Data sheet
CPU 517SN/NET (517-4NE02)

Technical data

Order no.	517-4NE02
Type	CPU 517SN/NET

General information

Note	-
Features	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
Power supply (permitted range)	DC 20.4...28.8 V
Reverse polarity protection	yes
Current consumption (no-load operation)	300 mA
Current consumption (rated value)	1.2 A
Inrush current	5 A
I^2t	0.5 A^2s
Max. current drain at backplane bus	-
Max. current drain load supply	-
Power loss	6.5 W

Load and working memory

Load memory, integrated	8 MB
Load memory, maximum	8 MB
Work memory, integrated	2 MB
Work memory, maximal	8 MB
Memory divided in 50% program / 50% data	yes
Memory card slot	MMC-Card with max. 1 GB

Hardware configuration

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

Publish date: 26.07.2016

Number of S7 counters	2048
S7 counter remanence	adjustable 0 up to 2048
S7 counter remanence adjustable	C0 .. C7
Number of S7 times	2048
S7 times remanence	adjustable 0 up to 2048
S7 times remanence adjustable	not retentive

Data range and retentive characteristic

Number of flags	16384 Byte
Bit memories retentive characteristic adjustable	adjustable 0 up to 16384
Bit memories retentive characteristic preset	MB0 .. MB15
Number of data blocks	8190
Max. data blocks size	64 KB
Number range DBs	1 ... 8190
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	8191
Maximum FB size	64 KB
Number range FBs	0 ... 8190
Number of FCs	8191
Maximum FC size	64 KB
Number range FCs	0 ... 8190
Maximum nesting depth per priority class	8
Maximum nesting depth additional within an error OB	4

Time

Real-time clock buffered	yes
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	yes
Synchronization via MPI	Master/Slave
Synchronization via Ethernet (NTP)	Slave

Address areas (I/O)

Input I/O address area	8192 Byte
Output I/O address area	8192 Byte
Process image adjustable	yes
Input process image preset	256 Byte
Output process image preset	256 Byte
Input process image maximal	8192 Byte
Output process image maximal	8192 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	yes
Global data communication	yes
Number of GD circuits, max.	16
Size of GD packets, max.	54 Byte
S7 basic communication	yes
S7 basic communication, user data per job	76 Byte
S7 communication	yes
S7 communication as server	yes
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	yes
MPI	yes
MP²I (MPI/RS232)	-
DP master	-
DP slave	-
Point-to-point interface	-
5V DC Power supply	max. 90mA, isolated
24V DC Power supply	max. 100mA, non-isolated

Type	X3
Type of interface	RS485
Connector	Sub-D, 9-pin, female
Electrically isolated	yes
MPI	-
MP²I (MPI/RS232)	-
DP master	yes
DP slave	yes
Point-to-point interface	-
5V DC Power supply	max. 90mA, isolated

24V DC Power supply	max. 100mA, non-isolated

Functionality MPI

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

Functionality PROFIBUS master

PG/OP channel	yes
Routing	yes
S7 basic communication	yes
S7 communication	yes
S7 communication as server	yes
S7 communication as client	-
Activation/deactivation of DP slaves	yes
Direct data exchange (slave-to-slave communication)	-
DPV1	yes
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	yes
Routing	yes
S7 communication	yes
S7 communication as server	yes
S7 communication as client	-
Direct data exchange (slave-to-slave communication)	-
DPV1	yes
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	yes
Number of connections, max.	4
Productive connections	-

Type	X4
Type of interface	Ethernet 10/100 MBit
Connector	RJ45
Electrically isolated	yes
PG/OP channel	yes
Number of connections, max.	32
Productive connections	yes

Ethernet communication CP

Number of productive connections, max.	64
Number of productive connections by Siemens NetPro, max.	16
S7 connections	USEND, URCV, BSEND, BRCV, GET, PUT, Connection of active and passive data handling
User data per S7 connection, max.	32 KB
TCP-connections	SEND, RECEIVE, FETCH PASSIV, WRITE PASSIV, Connection of active and passive data handling
User data per TCP connection, max.	64 KB
ISO-connections	SEND, RECEIVE, FETCH PASSIV, WRITE PASSIV, Connection of active and passive data handling
User data per ISO connection, max.	8 KB
ISO on TCP connections (RFC 1006)	SEND, RECEIVE, FETCH PASSIV, WRITE PASSIV, Connection of active and passive data handling
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 groups)
UDP-broadcast-connections	SEND

Ethernet open communication

Number of connections, max.	8
User data per ISO on TCP connection, max.	8 KB
User data per native TCP connection, max.	8 KB
User data per ad hoc TCP connection, max.	1460 Byte
User data per UDP connection, max.	1472 Byte

Housing

Material	-
Mounting	-

Mechanical data

Dimensions (WxHxD)	40 mm x 106 mm x 174 mm
Weight	390 g

Environmental conditions

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

Certifications

UL certification	in preparation
KC certification	-

Publish date: 26.07.2016