Data sheet
CPU 515S/DPM (515-2AJ02)

Technical data

Order no.	515-2AJ02
Type	CPU 515S/DPM

General information

Note	-
Features	SPEED7 technology 1 MB work memory Memory extension (max. 2 MB) PROFIBUS-DP master

Technical data power supply

Power supply (rated value)	DC 24 V
Power supply (permitted range)	DC 20.4...28.8 V
Reverse polarity protection	✔
Current consumption (no-load operation)	250 mA
Current consumption (rated value)	1 A
Inrush current	5 A
I^2t	0.5 A^2s
Max. current drain at backplane bus	-
Power loss	5 W

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Max. current drain at backplane bus	-
Max. current drain load supply	-
Power loss	5 W

Load and working memory

Load memory, integrated	2 MB
Load memory, maximum	2 MB
Work memory, integrated	1 MB
Work memory, maximal	2 MB
Memory divided in 50% program / 50% data	✔
Memory card slot	MMC-Card with max. 1 GB

Hardware configuration

Racks, max.	-
Modules per rack, max.	-
Number of integrated DP master	1

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Number of DP master via CP	-
Operable function modules	-
Operable communication modules PtP	-
Operable communication modules LAN	-

Command processing times

Bit instructions, min.	0.01 µs
Word instruction, min.	0.01 µs
Double integer arithmetic, min.	0.01 µs
Floating-point arithmetic, min.	0.06 µs

Timers/Counters and their retentive characteristics

Number of S7 counters	512
S7 counter remanence	adjustable 0 up to 512
S7 counter remanence adjustable	C0 .. C7
Number of S7 times	512
S7 times remanence	adjustable 0 up to 512
S7 times remanence adjustable	not retentive

Data range and retentive characteristic

Number of flags	8192 Byte
Bit memories retentive characteristic adjustable	adjustable 0 up to 8192
Bit memories retentive characteristic preset	MB0 .. MB15
Number of data blocks	4095
Max. data blocks size	64 KB
Number range DBs	1 ... 4095
Max. local data size per execution level	510 Byte
Max. local data size per block	-

Blocks

Number of OBs	24
Maximum OB size	64 KB
Total number DBs, FBs, FCs	-
Number of FBs	2048
Maximum FB size	64 KB
Number range FBs	0 ... 2047
Number of FCs	2048
Maximum FC size	64 KB
Number range FCs	0 ... 2047
Maximum nesting depth per priority class	8
Maximum nesting depth additional within an error OB	4

Time

Real-time clock buffered	✔
Clock buffered period (min.)	6 w
Type of buffering	Vanadium Rechargeable Lithium Battery
Load time for 50% buffering period	20 h
Load time for 100% buffering period	48 h
Accuracy (max. deviation per day)	10 s

Number of operating hours counter	8
Clock synchronization	✔
Synchronization via MPI	Master/Slave
Synchronization via Ethernet (NTP)	no

Address areas (I/O)

Input I/O address area	8192 Byte
Output I/O address area	8192 Byte
Process image adjustable	✔
Input process image preset	256 Byte
Output process image preset	256 Byte
Input process image maximal	2048 Byte
Output process image maximal	2048 Byte
Digital inputs	65536
Digital outputs	65536
Digital inputs central	-
Digital outputs central	-
Integrated digital inputs	-
Integrated digital outputs	-
Analog inputs	4096
Analog outputs	4096
Analog inputs, central	-
Analog outputs, central	-
Integrated analog inputs	-
Integrated analog outputs	-

Communication functions

PG/OP channel	✔
Global data communication	✔
Number of GD circuits, max.	16
Size of GD packets, max.	54 Byte
S7 basic communication	✔
S7 basic communication, user data per job	76 Byte
S7 communication	✔
S7 communication as server	✔
S7 communication as client	-
S7 communication, user data per job	160 Byte
Number of connections, max.	32

Functionality Sub-D interfaces

Type	X2
Type of interface	RS485
Connector	Sub-D, 9-pin, female
Electrically isolated	✔
MPI	✔
MP²I (MPI/RS232)	-
DP master	-

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DP slave	-
Point-to-point interface	-

Type	X3
Type of interface	RS485
Connector	Sub-D, 9-pin, female
Electrically isolated	✔
MPI	-
MP²I (MPI/RS232)	-
DP master	yes
DP slave	yes
Point-to-point interface	-

Functionality MPI

Number of connections, max.	32
PG/OP channel	✔
Routing	✔
Global data communication	✔
S7 basic communication	✔
S7 communication	✔
S7 communication as server	✔
S7 communication as client	-
Transmission speed, min.	19.2 kbit/s
Transmission speed, max.	12 Mbit/s

Functionality PROFIBUS master

PG/OP channel	✔
Routing	✔
S7 basic communication	✔
S7 communication	✔
S7 communication as server	✔
S7 communication as client	-
Activation/deactivation of DP slaves	✔
Direct data exchange (slave-to-slave communication)	-
DPV1	✔
Transmission speed, min.	9.6 kbit/s
Transmission speed, max.	12 Mbit/s
Number of DP slaves, max.	32
Address range inputs, max.	1 KB
Address range outputs, max.	1 KB
User data inputs per slave, max.	244 Byte
User data outputs per slave, max.	244 Byte

Functionality PROFIBUS slave

PG/OP channel	✔

Routing	✓
S7 communication	✓
S7 communication as server	✓
S7 communication as client	-
Direct data exchange (slave-to-slave communication)	-
DPV1	✓
Transmission speed, min.	9.6 kbit/s
Transmission speed, max.	12 Mbit/s
Automatic detection of transmission speed	-
Transfer memory inputs, max.	244 Byte
Transfer memory outputs, max.	244 Byte
Address areas, max.	32
User data per address area, max.	32 Byte

Functionality RJ45 interfaces

Type	n/d
Type of interface	Ethernet 10/100 MBit
Connector	PCI bus
Electrically isolated	✓
PG/OP channel	✓
Number of connections, max.	4
Productive connections	-

Type	-
Type of interface	-
Connector	-
Electrically isolated	-
PG/OP channel	-
Number of connections, max.	-
Productive connections	-

Ethernet communication CP

Number of productive connections, max.	-
Number of productive connections by Siemens NetPro, max.	-
S7 connections	-
User data per S7 connection, max.	-
TCP-connections	-
User data per TCP connection, max.	-
ISO-connections	-
User data per ISO connection, max.	-
ISO on TCP connections (RFC 1006)	-
User data per ISO on TCP connection, max.	-
UDP-connections	-
User data per UDP connection, max.	-
UDP-multicast-connections	-
UDP-broadcast-connections	-

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Ethernet open communication

Number of connections, max.	-
User data per ISO on TCP connection, max.	-
User data per native TCP connection, max.	-
User data per ad hoc TCP connection, max.	-
User data per UDP connection, max.	-

Housing

Material	-
Mounting	-

Mechanical data

Dimensions (WxHxD)	20 mm x 106 mm x 174 mm
Weight	280 g

Environmental conditions

Operating temperature	0 °C to 60 °C
Storage temperature	-25 °C to 70 °C

Certifications

UL508 certification	in preparation

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