Plan the installation scope

ABB / PM511V16-3BSE011181R1

ABB PM511V16-3BSE011181R1

ABB PM511V16-3BSE011181R1 is a 16 Mbyte processor module for Advant Controller 450, with ECC RAM, an S100 I/O interface and a PCMCIA program-card slot.

Apter Power engineering guide. Apply the manufacturer procedure and the approved site design for the installed equipment.

PCMCIA system program — PM511V16 / AC450 — S100 I/O extension

Configuration and supply boundary

Confirm PM511V16 and 3BSE011181R1 on the module side label, the 16 Mbyte memory version and the offered program-card/accessory scope.

Identification checkpoint	Required value
Type designation	PM511V16
Product ID	3BSE011181R1
Controller family	Advant Controller 450
Processor	Motorola MC68040

Operating context

The front designation PM511V is shared by the 8 and 16 Mbyte versions. Use the component-side label and complete product ID to distinguish the V16 item before preparing a processor replacement.

How can PM511V16-3BSE011181R1 be distinguished from an 8 Mbyte PM511V?

Both versions carry PM511V on the front. The component-side label distinguishes PM511V16 with 16 Mbyte RAM from PM511V08 with 8 Mbyte RAM; retain product ID 3BSE011181R1 in the comparison.

Which processor is used in PM511V16-3BSE011181R1?

The PM511V design uses a Motorola MC68040 running at 25 MHz. Its controller-side role is the AC450 processor, rather than an independent field I/O module.

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Prepare power and interfaces

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Module facts follow the PM511V16 ordering identity and applicable PM511V design. Redundancy and takeover values describe the complete matched AC450 arrangement.

Technical boundary	Applicable value
Processor clock	25 MHz
Dynamic RAM	16 Mbyte
Memory protection	ECC
Memory contents	Runtime system, controller configuration and application
Program-card interface	Dedicated PCMCIA slot
System software storage	Flash program card; loaded to RAM during start-up
I/O connection	Dedicated S100 I/O extension interface
Engineering connection	Dedicated Advant Station 140 port

Memory and redundancy

A PM511V hot-standby pair requires equal RAM size. Compare complete side-label identities and installed software before replacing a processor.

Backup boundary

Keep system program, controller configuration and application recovery records together, while preserving their distinct program-card and engineering-backup roles.

System relationship

The system program is stored on a PCMCIA program card and loaded into RAM at start-up. Retain the correct program card and the separate controller configuration/application backup for the installed system.

Additional interface criterion	Documented boundary
Processor redundancy	Two PM511V modules in hot standby
Redundant-pair memory	Both processors require the same RAM size
Documented standby takeover	Less than 25 ms under the specified redundant arrangement
Front controls	Four-position mode selector and ENTER/restart control
Front diagnostics	Status indicators and character display

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Install with controlled hold points

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Complete the identity and safe-state checks before disturbing the installed circuit. The following hold points follow the product-specific installation boundary.

01 / Read the side label

Distinguish PM511V16 from PM511V08 using the component-side marking and product ID, not the common PM511V front designation.

02 / Preserve program cards

Keep the correct system program card with the controller. Its presence is required for starting the backup CPU in a redundant pair.

03 / Keep separate backups

Retain the application and controller configuration backup independently of the system program card; the two backups cannot be combined on one program card.

04 / Match redundant memory

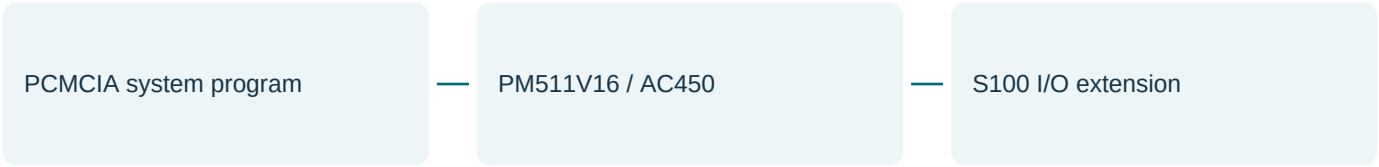
Use the same RAM size in both PM511V processors of a redundant arrangement. Follow the plant changeover procedure.

05 / Control mode selection

Record the intended rotary-switch position before restoration. Apply the documented start or operating mode and check the front diagnostics.

06 / Protect module handling

Use the controller isolation and electrostatic-handling procedure. Recheck processor seating, program-card fit and S100 connection before release.



Does replacing PM511V16-3BSE011181R1 automatically recover the application program?

The system software card and the application backup serve different roles. Restore the controller configuration and application from the appropriate engineering backup or correctly prepared optional application backup card.

How does PM511V16-3BSE011181R1 connect to the S100 I/O system?

The module provides a dedicated S100 I/O bus-extension connection on its front. Retain the approved extension arrangement and controller configuration for the installed I/O racks.

Commission and verify operation

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Stage	Controlled action	Acceptance focus
Identity	Read front and side markings together.	PM511V16 and 3BSE011181R1 match the installed requirement.
Recovery media	Check the system program card and separate application backup.	Correct software and recoverable project are available.
Redundancy	Compare the RAM size and intended CPU state of both processors.	Pair is matched and the plant changeover plan is approved.
Connections	Review the processor-side S100 and engineering connections.	Cables match the intended controller configuration.
Start-up	Use the specified mode selector and observe front diagnostics.	Controller reaches the required state without unresolved faults.
Functional return	Verify process I/O and the restored application under plant control.	Observed behavior agrees with the saved project and handover record.

Application configuration

A redundant AC450 uses an active processor and a continuously updated hot-standby processor. Both PM511V modules must have the same RAM size; plan changeover and recovery using the approved plant procedure.

Can a redundant pair use PM511V16-3BSE011181R1 with a different RAM-size PM511V?

The AC450 product guide requires the two processors in a redundant configuration to have the same RAM size. Check both module side labels before planning the pair.

Why must a program card remain associated with PM511V16-3BSE011181R1?

The controller system software is stored on a PCMCIA flash program card and loaded to RAM at system start. The program card is required to start the backup CPU of a redundant pair.

Acceptance decision

Compare the controlled observations with the installed configuration and the manufacturer procedure. Investigate a disagreement before returning the function to service; retain the measured state and the corrective action in the handover record.

Diagnose and hand over

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What takeover time is described for a redundant installation using PM511V16-3BSE011181R1?

For the specified matched AC450 redundant processor arrangement, the product guide describes backup takeover in less than 25 ms with bumpless transfer. This is a system arrangement characteristic and must not be treated as a guaranteed untested plant recovery time.

What is held in the RAM of PM511V16-3BSE011181R1?

The dynamic RAM with ECC holds the running system software, controller system configuration and application program. The V16 version provides 16 Mbyte RAM.

Lifecycle and service planning

ABB Advant Controller 450 lifecycle material identifies the AC450 platform as Classic and includes product 3BSE011181R1. Confirm the current status and service scope for the exact supplied module with ABB.

Support boundary

Provide the complete product ID, memory size, program-card identity and controller configuration when requesting current support or migration guidance. Apter Power availability is confirmed separately.

Technical references

Advant Controller 450 Product Guide, 3BSE 015 953R201 Rev. B.

Related ABB portfolio references

Independent catalogue references; these links do not establish compatibility, substitution or endorsement.

Complete product reference	Navigation
ABB PM511V08 3BSE011180R1	View ABB PM511V08 3BSE011180R1
ABB SC510 3BSE003832R1	View ABB SC510 3BSE003832R1
ABB SR511 3BSE000863R1	View ABB SR511 3BSE000863R1
ABB CI522 3BSE012790R1	View ABB CI522 3BSE012790R1