

Digital inputs (X2)

An interface module is connected to the 10-pin RJ-45 socket with polarity reversal protection via cable SC66.

Table 5-9 Pin assignment X2 and cable SC66

X2		SC66	
PIN	Designation	PIN CPU side	PIN PC side
1	Ground	n.c.	n.c.
2	Digital input 0 (supports interrupts)	2	1
3	Digital input 1 (supports interrupts)	3	2
4	Digital input 2 (supports interrupts)	4	3
5	Digital input 3 (supports interrupts)	5	4
6	Digital input 4	6	5
7	Digital input 5	7	6
8	Digital input 6	8	7
9	Digital input 7	9	8
10	Ground	10	10
n.c.: n.c.			

5.2.9 Technical specifications/performance features

Article number

CPU module CPU550	6DD1600-0BA0
CPU module CPU551	6DD1600-0BA1 / 6DD1600-0BA2 / 6DD1600-0BA3

The CPU modules CPU551 with the article numbers 6DD1600-0BA1 and 6DD1600-0BA2 have been replaced by the modules with the article number 6DD1600-0BA3.

NOTE

Where two different values are specified for a feature (separated by "/") in the manual, the first is valid for the module with article number 6DD1600-0BA1 and the second for the module with article number 6DD1600-0BA2 and the third for modules with the article number 6DD1600-0BA3.

CPU

CPU	6DD1600-0BA1		
		6DD1600-0BA2	
			6DD1600-0BA3
Processor	64 bit RISC processor		
Clock frequency	266 MHz	500 MHz	800 MHz

Memory

CPU	6DD1600-0BA1		
		6DD1600-0BA2	
			6DD1600-0BA3
SDRAM / DDR2-DRAM - During initialization, the user program is loaded from program memory and expanded (Boot Flash is available separately) - Data memory for the operating system, communication, message buffer, and Trace	32 MB	128 MB	256 MB
SRAM Buffered SRAM (by means of external battery in the rack) contains the following data that must be backed up to retentive memory on power failure: - Fault diagnostics of the operating system ("exception buffer") - Max. 993 process variables configured with SAV function block - Data recorded using the Trace function or the message system (SRAM can be optionally configured)	256 KB	512 KB	512 KB
Synchronized L1 cache	64 KB	64 KB	64 KB
Synchronized L2 cache	ext. L2 cache	int. L2 cache	
	512 KB	256 KB	512 KB
Synchronized L3 cache	ext. L3 cache		int. L3 cache
	2 MB	8 MB	1 MB

Module slots

Quantity	3
Allocation of the slots	- Program memory MC5xx - PMC plug-in cards¹⁾
¹⁾ PMC plug-in cards are currently not provided.	

Time

Resolution	0.1 ms
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Programming

The user program executed on the CPU module is configured on a PC using STEP7/HWConfig and CFC and then downloaded to program memory.

The program memory must be located in the CPU module slot provided.

There are two ways of loading the user program:

- **Offline download**
Carried out on the PC using an integrated or external PCMCIA programming adapter ("PC card").
- **Online download**
Direct user program download from the PC to program memory in the CPU module via serial service interface.

User program size

The size of the user program (compressed to approx. 50 %) that was downloaded to program memory and the size of free program memory can be viewed in the CFC by selecting the following menu command:

- PLC / Load / Info

Utilization

Average load (measured with block PSL) should not exceed 95 %, since this may lead to sporadic overload.

Program memory

The user program created in CFC is downloaded to program memory.

The following program memory may be used optionally, depending on the size of the user program:

- MC500 (4 MB)
- MC510 (8 MB)
- MC521 (2 MB)

Digital inputs

Quantity	8
Version	4 of the 8 digital inputs support alarms
Electrical isolation	No
Input voltage - Rated voltage - For 0 signal - For 1 signal	24 V -1 V to +6 V +13.5 V to +33 V
Input current - For 0 signal, normally - For 1 signal, normally	0 mA 3 mA
Delay time per channel, max. (Minimum cycle during which alarm tasks can be triggered.)	100 μ s

Interfaces

Serial service interface (X1) - Functions for the user program - Testing and commissioning - Loading the program - Transmission rate	RS232 interface (V.24) with CFC or "Basic commissioning" from the PC 19.2 Kbps
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Communication

Communication functions	Local CPU coupling
Max. number of configured send/receive channels (independent of the protocol used)	1000

Voltage, currents

Rated voltages at 25 °C	Typical current consumption	
	6DD1600-0BA1 6DD1600-0BA2	6DD1600-0BA3
+5 V	1.5 A	1.3 A
+3.3 V	2.0 A	1.7 A
+12 V	40 mA	20 mA
-12 V	40 mA	20 mA
Backup battery	2.2 / 3 μ A	

Power losses/fan

	6DD1600-0BA1 6DD1600-0BA2	6DD1600-0BA3
Typical power losses	15 W	13 W
Fan required	Yes	

Dimensions

	6DD1600-0BA1 6DD1600-0BA2	6DD1600-0BA3
Number of slots required in the rack	1	
Dimensions W x H x D [mm]	20 x 233 x 160	
Weight	0.4 kg	0.5 kg