## 6.9 Communication modules SS5, SS52

**Order No.**

SS5: 6DD1688-0AE0

SS52: 6DD1688-0AE2

**Description**

| SS5 | SS52 |
|---|---|
| Master interface for<br><br>**PROFIBUS-FMS** (SINEC L2-FMS),<br><br>FMS is a utility-oriented client/server communications | • Master- or slave interface for<br><br>**PROFIBUS-DP** (SINEC L2-DP)<br><br>including the „shared input“, SYNC, FREEZE functions<br>• **MPI** (multiple-point protocol; for SIMATIC S7/M7) |

**Plug-in CS7 module**

The communications module is a module which is inserted into the CS7 support module. The CS7 support module, the communications module and its selected receptacle are configured using HWConfig. A maximum of 3 communication modules can be inserted in each CS7.

Data is transferred with the CPU modules via a 16 kbyte dual port RAM, which is located on the CS7 support module.

**Interfaces**

Connector X5 has the following interfaces:

- PROFIBUS interface with RS 485 format with electrical isolation
- 5V power supply for the Optical Link Modules OLM with electrical isolation (floating)
- SS52: Parameterizing- and diagnostics interface with RS 232 format (for COM PROFIBUS)

**PROFIBUS connection**

PROFIBUS is connected at connector X5:

- directly with the SINEC L2 bus connector
- via an SINEC L2 bus terminal;
  in this case, the drop cable capacitance must be taken into account depending on the baud rate

The SINEC L2 bus terminal as well as the SINEC L2 bus connector have terminating resistors which can be switched-in.

We are preparing an Internet page for SIMADYN D.

## 6.9.2 Mounting guidelines and noise immunity

**Grounding the front panel with CS7**

The front panel of the communications module must be connected to the front panel of the CS7 using the cables provided with the CS7.

**Cable screening**

The screen of the data transfer cable (bus cable) must be grounded to a grounding rail through the largest possible surface area where the cable enters the equipment.
In addition, the screen in the connector housing must be connected to the housing. The connector must be tightly screwed to the communications module.

**Other information**

Further information on EMC and ambient conditions, refer to Section „General technical data“

## 6.9.3 Diagnostics LED

Each receptacle of the CS7 support module has 2 LEDs, which allow diagnostics of the associated communications module (operating- and error/fault conditions).

**CS7 LED for SS5**

| LEDs on CS7 | | Significance for SS5 |
|---|---|---|
| Green<br>H10 / H20 / H30 | Yellow<br>H11 / H21 / H31 | |
| Dark | Dark | Processor not initialized |
| Dark | Lit | Without database at the bus;<br>COMSS5 must be parameterized |
| Dark | Flickers | No database, with bus activity;<br>COMSS5 must be parameterized |
| Slow flash | Dark | Initialization erroneous;<br>COMSS5 database erroneous |
| Fast flash | Dark | Initialization phase 1 |
| Lit | Dark | Initialization phase 2 |
| Lit | Lit | Correctly connected at the bus; presently no bus activity |
| Lit | Flickers | Bus activity |

**CS7 LED for SS52**

| LED | Green<br>H10 / H20 / H30 | Yellow<br>H11 / H21 / H31 |
|---|---|---|
| Dark | CPU stopped | No bus operation (initialization phase) |
| Flashing, 5 Hz | Fatal error:<br>Read-out the error codes at | Error on the bus,<br>e. g. short-circuit: |

| PIN | Designation | Function |
|---|---|---|
| 1 | - | - |
| 2 | - | - |
| 3 | **RS485 +** | Receive- and transmit signal + (corresponding to **data B**) |
| 4 | RTS | Request to send |
| 5 | M5EXT | External ground; to supply OLMs |
| 6 | P5EXT | 5V external; to supply OLMs |
| 7 | - | - |
| 8 | **RS485 -** | Receive- and transmit signal - (corresponding to **data A**) |
| 9 | RTS | Request to send |

*Table 6-7 SS5: Pin assignment of the 9-pin SUB D socket connector X5*

**SS52:**

| Pin | Designation | Explanation |
|---|---|---|
| 1 | RS 232: Ground | For „SS52load“; (for SS52 from edition, approx. 7.97!) |
| 2 | RS 232: TxD | For „SS52load“: Transmit signal |
| 3 | **RS485 +** | PROFIBUS: Receive- and transmit signal + (corresponding to **data B**) |
| 4 | RTS | Request to send (to drive an OLM; „1“ when transmitting; as for pin 9) |
| 5 | M5EXT | External ground; to supply OLMs |
| 6 | P5EXT | External P5; to supply OLMs |
| 7 | RS 232: RxD | For „SS52load“: Receive signal |
| 8 | **RS485 -** | PROFIBUS: Receive- and transmit signal - (corresponding to **data A**) |
| 9 | RTS | Request to send (to drive the OLM; „1“ when transmitting; as for pin 4) |

*Table 6-8 SS52: Pin assignment of the 9-pin SUB D socket connector X5*

## 6.9.5 Technical data

**General data**

| | |
|---|---|
| Dimensions (W x H x D) | 70 x 184 x 22 mm |
| Weight | 0.2 kg |

**Power supply**

The power supply (+5V, +15V and -15V) is established via the 48-pin plug connector X1 to CS7.

| | |
|---|---|
| +5 V | SS5: max. 0,4 A<br>SS52: max. 0,7 A |
| +15 V | max. 10 mA |
| -15 V | max. 10 mA |