

SIMATIC S7-200 SMART CPU CR60s, COMPACT CPU,  
 AC/DC/RELAY, ONBOARD I/O: 36 DI 24V DC; 24DO RELAY 2A;  
 POWER SUPPLY: AC, 85 - 264 V AC AT 47 - 63 HZ,  
 PROGRAM/DATA MEMORY: 20 KB



General information	
Product type designation	CPU CR60s 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	
Type of supply voltage	85V to 264VAC
Rated value (DC)	
<ul style="list-style-type: none"> <li>24 V DC</li> </ul>	No
Rated value (AC)	230 V; 230 V AC (L1, N)
<ul style="list-style-type: none"> <li>120 V AC</li> <li>230 V AC</li> </ul>	Yes; 85 to 132 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	
<ul style="list-style-type: none"> <li>permissible range, lower limit</li> </ul>	47 Hz

<ul style="list-style-type: none"> <li>• permissible range, upper limit</li> </ul>	63 Hz
<b>Load voltage L+</b>	
<ul style="list-style-type: none"> <li>• Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>• permissible range, lower limit (DC)</li> </ul>	5 V
<ul style="list-style-type: none"> <li>• permissible range, upper limit (DC)</li> </ul>	250 V
<b>Input current</b>	
Current consumption (rated value)	100 mA; At 220 V AC
Current consumption, max.	150 mA; At 220 V AC
Inrush current, max.	16.3 A; at 264 V
<b>Power loss</b>	
Power loss, max.	10 W; max.
<b>Memory</b>	
Type of memory	DDR
Flash	Yes
RAM	Yes
Micro Memory Card	No
<b>CPU processing times</b>	
for bit operations, typ.	150 ns; / instruction
for word operations, typ.	1.2 $\mu$ s; / instruction
for floating point arithmetic, typ.	3.6 $\mu$ s; / instruction
<b>Hardware configuration</b>	
Integrated power supply	No
Number of modules per system, max.	0
<b>Time of day</b>	
Clock	
<ul style="list-style-type: none"> <li>• Type</li> </ul>	Software clock
<ul style="list-style-type: none"> <li>• Hardware clock (real-time)</li> </ul>	No
<b>Digital inputs</b>	
Number of digital inputs	36; Integrated
<ul style="list-style-type: none"> <li>• of which inputs usable for technological functions</li> </ul>	4; HSC: 4 @ 100 kHz single phase, 2 @ 50 kHz A/B phase
Source/sink input	Yes
<b>Input voltage</b>	
<ul style="list-style-type: none"> <li>• Type of input voltage</li> </ul>	DC
<ul style="list-style-type: none"> <li>• Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>• for signal "0"</li> </ul>	< 5 V DC
<ul style="list-style-type: none"> <li>• for signal "1"</li> </ul>	+15 to +30V
<b>Input current</b>	
<ul style="list-style-type: none"> <li>• for signal "0", max. (permissible quiescent current)</li> </ul>	1 mA

• for signal "1", typ.	4 mA; Typical
<b>Input delay (for rated value of input voltage)</b>	
for standard inputs	
— parameterizable	Yes; 0.2 $\mu$ s, 0.4 $\mu$ s, 0.8 $\mu$ s, 1.6 $\mu$ s, 3.2 $\mu$ s, 6.4 $\mu$ s and 12.8 $\mu$ s, selectable in 4 groups
— at "0" to "1", min.	0.2 ms
— at "0" to "1", max.	12.8 ms
for interrupt inputs	
— parameterizable	Yes
<b>Cable length</b>	
• shielded, max.	500 m; 50m shielded for HSC inputs
• unshielded, max.	300 m
<b>Digital outputs</b>	
Number of digital outputs	24; 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	24
• 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 RS 485 interfaces	1
With optical interface	No
<b>1. Interface</b>	
Interface type	9-pin sub D socket
Physics	RS 485
Isolated	Yes; 500 V AC or 707 V DC
<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>	<p>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)</p> <p>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</p>
<b>Interference immunity to cable-borne interference</b>	
<ul style="list-style-type: none"> <li>Interference immunity on supply lines acc. to IEC 61000-4-4</li> <li>Interference immunity on signal cables acc. to IEC 61000-4-4</li> </ul>	<p>Yes; 2 kV acc. to IEC 61000-4-4, burst</p> <p>Yes; ±2 kV acc. to IEC 61000-4-4, Burst</p>
<b>Interference immunity against voltage surge</b>	
<ul style="list-style-type: none"> <li>on the 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>	<p>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</p> <p>2 kV</p> <p>2 kV</p>
<b>Interference immunity against conducted variable disturbance induced by high-frequency fields</b>	
<ul style="list-style-type: none"> <li>Interference immunity against high frequency current feed acc. to IEC 61000-4-6</li> </ul>	<p>Yes; 10 V, 150 kHz to 80 MHz (to IEC 61000-4-6)</p>
<b>Emission of radio interference acc. to EN 55 011</b>	
<ul style="list-style-type: none"> <li>Limit class A, for use in industrial areas</li> </ul>	<p>Yes; EN 61000-6-4, interference emission: Intended for use in industrial areas.</p>
<b>Emission of conducted and non-conducted interference</b>	
<ul style="list-style-type: none"> <li>Interference emission via line/AC current cables</li> </ul>	<p>EN 61000-6-4, interference emission: Intended for use in industrial areas.</p>
<b>Degree and class of protection</b>	
Degree of protection acc. to EN 60529	
<ul style="list-style-type: none"> <li>IP20</li> </ul>	<p>Yes</p>
<b>Standards, approvals, certificates</b>	
CE mark	<p>Yes</p>
<b>Ambient conditions</b>	
<b>Free fall</b>	
<ul style="list-style-type: none"> <li>Fall height, max.</li> </ul>	<p>0.5 m; five times, in product package</p>
<b>Ambient temperature during operation</b>	
<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>	<p>0 °C</p> <p>55 °C</p> <p>0 °C</p> <p>55 °C</p> <p>0 °C</p> <p>45 °C</p>
<b>Ambient temperature during storage/transportation</b>	

• min.	-40 °C
• max.	70 °C
<b>Air pressure acc. to IEC 60068-2-13</b>	
• Storage/transport, min.	660 hPa
• Storage/transport, max.	1 080 hPa
<b>Altitude during operation relating to sea level</b>	
• Installation altitude, min.	-1 000 m
• Installation altitude, max.	2 000 m
<b>Relative humidity</b>	
• Operation at 25 °C without condensation, max.	95 %

## Configuration

### Programming

<b>Programming language</b>	
— LAD	Yes
— FBD	Yes
— STL	Yes

## Dimensions

Width	175 mm
Height	100 mm
Depth	81 mm

## Weights

Weight, approx.	605 g; approx.
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**last modified:** 09/26/2018