Allen-Bradley 1771-DXPS

01 Identity, function and installed-system path

Allen-Bradley 1771-DXPS expands a 1771 control coprocessor with two additional serial communication channels. It operates alongside a compatible 1771-DMC family main module in an engineered 1771 chassis.

How this product fits into the system

1. 1771 chassis
2. DMC main module
3. DXPS serial expander
4. COMM 2 / COMM 3

Assembly role

The 1771-DXPS supplies COMM 2 and COMM 3 to a control coprocessor installation. These additional channels can segregate serial field-device traffic from the main module communication paths.

Communication planning

The expander and selected main module occupy two adjacent chassis positions as one functional assembly. The main module supplies the computation and application context; the expander does not replace it or function as an independent controller.

Replacement boundary

During a replacement, retain the exact host catalog number and application configuration. Record each cable, serial format, address and connected device before changing the module, then validate every affected serial route against the approved system program.

Evidence boundary

The published interface facts apply to the 1771-DXPS expander in an approved 1771 control-coprocessor assembly.

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02 Ratings, interfaces and applicable limits

Verified technical specifications

Module role	Serial expander
Main-module companions	1771-DMC, 1771-DMC1 or 1771-DMC4
Added serial ports	2
Assembly width	2 chassis slots with main module
Backplane current load	1.50 A at 5 V DC, expander
Fault relay contact	500 mA at 30 V AC/DC, resistive
Serial interface	COMM 2 and COMM 3; 25-pin
Serial signalling compatibility	RS-232-C, RS-423, RS-485 and RS-422A
Serial rates	110 through 38,400 bit/s, published selections
Front-panel display	4-digit alphanumeric
Reinitialization control	Keyswitch
Operating temperature	0 to +60 °C
Storage temperature	-40 to +85 °C
Relative humidity	5–95%, noncondensing

Applying these values

Treat the two added serial channels as part of the approved main-module assembly. Port labels alone do not establish a protocol, cable pinout or independent controller function.

Technical boundary

The published interface facts apply to the 1771-DXPS expander in an approved 1771 control-coprocessor assembly.

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03 Application decisions and compatibility

Where the product is used

01 Serial field-device integration

Use the extra channels where the installed control-coprocessor application exchanges data with serial devices.

02 Protocol conversion

Support a programmed control-coprocessor application that bridges a controller and configured serial equipment.

03 Data collection

Separate logging or production records from the main module communication connections when the application design uses the expander.

04 Host-module fit

Match the 1771-DXPS to a documented 1771-DMC, DMC1 or DMC4 assembly and reserve the required adjacent chassis position.

Compatibility decisions before use

Record cable assignments:
Label COMM 2 and COMM 3 before removal.

Confirm host identity:
Match the main module catalog number and chassis location.

Preserve serial settings:
Save baud rate, parity, protocol and node address from the installed application.

Inspect connectors:
Check mating plugs and cable strain relief.

Restore power safely:
Use the site isolation and 1771 chassis procedure.

Prove each channel:
Check end-to-end message exchange and fault handling after replacement.

Engineering decision record

Installed assembly	Record the companion 1771-DMC catalog number, chassis slot map and application revision.
Communication path	Retain each COMM 2/3 cable identity, protocol setting and connected-device address.
Acceptance evidence	Capture a successful message exchange and the fault response for both restored channels.

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04 Eight engineering questions beyond the table

01 How is the host for 1771-DXPS identified?

Read the adjacent 1771-DMC family main-module marking and compare it with the approved chassis bill of material.

02 What should be recorded before disconnecting 1771-DXPS?

Capture COMM 2 and COMM 3 cable labels, serial settings, connected devices and the control-coprocessor application version.

03 Can 1771-DXPS operate alone in a 1771 chassis?

It is an expander for a compatible control-coprocessor main module; approve the two-slot assembly rather than treating it as a standalone controller.

04 How can a silent serial port on 1771-DXPS be diagnosed?

Check cable pinout and continuity, port configuration, protocol timing and the remote device before replacing hardware.

05 When is a substitute for 1771-DXPS acceptable?

Only after the host-module interface, serial channels, application configuration and chassis approval are reviewed.

06 What commissioning evidence is useful for 1771-DXPS?

Record a successful exchange on both added serial channels and any expected fault or timeout response.

07 How should a protocol conversion application using 1771-DXPS be restored?

Restore the approved main-module program and verify the serial endpoint maps and data formats.

08 What physical clearance matters for 1771-DXPS?

Confirm the adjacent chassis position and cable routing for the expander connection and front ports.

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05 Selection boundary and service handover

Identify the offered assembly

Compare the full 1771-DXPS marking, visible revision and physical interfaces with the installed item. Request current overall, label and connector photographs, and retain the exact quoted reference in the maintenance record.

Lifecycle and replacement assessment

Confirm current manufacturer support and replacement status for the complete marking and revision. Seller stock and dispatch availability are separate quotation matters; approve interchangeability against the actual host, software and site drawings.

Companion equipment and supply scope

Record the host, cables, mating connectors, accessories and documents needed for the installed arrangement. Confirm the delivered items individually in the quotation; a compatible companion shown in the system path is not automatically included.

Engineering handover

Keep the as-found hardware identities, approved configuration, before-and-after measurements, diagnostic results and completed acceptance record together. Validate the affected process or communication path before returning the equipment to service.

Related product references

These are other catalogue references, not confirmed substitutes. Assess fit independently.

Allen-Bradley 1784-PKTX

Allen-Bradley 1771-P4S1

Allen-Bradley 1771-OW16

Discuss the exact product and installed configuration

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Technical basis: Rockwell Automation PLC-5 / 1771 System, Control Coprocessor product table; 1771-UM676 Control Coprocessor User Manual.

Order review record

Before release: confirm the 1771-DMC host, both serial-port cable sets and the exact expander revision in the quotation.