CPUs

System 500S	CPUs						
515-2AJ00 517-2AJ00 517-4NE00							

Order number	515-2AJ00	517-2AJ00	517-4NE00	
Figure				
Type	CPU 515S/DPM	CPU 517S/DPM	CPU 517S/NET	
General information				
Note	-	-	-	
Features	‣ SPEED7 technology ‣ 1 MB work memory ‣ Memory extension (max. 2 MB) ‣ PROFIBUS-DP master	‣ SPEED7 technology ‣ 2 MB work memory ‣ Memory extension (max. 8 MB) ‣ PROFIBUS-DP master	‣ SPEED7 technology ‣ 2 MB work memory ‣ Memory extension (max. 8 MB) ‣ PROFIBUS-DP master and CP 543	
Technical data power supply				
Power supply (rated value)	DC 24 V	DC 24 V	DC 24 V	
Power supply (permitted range)	DC 20.4...28.8 V	DC 20.4...28.8 V	DC 20.4...28.8 V	
Reverse polarity protection	-	-	-	
Current consumption (no-load operation)	-	-	-	
Current consumption (rated value)	250 mA	250 mA	360 mA	
Inrush current	1 A	1 A	1.2 A	
Load and working memory				
Load memory, integrated	1 MB	2 MB	2 MB	
Load memory, maximum	2 MB	8 MB	8 MB	
Work memory, integrated	1 MB	2 MB	2 MB	
Work memory, maximal	2 MB	8 MB	8 MB	
Memory divided in 50% program / 50% data	✓	✓	✓	
Memory card slot	MMC-Card with max. 1 GB	MMC-Card with max. 1 GB	MMC-Card with max. 1 GB	
Hardware config				
Racks, max.	-	-	-	
Modules per rack, max.	-	-	-	
Number of integrated DP master	1	1	1	
Number of DP master via CP	-	-	-	
Operable function modules	-	-	-	
Operable communication modules PtP	-	-	-	
Operable communication modules LAN	-	-	-	
Status information, alarms, diagnostics				
Status display	yes	yes	yes	
Interrupts	no	no	no	
Process alarm	no	no	no	
Diagnostic interrupt	no	no	no	
Command processing times				
Bit instructions, min.	0.02 μs	0.02 μs	0.02 μs	
Word instruction, min.	0.02 μs	0.02 μs	0.02 μs	

System SLIO

System 100V

System 200V

System 300S

System 500S

System 500S

HMI

Software

Accessories

Appendix

System 500S | CPUs						
515-2AJ00 517-2AJ00 517-4NE00						

Order number	515-2AJ00	517-2AJ00	517-4NE00	
Double integer arithmetic, min.	0.02 µs	0.02 µs	0.02 µs	
Floating-point arithmetic, min.	0.09 µs	0.09 µs	0.09 µs	
Timers/Counters and their retentive characteristics				
Number of S7 counters	512	512	512	
Number of S7 times	512	512	512	
Data range and retentive characteristic				
Number of flags	8192 Byte	8192 Byte	8192 Byte	
Number of data blocks	2047	2047	2047	
Max. data blocks size	64 KB	64 KB	64 KB	
Max. local data size per execution level	510 Byte	510 Byte	510 Byte	
Blocks				
Number of OBs	24	24	24	
Number of FBs	1024	1024	1024	
Number of FCs	1024	1024	1024	
Maximum nesting depth per priority class	8	8	8	
Maximum nesting depth additional within an error OB	4	4	4	
Time				
Real-time clock buffered	✓	✓	✓	
Clock buffered period (min.)	30 d	30 d	30 d	
Accuracy (max. deviation per day)	10 s	10 s	10 s	
Number of operating hours counter	-	-	-	
Clock synchronization	-	-	-	
Synchronization via MPI	-	-	-	
Synchronization via Ethernet (NTP)	-	-	-	
Address areas (I/O)				
Input I/O address area	8192 Byte	8192 Byte	8192 Byte	
Output I/O address area	8192 Byte	8192 Byte	8192 Byte	
Input process image maximal	2048 Byte	2048 Byte	2048 Byte	
Output process image maximal	2048 Byte	2048 Byte	2048 Byte	
Digital inputs	65536	65536	65536	
Digital outputs	65536	65536	65536	
Digital inputs central	-	-	-	
Digital outputs central	-	-	-	
Integrated digital inputs	-	-	-	
Integrated digital outputs	-	-	-	
Analog inputs	1024	1024	1024	
Analog outputs	1024	1024	1024	
Analog inputs, central	-	-	-	
Analog outputs, central	-	-	-	
Integrated analog inputs	-	-	-	
Integrated analog outputs	-	-	-	
Communication functions				
PG/OP channel	✓	✓	✓	
Global data communication	✓	✓	✓	

System 500S	CPUs					
515-2AJ00 517-2AJ00 517-4NE00						

Order number	515-2AJ00	517-2AJ00	517-4NE00	
Number of GD circuits, max.	16	16	16	
Size of GD packets, max	54 Byte	54 Byte	54 Byte	
S7 basic communication	✓	✓	✓	
S7 basic communication, user data per job	76 Byte	76 Byte	76 Byte	
S7 communication	✓	✓	✓	
S7 communication as server	✓	✓	✓	
S7 communication as client	-	-	-	
S7 communication, user data per job	160 Byte	160 Byte	160 Byte	
Number of connections, max.	32	32	32	
Functionality Sub-D interfaces				
Type	PBM	PBM	PBM	
Type of interface	RS485	RS485	RS485	
Connector	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female	
Electrically isolated	✓	✓	✓	
MPI	-	-	-	
MP²I (MPI/RS232)	✓	✓	✓	
DP master	-	-	-	
DP slave	-	-	-	
Point-to-point interface	-	-	-	
Type	MP²I	MP²I	MP²I	
Type of interface	RS485	RS485	RS485	
Connector	Sub-D, 9-pin, female	Sub-D, 9-pin, female	Sub-D, 9-pin, female	
Electrically isolated	✓	✓	✓	
MPI	-	-	-	
MP²I (MPI/RS232)	-	-	-	
DP master	✓	✓	✓	
DP slave	✓	✓	✓	
Point-to-point interface	-	-	-	
CAN	-	-	-	
Functionality PROFIBUS Master				
PG/OP channel	✓	✓	✓	
Routing	✓	✓	✓	
S7 basic communication	✓	✓	✓	
S7 communication	✓	✓	✓	
S7 communication as server	✓	✓	✓	
S7 communication as client	-	-	-	
Equidistance support	-	-	-	
Isochronous mode	-	-	-	
SYNC/FREEZE	✓	✓	✓	
Activation/deactivation of DP slaves	✓	✓	✓	
Direct data exchange (slave-to-slave communication)	-	-	-	
DPV1	✓	✓	✓	
Transmission speed, min.	9.6 kbit/s	9.6 kbit/s	9.6 kbit/s	

System SLIO

System 100V

System 200V

System 300S

System 500S

HMI

Software

Accessories

Appendix

System 500S	CPUs						
515-2AJ00 517-2AJ00 517-4NE00							

Order number	515-2AJ00	517-2AJ00	517-4NE00	
Transmission speed, max.	12 Mbit/s	12 Mbit/s	12 Mbit/s	
Number of DP slaves, max.	32	32	32	
Address range inputs, max.	1 KB	1 KB	1 KB	
Address range outputs, max.	1 KB	1 KB	1 KB	
User data inputs per slave, max.	244 Byte	244 Byte	244 Byte	
User data outputs per slave, max.	244 Byte	244 Byte	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	9.6 kbit/s	9.6 kbit/s	
Transmission speed, max.	12 Mbit/s	12 Mbit/s	12 Mbit/s	
Automatic detection of transmission speed	-	-	-	
Transfer memory inputs, max.	244 Byte	244 Byte	244 Byte	
Transfer memory outputs, max.	244 Byte	244 Byte	244 Byte	
Address areas, max.	32	32	32	
User data per address area, max.	32 Byte	32 Byte	32 Byte	
Functionality RJ45 interfaces				
Type	n/a	n/a	n/a	
Type of interface	Ethernet 10/100 MBit	Ethernet 10/100 MBit	Ethernet 10/100 MBit	
Connector	PCI bus	PCI bus	PCI bus	
Electrically isolated	✓	✓	-	
PG/OP channel	✓	✓	✓	
Productive connections	-	-	-	
Type	-	-	X4	
Type of interface	-	-	Ethernet 10/100 MBit	
Connector	-	-	RJ45	
Electrically isolated	-	-	✓	
PG/OP channel	-	-	✓	
Productive connections	-	-	-	
Ethernet communication CP				
Number of productive connections, max.	-	-	16	
Number of productive connections by Siemens NetPro, max.	-	-	16	
S7 connections	-	-	USEND, URCV, BSEND, BRCV, GET, PUT, connection establishment active and passive	
User data per S7-connection, max.	-	-	32 KB	

System 500S | CPUs

515-2AJ00						
517-2AJ00						
517-4NE00						

Order number	515-2AJ00	517-2AJ00	517-4NE00	
TCP-connections	-	-	SEND, RECEIVE, FETCH PASSIVE, WRITE PASSIVE, connection establishment active and passive	
User data per TCP-connection, max.	-	-	64 KB	
ISO-connections	-	-	SEND, RECEIVE, FETCH PASSIVE, WRITE PASSIVE, connection establishment active and passive	
User data per ISO-connection, max.	-	-	8 KB	
ISO on TCP connections (RFC 1006)	-	-	SEND, RECEIVE, FETCH PASSIVE, WRITE PASSIVE, connection establishment active and passive	
User data per ISO on TCP-connection, max.	-	-	32 KB	
UDP-connections	-	-	SEND and RECEIVE	
User data per UDP-connection, max.	-	-	2 KB	
UDP-multicast-connections	-	-	SEND and RECEIVE (max. 16 multicast cycles)	
UDP-broadcast-connections	-	-	SEND	
Mechanical data				
Dimensions (WxHxD)	20 mm x 106 mm x 174 mm	20 mm x 106 mm x 174 mm	40 mm x 106 mm x 174 mm	
Weight	280 g	290 g	390 g	
Environmental conditions				
Operating temperature	0 °C to 60 °C	0 °C to 60 °C	0 °C to 60 °C	
Storage temperature	-25 °C to 70 °C	-25 °C to 70 °C	-25 °C to 70 °C	
Certifications				
UL508 certification	yes	yes	yes	

Connections, Interfaces

System 500S | CPUs

| 515-2AJ00 517-2AJ00 517-4NE00						

515-2AJ00
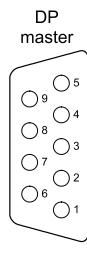
DP master

① shield
② M24V
③ RxD/TxD-P (line B)
④ RTS
⑤ M5V
⑥ P5V
⑦ P24V
⑧ RxD/TxD-N (line A)
⑨ n.c.
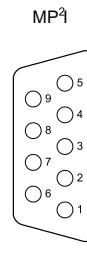
MP²I

① reserved
② M24V
③ RxD/TxD-P (line B)
④ RTS
⑤ M5V
⑥ P5V
⑦ P24V
⑧ RxD/TxD-N (line A)
⑨ n.c.
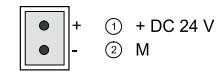
+ ① + DC 24 V
- ② M

517-2AJ00
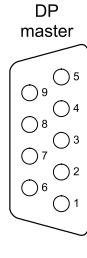
DP master

① shield
② M24V
③ RxD/TxD-P (line B)
④ RTS
⑤ M5V
⑥ P5V
⑦ P24V
⑧ RxD/TxD-N (line A)
⑨ n.c.
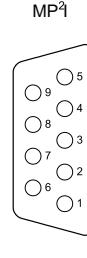
MP²I

① reserved
② M24V
③ RxD/TxD-P (line B)
④ RTS
⑤ M5V
⑥ P5V
⑦ P24V
⑧ RxD/TxD-N (line A)
⑨ n.c.
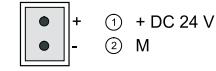
+ ① + DC 24 V
- ② M

517-4NE00
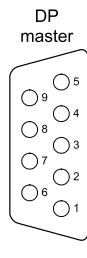
DP master

① shield
② M24V
③ RxD/TxD-P (line B)
④ RTS
⑤ M5V
⑥ P5V
⑦ P24V
⑧ RxD/TxD-N (line A)
⑨ n.c.
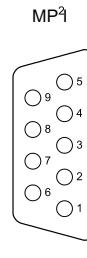
MP²I

① reserved
② M24V
③ RxD/TxD-P (line B)
④ RTS
⑤ M5V
⑥ P5V
⑦ P24V
⑧ RxD/TxD-N (line A)
⑨ n.c.

+ ① + DC 24 V
- ② M

CP 543 RJ45
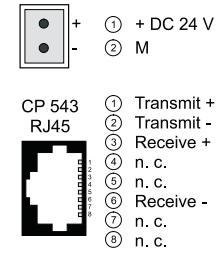
① Transmit +
② Transmit -
③ Receive +
④ n. c.
⑤ n. c.
⑥ Receive -
⑦ n. c.
⑧ n. c.