



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)
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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		
Classifications			
		Version	Classification
	eClass	14	27-24-22-07
	eClass	12	27-24-22-07
	eClass	9.1	27-24-22-07
	eClass	9	27-24-22-07

eClass	8	27-24-22-07
eClass	7.1	27-24-22-07
eClass	6	27-24-22-07
ETIM	9	EC000236
ETIM	8	EC000236
ETIM	7	EC000236
IDEA	4	3565
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval



last modified:

12/8/2024