Siemens 6DD1682-0CC0

01 Fan-Cooled Control-System Subrack / system role

Product function

Siemens 6DD1682-0CC0 forms the electrical, cooling and data-distribution foundation of a SIMADYN D installation, so its power, grounding and bus-jumper arrangement must be maintained as a complete assembly.

Selected configuration

The SR12.1 execution uses a DC input and fan-equipped supply. It must not be confused with the fanless or AC-fed subrack variants, whose supply and cooling arrangements differ.

Integration checkpoints

- SIMADYN D module hosting
- DC-fed cabinet installations
- Forced-cooled control racks
- Multi-CPU rack restoration

System foundation	Backplane supply and intermodule data paths
Cooling supervision	Fan monitoring feeds a separate fault contact
Retention planning	Preserve backup continuity during supply removal

The backplane buses distribute power and communication signals. Daisy-chain jumpers must preserve the path through positions without CPU or applicable signal-processor modules up to the final CPU position.

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02 Technical operating envelope

Module positions	12
Input supply	24 V DC nominal
Input operating range	20–30 V DC
Input current rating	16 A
Power-supply type	SP22

Cooling fans	1
Backplane buses	L bus and C bus
Monitored output voltages	5 V and ±15 V
Fan-monitor contact	24 V, 100 mA

Ratings apply to the stated hardware execution and operating conditions; companion hardware and configured functions require separate compatibility checks.

Grounding paths

The power-supply PE connection and subrack grounding connection are both required. One connection does not replace the other.

Cooling-fault consequence

Do not operate the rack with a failed fan. Fan monitoring has a run-up delay, so assess the steady operating indication after the permitted start period.

Backup continuity

Removing the supply or changing the fan interrupts the normal backup arrangement. Prepare the supported external backup or recovery method before intervention.

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03 System integration and applications

SIMADYN D module hosting

Provide the approved rack positions and backplane interfaces.

DC-fed cabinet installations

Distribute power from a correctly protected DC supply.

Forced-cooled control racks

Maintain airflow and monitored fan operation.

Multi-CPU rack restoration

Preserve the bus chain and coupling-module placement.

Application and compatibility boundary

Protective grounding is required at both the subrack and power supply. Fan faults, supply-voltage faults and interrupted backup power have different consequences; verify each path rather than treating a green supply indication as complete rack acceptance.

Available unit verification

Check the subrack, SP22 supply, fan assembly, backplane jumpers and backup connection. Confirm subrack, power supply, fan and backup accessories as expressly listed in the quotation. Evaluate the actual interfaces and included accessories against the installed arrangement.

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04 Engineering selection decisions

Why is the DC-fed identity of 6DD1682-0CC0 essential during replacement?

SR12 family variants include different input supplies and cooling arrangements. Match SR12.1 and its SP22 supply rather than relying on the common rack format.

Can the protective-earth connection at the power supply alone ground 6DD1682-0CC0 adequately?

No. The subrack requires its own specified grounding connection as well as the power-supply PE connection.

What happens to backup continuity when the supply is removed from 6DD1682-0CC0?

The normal backup arrangement is interrupted. Prepare the supported external backup or a verified recovery plan before removing the supply or fan assembly.

Why can a missing bus jumper prevent CPUs in 6DD1682-0CC0 from communicating?

The bus uses a daisy-chain path. Required jumpers through non-CPU positions must remain correct up to the last CPU position.

May 6DD1682-0CC0 remain in service after a fan fault if the CPUs still run?

No. Reliable module operation is no longer assured because of temperature rise. Resolve the cooling fault before returning the rack to service.

Why should fan-monitor status on 6DD1682-0CC0 be assessed after run-up?

Monitoring is delayed during power-up to allow reliable starting. Interpret the final operating state rather than a transient start-up indication alone.

How should a supply-output fault on 6DD1682-0CC0 be distinguished from an input interruption?

Check the input voltage, monitored output rails and associated fault indication. Different faults can have different shutdown and restart behavior.

What should be checked before adding another module to 6DD1682-0CC0?

Review slot and bus-chain requirements, supply demand, airflow, grounding and the module’s role in the existing CPU architecture. A vacant connector is not sufficient evidence of suitability.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and manufacturer-support stage for this exact model is not confirmed.

Replacement assessment

Match the SR12.1 DC-fed fan-cooled execution, SP22 supply, bus jumpers and grounding arrangement. Fanless or AC-supply variants require a different installation review.

Available unit details

Offered reference: Siemens 6DD1682-0CC0. Condition: New, original product. Check the subrack, SP22 supply, fan assembly, backplane jumpers and backup connection. Confirm subrack, power supply, fan and backup accessories as expressly listed in the quotation; companion equipment is included only when itemized.

Document roles: The original excerpt retains manufacturer tables and drawings; this brief addresses selection and system context; the separate installation guide covers field procedures and acceptance.

Technical basis: SIMADYN D Hardware, SR12 and SR24 Subracks, Edition 04.2011.

Related product navigation

- Siemens 6ES7412-2XK07-0AB0
- Siemens 6ES7155-6AA01-0BN0
- Siemens 6ES7513-1AL02-0AB0

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

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