

Siemens 6ES7305-1BA80-0AA0

DC Power Supply Module

Product scope

- Accepts a wide 16.8 to 138 V DC operating input range.
- Delivers regulated 24 V DC at a 2 A rated load.
- Restarts automatically after an electronically protected output short circuit is cleared.

Manufacturer source

Exact-model technical record

Verified model-specific overview, function, operating principle, applications and technical data.

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Siemens 6ES7305-1BA80-0AA0

DC Power Supply Module

Product overview

Siemens 6ES7305-1BA80-0AA0 is a PS 305 regulated power supply with a 24 to 110 V DC input and 24 V DC, 2 A output. It powers S7-300 or ET 200M control assemblies from a wide-range DC source.

6ES7305-1BA80-0AA0 converts a 24 to 110 V DC plant supply into a regulated 24 V DC rail rated at 2 A. The wide input range covers battery-backed and industrial DC distribution systems without an upstream AC stage.

Inside an S7-300 or ET 200M cabinet, the module supplies controller and I/O loads that require a stable 24 V source. Electronic short-circuit protection and automatic restart support predictable recovery after temporary output faults.

Load demand, conductor sizing, protective devices and the available DC source must be verified together. The 48 W output limit and temperature-dependent installation conditions apply to the complete cabinet design, not only the nominal voltage match.

Technical specifications

Rated input voltage	24 to 110 V DC
Permissible input range	16.8 to 138 V DC
Input current at 24 V	Approximately 2.4 A
Input current at 110 V	Approximately 0.6 A
Rated output voltage	24 V DC
Rated output current	2 A
Permissible output current range	0 to 3 A
Rated output power	48 W
Efficiency	Approximately 75%
Output short-circuit protection	Electronic, automatic restart
Degree of protection	IP20
Operating temperature	-25 to 70 °C
Connection method	Screw terminals
Width	80 mm
Height	120 mm
Net weight	Approximately 0.57 kg
Country of origin	Romania

6ES7305-1BA80-0AA0 function and operating principle

Ordered configuration

The ordered module is the DC-input PS 305 execution with 48 W rated output capacity.

System role

It establishes a local 24 V supply for S7-300 and ET 200M electronics in DC-fed cabinets.

Selection and installation

Input polarity, earthing, branch protection and total downstream current must be resolved before wiring.

Functional path

- Accepts a wide 16.8 to 138 V DC operating input range.
- Delivers regulated 24 V DC at a 2 A rated load.
- Restarts automatically after an electronically protected output short circuit is cleared.

Application scenarios

- Battery-backed automation panels can derive a regulated 24 V control rail from the wider station DC bus.
- Remote I/O cabinets use the supply where AC mains are unavailable but S7-300-compatible loads remain required.
- Process skids with 48 V or 110 V DC distribution can feed lower-voltage controller and sensor circuits.

6ES7305-1BA80-0AA0 engineering checks

Protection

- Electronic output protection limits fault current during a 24 V short circuit.
- Automatic restart restores the output after the external fault has been removed.
- IP20 construction requires installation inside a suitable control enclosure.

Efficiency

- The rated output is 48 W at 24 V DC and 2 A continuous current.
- Published efficiency is approximately 75% under the specified operating conditions.
- Cabinet heat calculations must include conversion losses at the expected load.

Temperature Range

- The documented operating range extends from -25 to 70 °C with applicable loading conditions.
- Ventilation clearances should prevent neighbouring equipment from restricting natural cooling.
- Temperature assessment must use the actual enclosure ambient rather than room temperature alone.

Critical technical note

Before energizing 6ES7305-1BA80-0AA0, verify DC polarity and keep the connected 24 V load within the 2 A continuous rating.

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