MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6DD1688-0AE2

PROFIBUS COMMUNICATION INTERFACE SUBMODULE

Used with the applicable SIMADYN D SS52 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens SIMADYN D SS52 technical documentation

6.9 Communication modules SS5, SS52

Order No.

SS5: 6DD1688-0AE0

SS52: 6DD1688-0AE2

Description

SS5	SS52
Master interface for **PROFIBUS-FMS** (SINEC L2-FMS), FMS is a utility-oriented client/server communications	• Master- or slave interface for **PROFIBUS-DP** (SINEC L2-DP) including the „shared input“, SYNC, FREEZE functions • **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.

6.9.1 Supplementary components

Bus connection

- SINEC L2 bus terminal RS 485, 1.5 m connecting cable
- SINEC L2 bus terminal RS 485, 3 m connecting cable
- SINEC L2 bus connector RS 485
- SINEC L2 optical bus terminals PF/SF

Example of a cable:

Designation	Order No.
connecting cable (Profibus)	6XV1 830-0AH10
bus connector	6ES7 972-0BA40-0XA0

For further information, refer to:

- SINEC Catalog IK10
- SIMATIC S5/S7 Catalog
- Equipment Manual "SIMATIC S5 ET200 distributed peripheral system"

SS5 parameterization

A COM database must be generated and loaded in the SS5 using the **COMSS5** program so that the SS5 can be used.

COMSS5 can run on

- PG programmers under S5-DOS, or
- PC with S5-DOS emulation or COM adapter

The database is, for example, loaded into the SS5 via PROFIBUS using the **CP5412** PC plug-in card (PCMCIA).

SS52 parameterization

To operate the SS52 as master, a COM database must be generated, using the **COM PROFIBUS** (or **COM ET200**) program, and loaded into the SS52. The program runs on a PC under Windows.

The database is loaded into the SS52 via

- PROFIBUS
  (with PC PROFIBUS card CP5411, CP5511 or
  MPI card or interface)
- COM1/2 interface of the PC and RS 232 parameterizing/diagnostics interface of the SS52 with „SS52load“ driver program.

COM PROFIBUS must also be ordered if SS52 is configured as master:
Order No.: 6ES5 895-6SE12 (German)

Drive program „SS52load“

The driver program SS52load is included in COM PROFIBUS from V3.1 or can be obtained at no charge from Siemens via the Intranet:

ftp://www.erlf80.asi.siemens.de/SIMADYN_D/html/treiber.htm

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 H10 / H20 / H30	Yellow H11 / H21 / H31	
Dark	Dark	Processor not initialized
Dark	Lit	Without database at the bus; COMSS5 must be parameterized
Dark	Flickers	No database, with bus activity; COMSS5 must be parameterized
Slow flash	Dark	Initialization erroneous; 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 H10 / H20 / H30	Yellow H11 / H21 / H31
Dark	CPU stopped	No bus operation (initialization phase)
Flashing, 5 Hz	Fatal error: Read-out the error codes at	Error on the bus, e. g. short-circuit:

	function block @CSPRO and contact the SIMADYN Hotline	Check the bus cable and other bus nodes
Flashing, 1 Hz	Initialize the connection to the associated CPU module (@CSPRO); check @CSPRO configuring;	COM database not available or inactive (during download)
Flashing, 0.5 Hz	-	CFC- and COM configuring do not match; bus operation possible with some restrictions
Lit	Initialization O.K.	Bus operation O.K.

Additional LEDs are available on SS5/SS52; however, they are only visible when the module is inserted in an adapter card:

LED on SS5

LEDs on SS5		Significance for SS5
D1		No function
D2		No function
D3	Off / on: Flickers / glows:	Not transmitting; PROFIBUS interface transmitting data
D4	Off / on: Flickers / glows:	Not receiving; PROFIBUS interface receiving data

LED on SS52

LEDs SS52		Significance for SS52
H1	On	PROFIBUS interface operational
	Off	PROFIBUS interface not operational

6.9.4 Connector assignment X5

SS5:

PIN	Designation	Function

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 SS52: max. 0,7 A
+15 V	max. 10 mA
-15 V	max. 10 mA