatible DC redundant-supply pair to the chassis, with the full backplane demand included in each supply assessment.

Mixed supply architecture

An approved AC/DC redundant pair can converge at the adapter when permitted by the chassis and supply compatibility requirements.

Monitored power assemblies

Combine the adapter power path with supply annunciator inputs so a failed supply can be detected while the remaining source supports operation.

System and supply context

1756-PSCA2 forms the chassis connection in an assembled ControlLogix redundant-power system. Supplies, cables and chassis are separate items unless specifically included in the quotation.

Application boundary

These uses concern chassis-power continuity. They do not establish redundant controllers, safety integrity or fault tolerance for every component.

How do two power supplies share a chassis through 1756-PSCA2?

Each supply connects to the adapter through its own dedicated cable. During normal operation the supplies share the load; either remaining supply must be sized to support the full chassis load.

1756-PSCA2 / Engineering selection decisions

04 Engineering selection decisions

Does 1756-PSCA2 convert the incoming AC supply?

No. It is a passive adapter between the redundant supplies and the chassis backplane. AC or DC conversion is performed by the selected external power supplies.

Which end of a 1756-CPR2 cable connects to 1756-PSCA2?

The male end connects to the adapter and the female end to the redundant power supply. Secure both connectors with their retention screws after seating them.

Does 1756-PSCA2 itself provide the supply-failure annunciator?

The solid-state annunciator contacts belong to the redundant power supplies. Their monitoring circuit is wired separately so the controller can recognize a failed or switched-off supply.

Why does a 1756-PSCA2 installation still need cable and chassis checks?

Power-supply redundancy addresses supply faults; it does not eliminate faults in the common adapter, cables or backplane. Verify connector engagement, grounding and the actual chassis loading.

Calculate full demand	Check rail currents and total chassis power against one surviving supply.
Protect the open assembly	Use a suitable enclosure and maintain the standard adapter temperature range.

1756-PSCA2 / Configuration boundary and references

05 Configuration boundary and references

Lifecycle and support

Rockwell Automation identifies 1756-PSCA2 as Active on its current product page, checked 30 October 2026. This status is separate from the offered unit series and Apter Power availability.

Replacement assessment

Match the chassis series, redundant supply models and dedicated cable arrangement. A standard chassis supply is not a direct functional substitute for the redundant assembly.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains configuration and selection boundaries. The independent installation guide organizes preparation, connection, testing and handover. It does not replace the applicable manufacturer installation instructions.

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-IF16
- Allen-Bradley 1756-OF8
- Allen-Bradley 1756-A7

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

Product enquiries