SIEMENS

Data sheet 6ES7288-1CR40-0AA0

SIMATIC S7-200 SMART, CPU CR40, compact CPU, AC/DC/relay, onboard I/O: 24 DI 24 V DC; 16 DO relay 2A; Power supply: AC 85-264 V AC at 47-63 Hz, Program/data memory 20 KB

General information	
Product type designation	CPU CR40 AC/DC/Relay
Engineering with	
● Programming package	STEP 7 Micro/WIN SMART
Installation type/mounting	
Rail mounting	Yes; Standard - DIN rail
Supply voltage	
Rated value (AC)	
● 120 V AC	Yes
● 230 V AC	Yes
permissible range, lower limit (AC)	85 V
permissible range, upper limit (AC)	264 V
Line frequency	
● permissible range, lower limit	47 Hz
● permissible range, upper limit	63 Hz
Input current	
Current consumption (rated value)	150 mA; at 240 V AC
Current consumption, max.	250 mA; At 120 V AC
Inrush current, max.	7.3 A; at 264 V
Output current	
Current output, max.	300 mA; 24 V DC Sensor Power
Power loss	
Power loss, max.	18 W
Memory	
Type of memory	DDR
Flash	Yes
RAM	Yes
Memory available for user data	8 kbyte
Memory size	12 kbyte; Program memory
Micro Memory Card	Yes; microSDHC Card (optional)
CPU processing times	
for bit operations, typ.	150 ns; / instruction
for word operations, typ.	1.2 µs; / instruction
for floating point arithmetic, typ.	3.6 µs; / instruction
Address area	
I/O address area	
● Inputs	32 byte; Digital inputs
● Outputs	32 byte; Digital outputs

Time of day	
Clock	
● Type	Hardware clock, no battery backup
● Hardware clock (real-time)	Yes
● Backup time	7 d
● Deviation per day, max.	4 s; within 120s/month at 25 °C
Digital inputs	
Number of digital inputs	24
Input voltage	
● Type of input voltage	DC
● Rated value (DC)	24 V
● for signal "0"	< 5 V DC
● for signal "1"	+15 to +30 V
Input current	
● for signal "1", typ.	4 mA
Cable length	
● shielded, max.	500 m; 50m shielded for HSC inputs
● unshielded, max.	300 m
Digital outputs	
Number of digital outputs	16; Relays
Switching capacity of the outputs	
● with resistive load, max.	2 A
● on lamp load, max.	30 W; 30 W with DC, 200 W with AC
Relay outputs	
● Number of relay outputs	16
Cable length	
● shielded, max.	500 m
● unshielded, max.	150 m
Interfaces	
Number of industrial Ethernet interfaces	1
Number of RS 485 interfaces	1
1. Interface	
Interface type	Ethernet
Isolated	Yes; Transformer isolated, 1,500V AC
automatic detection of transmission rate	Yes; 10/100 Mbit/s
Autonegotiation	Yes
Autocrossing	Yes
Interface types	
● RJ 45 (Ethernet)	Yes
2. Interface	
Interface type	RS 485 (max. 187.5 kbps)
Protocols	
Supports protocol for PROFINET IO	Yes
PROFIBUS	No
Protocols (Ethernet)	
● TCP/IP	Yes
communication functions / header	
S7 communication	
● supported	Yes
● as server	Yes
● as client	Yes
Test commissioning functions	
Forcing	
● Forcing	Yes
Integrated Functions	
Counter	
● Number of counters	4; 4 at 100 kHz single phase or 2 at 50 kHz A/B phase
PID controller	Yes; PID closed-loop control function: Continuous controller outputs, binary controller outputs, automatic/manual mode, max. 8 loops

EMC	
Interference immunity against discharge of static electricity	
● Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	Yes
— Test voltage at air discharge	8 kV
— Test voltage at contact discharge	4 kV
Interference immunity against high-frequency electromagnetic fields	
● Interference immunity against high-frequency radiation acc. to IEC 61000-4-3	Yes; 10 V/m, 80 to 1 000 MHz (to IEC 61000-4-3); 10 V/m, 900 MHz, 1.89 GHz, 50% ED (to IEC 61000-4-3)
Interference immunity to cable-borne interference	
● Interference immunity on supply lines acc. to IEC 61000-4-4	Yes; 2 kV acc. to IEC 61000-4-4, burst
● Interference immunity on signal cables acc. to IEC 61000-4-4	Yes; ±2 kV acc. to IEC 61000-4-4, Burst
Interference immunity against conducted variable disturbance induced by high-frequency fields	
● Interference immunity against high frequency current feed acc. to IEC 61000-4-6	Yes; 10 V, 150 kHz to 80 MHz (to IEC 61000-4-6)
Emission of radio interference acc. to EN 55 011	
● Limit class A, for use in industrial areas	Yes; EN 61000-6-4, interference emission: Intended for use in industrial areas.
Emission of conducted and non-conducted interference	
● Interference emission via line/AC current cables	EN 61000-6-4, interference emission: Intended for use in industrial areas.
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes
Ambient conditions	
Free fall	
● Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	
● min.	0 °C
● max.	55 °C
● horizontal installation, min.	0 °C
● horizontal installation, max.	55 °C
● vertical installation, min.	0 °C
● vertical installation, max.	45 °C
Ambient temperature during storage/transportation	
● min.	-40 °C
● max.	70 °C
Air pressure acc. to IEC 60068-2-13	
● Storage/transport, min.	660 hPa
● Storage/transport, max.	1 080 hPa
Altitude during operation relating to sea level	
● Installation altitude, min.	-1 000 m
● Installation altitude, max.	2 000 m
Relative humidity	
● Operation at 25 °C without condensation, max.	95 %
configuration / header	
configuration / programming / header	
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
Dimensions	
Width	125 mm
Height	100 mm
Depth	81 mm
Weights	
Weight, approx.	440 g
last modified:	3/12/2021