# Siemens 6ES7305-1BA80-0AA0

## 01 Stabilized DC Power Supply Module / system role

### Product function and operating context

Siemens 6ES7305-1BA80-0AA0 provides the control-power boundary between the DC source and consuming modules, where startup demand and wiring drop must be assessed together.

The PS305 accepts a DC distribution source; it is not a mains AC input supply. Source polarity, feeder protection and transient conditions must be assessed before the output is connected to the control system.

### Integration checkpoints

- DC-fed control cabinets
- Outdoor control assemblies
- Control-power restoration
- Load-transient diagnosis

| | |
|---|---|
| Power conversion | DC distribution to stabilized control voltage |
| Startup behavior | Controlled output rise without overshoot |
| Service distinction | Source condition, supply output and downstream drop |

Its regulated output and short-duration overload behavior serve different operating conditions. Sustained load must fit the continuous rating and ambient conditions, while a temporary starting pulse cannot be used as a continuous-current allowance.

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## 02 Technical operating envelope

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|---|---|
| Rated input range | 24-110 V DC |
| Permissible input range | 16.8-138 V DC |
| Rated output | 24 V DC |
| Rated output current | 2 A |
| Nominal output power | 48 W |
| Output adjustment | Not adjustable |

| | |
|---|---|
| Maximum residual ripple | 150 mV |
| Maximum output-voltage peak | 240 mV |
| Typical efficiency | 75% |
| Typical power loss | 16 W |
| Minimum buffering | 10 ms at rated input and rated load |

Use the exact hardware execution with the supported system configuration and installation conditions.

### Does the overload pulse capability of 6ES7305-1BA80-0AA0 justify a larger continuous load?

No. Temporary excess-current capability has a limited duration and purpose. Size the sustained load to the continuous output and temperature conditions, and assess inrush separately. Otherwise a system may start successfully but fail after warming.

### What matters when selecting feeder protection for 6ES7305-1BA80-0AA0?

Use a protective device suitable for the actual DC source and its fault current, and account for inrush. An AC-only breaking rating is not automatically valid on DC. Coordinate the feeder with the installation and manufacturer requirements.

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## 03 System integration and applications

### DC-fed control cabinets

Power an S7-300 installation from a suitable DC source.

### Outdoor control assemblies

Apply the product within its specified environmental design.

### Control-power restoration

Restore feeder protection and the original output distribution.

### Load-transient diagnosis

Separate startup demand from sustained overload.

### System and supply context

6ES7305-1BA80-0AA0 belongs to the SIMATIC S7-300 installation described by the technical reference. Connected equipment and accessories must be included explicitly in the configured assembly.

### Application boundary

The following uses describe supported engineering roles; they do not establish interchangeability with another model or remove application-specific validation.

### How can a startup failure behind 6ES7305-1BA80-0AA0 be distinguished from a continuous overload?

Measure the output during startup and after the load settles. Compare transient demand with the permitted overload behavior and steady demand with the continuous rating. Repeated starts without recovery can create a different thermal condition from one isolated pulse.

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## 04 Engineering selection decisions

### Why must an AC feeder never be substituted at 6ES7305-1BA80-0AA0?

This PS305 execution is designed for DC input. Confirm source type and polarity at the disconnected feeder before installation. A voltage magnitude that appears similar does not make an AC source acceptable.

### Why can 6ES7305-1BA80-0AA0 indicate 24 V OK while a remote module resets?

The indicator describes the supply output, not voltage at the remote load. Measure at the consuming device during the reset and inspect distribution resistance and returns. A long or loose connection can produce local undervoltage.

### Can two 6ES7305-1BA80-0AA0 supplies be paralleled without reviewing the distribution?

The product permits a limited parallel arrangement, but wiring, protection and load sharing still require the approved design. Do not use parallel operation as an assumed redundancy scheme or mix unrelated supplies without validation.

### Why should output adjustments not be assumed on 6ES7305-1BA80-0AA0?

The output is not adjustable. Investigate voltage drop, loading and source conditions rather than trying to compensate with an undocumented setting. Changes to the required control voltage call for a suitably specified supply.

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## 05 Configuration boundary and references

### Lifecycle and support

Spare-part / replacement-part execution. The current repair and support terms require confirmation for the installed hardware revision.

### Replacement assessment

Compare the complete 6ES7305-1BA80-0AA0 identity, installed connections and configuration before selecting a replacement. The green output-status indicator helps identify the supply state, but downstream voltage also depends on distribution wiring. Check the voltage at the consuming module during its actual startup and steady-state loading.

### Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; use it together with the applicable manufacturer instructions.

### Technical basis

Siemens PS305 data sheet, 6ES7305-1BA80-0AA0.

### Related product navigation

- Siemens 6ES7323-1BL00-0AA0
- Siemens 6ES7332-5HD01-0AB0
- Siemens 6ES7214-1BD23-0XB0

Related products for separate application assessment; verify the platform and interface. No interchangeability is implied.

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