



SIMATIC S7-200 SMART CPU CR30s, COMPACT CPU, AC/DC/RELAY;  
ONBOARD I/O: 18 DI 24V DC; 12DO RELAY 2A; POWER SUPPLY: AC, 85 - 264  
V AC AT 47 - 63 HZ, PROGRAM/DATA MEMORY: 20 KB

General information	
Product type designation	CPU CR30 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)	230 V; 230 V AC (L1, N)
• 120 V AC	Yes; 85 to 132 V AC
• 230 V AC	Yes; 170 to 264 V AC
permissible range, lower limit (AC)	85 V
permissible range, upper limit (AC)	264 V
Reverse polarity protection	No
Line frequency	
• permissible range, lower limit	47 Hz
• permissible range, upper limit	63 Hz
Load voltage L+	
• Rated value (DC)	24 V
• permissible range, lower limit (DC)	5 V
• permissible range, upper limit (DC)	250 V
Input current	
Current consumption (rated value)	90 mA; At 220 V AC
Current consumption, max.	90 mA; At 220 V AC
Inrush current, max.	16.3 A; at 264 V
Power loss	
Power loss, max.	7 W
Memory	
Type of memory	DDR
Flash	Yes
RAM	Yes
Micro Memory Card	No
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
Hardware configuration	
Integrated power supply	No
Time of day	
Clock	
• Type	Software clock

• Hardware clock (real-time)	No
<b>Digital inputs</b>	
Number of digital inputs	18; Integrated
• of which inputs usable for technological functions	4; HSC: 4 @ 100 kHz single phase, 2 @ 50 kHz A/B phase
Source/sink input	Yes
<b>Input voltage</b>	
• Rated value (DC)	24 V
• for signal "0"	< 5 V DC
• for signal "1"	+15 to +30 V
<b>Input current</b>	
• for signal "0", max. (permissible quiescent current)	1 mA
• for signal "1", typ.	4 mA
<b>Input delay (for rated value of input voltage)</b>	
for standard inputs	
— parameterizable	Yes; 0.2 µs, 0.4 µs, 0.8 µs, 1.6 µs, 3.2 µs, 6.4 µs and 12.8 µs, selectable in 4 groups
— at "0" to "1", min.	0.2 µs
— at "0" to "1", max.	12.8 µs
for interrupt inputs	
— parameterizable	Yes
<b>Cable length</b>	
• shielded, max.	500 m; Standard input: 500 m, high-speed counters: 50 m
• unshielded, max.	300 m
<b>Digital outputs</b>	
Number of digital outputs	12; Relays
<b>Switching capacity of the outputs</b>	
• with resistive load, max.	2 A
• on lamp load, max.	30 W; 30 W with DC, 200 W with AC
<b>Output delay with resistive load</b>	
• "0" to "1", max.	10 ms; max.
• "1" to "0", max.	10 ms; max.
<b>Switching frequency</b>	
• of the pulse outputs, with resistive load, max.	1 Hz
<b>Relay outputs</b>	
• Number of relay outputs	12
• Number of operating cycles, max.	100 000; mechanically 10 million, at rated load voltage 100 000
<b>Cable length</b>	
• shielded, max.	500 m
• unshielded, max.	150 m
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	0
Number of RS 485 interfaces	1
Optical interface	No
<b>1. Interface</b>	
Interface type	RS 485 (max. 187.5 kbps)
Isolated	Yes; 500 V AC or 707 V DC
<b>Interface types</b>	
• RS 485	Yes
• Design of the connection	9-pin sub D socket
<b>Protocols</b>	
Supports protocol for PROFINET IO	No
PROFIBUS	No
<b>Protocols (Ethernet)</b>	
• TCP/IP	No
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
• 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
<b>Interference immunity against high-frequency electromagnetic fields</b>	

<ul style="list-style-type: none"><li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-3<ul style="list-style-type: none"><li>Frequency range of the RF radiation</li></ul></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) 10 V/m for 80 MHz ~ 1 GHz, 3 V/m for 1.4 GHz ~ 2 GHz, 3 V/m for 87 MHz ~ 108 MHz, 174 MHz ~ 230 MHz, 470 MHz ~ 790 MHz, 1.4 GHz ~ 2 GHz, 1 V/m for 2 GHz ~ 2.7 GHz	
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 voltage surge			
<ul style="list-style-type: none"><li>Interference immunity on supply lines acc. to IEC 61000-4-5</li><li>asymmetric interference<ul style="list-style-type: none"><li>Test voltage on supply cables</li><li>Test voltage on signal cables &gt;30m</li></ul></li></ul>		Yes; ±1 kV (acc. to IEC 61000-4-5; 1995; surge symm.), ±2 kV (acc. to IEC 61000-4-5; 1995; surge asymm.), no external protective circuit required  2 kV 2 kV	
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>		0.5 m; five times, in product package	
Ambient temperature during operation			
<ul style="list-style-type: none"><li>min.</li><li>max.</li><li>horizontal installation, min.</li><li>horizontal installation, max.</li><li>vertical installation, min.</li><li>vertical installation, max.</li></ul>		0 °C 55 °C 0 °C 55 °C 0 °C 45 °C	
Ambient temperature during storage/transportation			
<ul style="list-style-type: none"><li>min.</li><li>max.</li></ul>		-40 °C 70 °C	
Air pressure acc. to IEC 60068-2-13			
<ul style="list-style-type: none"><li>Storage/transport, min.</li><li>Storage/transport, max.</li></ul>		660 hPa 1 080 hPa	
Altitude during operation relating to sea level			
<ul style="list-style-type: none"><li>Installation altitude, min.</li><li>Installation altitude, max.</li></ul>		-1 000 m 2 000 m	
Relative humidity			
<ul style="list-style-type: none"><li>Operation at 25 °C without condensation, max.</li></ul>		95 %	
configuration / header			
configuration / programming / header			
Programming language			
<ul style="list-style-type: none"><li>LAD</li><li>FBD</li><li>STL</li></ul>		Yes Yes Yes	
Dimensions			
Width		110 mm	
Height		100 mm	
Depth		81 mm	
Weights			
Weight, approx.		424 g; approx.	
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:

3/12/2024