Data sheet
CPU 014 (014-CEF0R00)

Technical data

Order no.	014-CEF0R00
Type	CPU 014
General information	
Note	-
Features	SPEED7 technology 64 kB work memory Memory extension (max. 192 kB) via VIPASetCard PROFIBUS slave/master activatable via VIPASetCard Full-switchable serial interface integrated
SPEED-Bus	-
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)	200 mA
Current consumption (rated value)	1 A
Inrush current	3 A
I²t	0.1 A²s
Max. current drain at backplane bus	3 A
Power loss	6 W
Load and working memory	
Load memory, integrated	192 KB
Load memory, maximum	192 KB
Work memory, integrated	64 KB
Work memory, maximal	192 KB
Memory divided in 50% program / 50% data	✔
Memory card slot	MMC-Card with max. 2 GB
Hardware configuration	
Racks, max.	1
Modules per rack, max.	64
Number of integrated DP master	1
Number of DP master via CP	-
Operable function modules	64
Operable communication modules PtP	64
Operable communication modules LAN	-
Status information, alarms, diagnostics	
Status display	yes
Interrupts	no
Process alarm	no
Diagnostic interrupt	no
Command processing times	
Bit instructions, min.	0.02 µs
Word instruction, min.	0.02 µs

Double integer arithmetic, min.	0.02 µs
Floating-point arithmetic, min.	0.12 µs

Timers/Counters and their retentive characteristics

Number of S7 counters	512
Number of S7 times	512

Data range and retentive characteristic

Number of flags	8192 Byte
Number of data blocks	8190
Max. data blocks size	64 KB
Max. local data size per execution level	1024 Byte

Blocks

Number of OBs	24
Number of FBs	8191
Number of FCs	8191
Maximum nesting depth per priority class	16
Maximum nesting depth additional within an error OB	4

Time

Real-time clock buffered	✔
Clock buffered period (min.)	30 d
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	2048 Byte
Output I/O address area	2048 Byte
Input process image maximal	2048 Byte
Output process image maximal	2048 Byte
Digital inputs	16384
Digital outputs	16384
Digital inputs central	512
Digital outputs central	512
Integrated digital inputs	-
Integrated digital outputs	-
Analog inputs	1024
Analog outputs	1024
Analog inputs, central	256
Analog outputs, central	256
Integrated analog inputs	-
Integrated analog outputs	-

Communication functions

PG/OP channel	✔
Global data communication	✔
Number of GD circuits, max.	8
Size of GD packets, max.	22 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)	-
Point-to-point interface	✔

Type	X3
Type of interface	RS485
Connector	Sub-D, 9-pin, female
Electrically isolated	✔
MPI	✔
MP²I (MPI/RS232)	-
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	-
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
Transmission speed, max.	12 Mbit/s
Number of DP slaves, max.	124
Address range inputs, max.	2 KB
Address range outputs, max.	2 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
Point-to-point communication	
PtP communication	✔
Interface isolated	✔
RS232 interface	-
RS422 interface	-
RS485 interface	✔
Connector	Sub-D, 9-pin, female
Transmission speed, min.	150 bit/s
Transmission speed, max.	115.5 kbit/s
Cable length, max.	500 m
Point-to-point protocol	
ASCII protocol	✔
STX/ETX protocol	✔
3964(R) protocol	✔
RK512 protocol	-
USS master protocol	✔
Modbus master protocol	✔
Modbus slave protocol	✔

Special protocols	-

Functionality RJ45 interfaces

Type	X1
Type of interface	Ethernet 10/100 MBit
Connector	RJ45
Electrically isolated	✔
PG/OP channel	✔
Number of connections, max.	4
Productive connections	-

Housing

Material	PPE
Mounting	Profile rail 35 mm

Mechanical data

Dimensions (WxHxD)	131.5 mm x 109 mm x 83 mm
Weight	274 g

Environmental conditions

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

Certifications

UL508 certification	in preparation