



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	
<ul style="list-style-type: none"> <li>Programming package</li> </ul>	STEP 7 Micro/WIN SMART
Installation type/mounting	
Rail mounting	Yes; Standard - DIN rail
Supply voltage	
Rated value (AC)	
<ul style="list-style-type: none"> <li>120 V AC</li> <li>230 V AC</li> </ul>	Yes Yes
permissible range, lower limit (AC)	85 V
permissible range, upper limit (AC)	264 V
Line frequency	
<ul style="list-style-type: none"> <li>permissible range, lower limit</li> <li>permissible range, upper limit</li> </ul>	47 Hz 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
Storage	
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	
<ul style="list-style-type: none"> <li>Inputs</li> <li>Outputs</li> </ul>	32 byte; Digital inputs 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	
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	
<ul style="list-style-type: none"> <li>● Interference immunity against discharge of static electricity acc. to IEC 61000-4-2</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— Test voltage at air discharge</li> </ul>	8 kV
<ul style="list-style-type: none"> <li>— Test voltage at contact discharge</li> </ul>	4 kV
Interference immunity against high-frequency electromagnetic fields	
<ul style="list-style-type: none"> <li>● Interference immunity against high-frequency radiation acc. to IEC 61000-4-3</li> </ul>	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	
<ul style="list-style-type: none"> <li>● Interference immunity on supply lines acc. to IEC 61000-4-4</li> </ul>	Yes; 2 kV acc. to IEC 61000-4-4, burst
<ul style="list-style-type: none"> <li>● Interference immunity on signal cables acc. to IEC 61000-4-4</li> </ul>	Yes; ±2 kV acc. to IEC 61000-4-4, Burst
Interference immunity against conducted variable disturbance induced by high-frequency fields	
<ul style="list-style-type: none"> <li>● Interference immunity against high frequency current feed acc. to IEC 61000-4-6</li> </ul>	Yes; 10 V, 150 kHz to 80 MHz (to IEC 61000-4-6)
Emission of radio interference acc. to EN 55 011	
<ul style="list-style-type: none"> <li>● Limit class A, for use in industrial areas</li> </ul>	Yes; EN 61000-6-4, interference emission: Intended for use in industrial areas.
Emission of conducted and non-conducted interference	
<ul style="list-style-type: none"> <li>● Interference emission via line/AC current cables</li> </ul>	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	
<ul style="list-style-type: none"> <li>● Fall height, max.</li> </ul>	0.3 m; five times, in product package
Ambient temperature during operation	
<ul style="list-style-type: none"> <li>● min.</li> </ul>	0 °C
<ul style="list-style-type: none"> <li>● max.</li> </ul>	55 °C
<ul style="list-style-type: none"> <li>● horizontal installation, min.</li> </ul>	0 °C
<ul style="list-style-type: none"> <li>● horizontal installation, max.</li> </ul>	55 °C
<ul style="list-style-type: none"> <li>● vertical installation, min.</li> </ul>	0 °C
<ul style="list-style-type: none"> <li>● vertical installation, max.</li> </ul>	45 °C
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> <li>● min.</li> </ul>	-40 °C
<ul style="list-style-type: none"> <li>● max.</li> </ul>	70 °C
Air pressure acc. to IEC 60068-2-13	
<ul style="list-style-type: none"> <li>● Storage/transport, min.</li> </ul>	660 hPa
<ul style="list-style-type: none"> <li>● Storage/transport, max.</li> </ul>	1 080 hPa
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> <li>● Installation altitude, min.</li> </ul>	-1 000 m
<ul style="list-style-type: none"> <li>● Installation altitude, max.</li> </ul>	2 000 m
Relative humidity	
<ul style="list-style-type: none"> <li>● Operation at 25 °C without condensation, max.</li> </ul>	95 %
Configuration	
Programming	
Programming language	
<ul style="list-style-type: none"> <li>— LAD</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— FBD</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— STL</li> </ul>	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	10	EC000236
ETIM	9	EC000236
ETIM	8	EC000236
ETIM	7	EC000236
IDEA	4	3565
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval



[China RoHS](#)

last modified:

8/24/2025