# 01 / Identity and job scope

SIEMENS

# 6DD1688-0AD0

## Communication Module

### Product role

Siemens 6DD1688-0AD0 is an SS4 serial communication module for the SIMADYN D CS7 support module, supporting DUST and USS applications.

**CPU module**
Configured data exchange

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**CS7 and SS4**
Protocol and physical interface

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**External device**
DUST or USS connection

### Applicability

SS4 functions depend on the selected protocol software and physical-interface module; CS7 is the required support module.

### Hardware and configuration

The 6DD1688-0AD0 SS4 is installed in a CS7 support module, which accepts up to three communication modules. HWConfig defines the carrier, communication module and selected slot. Exchange with the CPU uses the 16 KB dual-port RAM on CS7, so carrier configuration is part of the communication arrangement.

### Planning basis

This Apter Power guide supports identification and engineering planning. Apply the complete manufacturer and machine-builder procedures for the actual installation.

# 02 / Configuration and interface readiness

| Item | Configuration relationship |
| --- | --- |
| Module designation | SS4 |
| Required carrier | CS7 |
| Carrier capacity | Up to 3 communication modules |
| CPU data exchange | 16 KB dual-port RAM on CS7 |
| Protocols | DUST1, DUST2, DUST3, USS |
| Standard interface | RS-232 |
| Optional interface modules | SS1: 20 mA; SS2: RS-232; SS31: RS-485 |

## Technical context

Supported protocol applications include DUST1 for configuring and operator PCs, DUST2 for a message printer and DUST3 for SIMATIC S5 AS 512 or CP 525 connections. With USS, SS4 acts as master for devices such as OP2 panels, VD1 displays and compatible converters. The maximum rate is 187.5 kbaud, subject to the protocol software and physical-interface hardware.

## What is the standard interface on 6DD1688-0AD0?

The standard physical interface is RS-232 for a PC COM connection.

## How can 6DD1688-0AD0 provide RS-485 signaling?

Use the applicable SS31 interface module for the RS-485 USS arrangement. Match termination and bus wiring to the installation.

# 03 / Installation and connection decisions

## Isolate the system

Place the connected process in a safe state and isolate the control supply before handling SS4 or its interface module.

## Match the protocol

Verify DUST or USS configuration and the corresponding equipment; physical fit alone does not establish communication compatibility.

## Check the carrier

Retain CS7 slot allocation and HWConfig settings when replacing the module.

## Orient the interface

At X51, align the recess and pin-one marking of the optional interface with the socket.

## Installation context

The standard physical interface is RS-232. Optional SS1, SS2 and SS31 interface modules provide 20 mA current-loop, RS-232 with control signals and RS-485 arrangements respectively. Fit an optional module at X51 with pin-one orientation aligned. Connect the SS4 and CS7 front panels as specified, secure the signal connector and bond cable shielding over a broad surface at the cabinet entry.

## What baud rate can 6DD1688-0AD0 support?

The maximum is 187.5 kbaud, depending on protocol software and the selected interface hardware.

## What role does 6DD1688-0AD0 have on USS?

SS4 operates as USS master for supported connected devices, such as OP2 panels, VD1 displays and appropriate converters.

# 04 / Functional acceptance planning

| Application | Controlled review |
| --- | --- |
| PC commissioning | Use DUST1 for the configured service and operator-PC connection with the appropriate physical interface. |
| Message printing | Use DUST2 for a message-printer connection and match the printer signaling requirements. |
| SIMATIC S5 exchange | Use DUST3 for the applicable AS 512 or CP 525 communication arrangement. |
| USS device coupling | Operate SS4 as USS master for supported panels, displays or converters with suitable RS-485 hardware and termination. |

## Where is the optional interface fitted on 6DD1688-0AD0?

The optional interface fits into the 40-pin X51 socket. Socket recess and pin-one markings must coincide.

## How is communication status for 6DD1688-0AD0 indicated?

The associated CS7 slot provides green and yellow status LEDs for initialization, data transfer and faults. SS4 also has four local interface LEDs that are not visible once installed.

### Release boundary

Check the associated CS7 LEDs and a controlled data exchange before releasing the process.

**Record**
Keep the original configuration

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**Test**
Observe controlled response

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**Release**
Authorize normal operation

# 05 / Technical handover and support

## Retained information

Keep the complete 6DD1688-0AD0 marking, host identity, connection photographs, configuration backup and controlled-test results in the service record.

## Support planning

Confirm current support and replacement guidance with Siemens for the installed identity and configuration. Apter Power availability and dispatch are separate quotation matters.

## Reference basis

Siemens SIMADYN D Hardware, Edition 12.2004, SS4 communications-module instructions.

Apter Power technical summary; not a manufacturer-issued manual. Apply the original instructions for the actual installation.

## Related industrial automation products

Navigation only; no substitution or compatibility claim.

**Siemens 6DD1681-0AG2**

**Siemens 6DD1681-0AE2**

**Siemens 6DD1606-4AB0**

## Discuss your installed configuration

Send the full unit marking and connection details.

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