

SIMATIC S7-200 SMART, CPU SR40, 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 40 KB



General information	
Product type designation	CPU SR40 AC/DC/Relay
Engineering with	
• Programming package	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)	
• 24 V DC	No
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)	190 mA; at 240 V AC
Current consumption, max.	300 mA; At 120 V DC
Inrush current, max.	16.3 A; at 264 V
Output current	
Current output, max.	300 mA; 24 V DC Sensor Power
for backplane bus (5 V DC), max.	1.4 A; max. 5 V DC for EM bus
Power loss	
Power loss, max.	23 W
Memory	
Type of memory	DDR
Flash	Yes
RAM	Yes
Memory available for user data	16 kbyte
Memory size	24 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 μ s; / instruction
for floating point arithmetic, typ.	3.6 μ s; / instruction
Address area	
I/O address area	
<ul style="list-style-type: none"> Inputs 	144 byte; 256 bit of digital inputs & 56 words of analog inputs
<ul style="list-style-type: none"> Outputs 	144 byte; 256 bit of digital outputs & 56 words of analog outputs
Time of day	
Clock	
<ul style="list-style-type: none"> Type 	Hardware clock, no battery backup
<ul style="list-style-type: none"> Hardware clock (real-time) 	Yes
<ul style="list-style-type: none"> Backup time 	7 d
<ul style="list-style-type: none"> Deviation per day, max. 	4 s; within 120s/month at 25 °C
Digital inputs	
Number of digital inputs	24
Input voltage	
<ul style="list-style-type: none"> Type of input voltage 	DC
<ul style="list-style-type: none"> Rated value (DC) 	24 V
<ul style="list-style-type: none"> for signal "0" 	< 5 V DC
<ul style="list-style-type: none"> for signal "1" 	+15 to +30V
Input current	
<ul style="list-style-type: none"> 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
 Physics RJ45
 Isolated Yes; Transformer isolated, 1,500V AC
 automatic detection of transmission rate Yes; 10/100 Mbit/s
 Autonegotiation Yes
 Autocrossing Yes

2. Interface

Interface type RS 485 (max. 187.5 Mbit/s)

Communication functions

S7 communication

- supported Yes
- as server Yes
- as client Yes

Test commissioning functions

Forcing

- Forcing Yes

Integrated Functions

Number of counters 4; 4 HSC at 200 kHz for single phase or 2 HSC at 100 kHz for 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"> • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 <ul style="list-style-type: none"> — Test voltage at air discharge — Test voltage at contact discharge 	<p>Yes</p> <p>8 kV</p> <p>4 kV</p>
Interference immunity against high-frequency electromagnetic fields	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • Interference immunity on supply lines acc. to IEC 61000-4-4 • Interference immunity on signal cables acc. to IEC 61000-4-4 	<p>Yes; 2 kV acc. to IEC 61000-4-4, burst</p> <p>Yes; ±2 kV acc. to IEC 61000-4-4, Burst</p>
Interference immunity against conducted variable disturbance induced by high-frequency fields	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • Interference emission via line/AC current cables 	EN 61000-6-4, interference emission: Intended for use in industrial areas.
Degree and class of protection	
Degree of protection acc. to EN 60529	
<ul style="list-style-type: none"> • IP20 	Yes
Standards, approvals, certificates	
CE mark	Yes
Ambient conditions	
Free fall	
<ul style="list-style-type: none"> • Fall height, max. 	0.3 m; five times, in product package
Ambient temperature during operation	
<ul style="list-style-type: none"> • min. • max. • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. 	<p>0 °C</p> <p>55 °C</p> <p>0 °C</p> <p>55 °C</p> <p>0 °C</p> <p>45 °C</p>
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> • min. • max. 	<p>-40 °C</p> <p>70 °C</p>
Air pressure acc. to IEC 60068-2-13	
<ul style="list-style-type: none"> • Storage/transport, min. • Storage/transport, max. 	<p>660 hPa</p> <p>1 080 hPa</p>

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

Programming

Programming language

- LAD Yes
- FBD Yes
- STL Yes

Dimensions

Width	125 mm
Height	100 mm
Depth	81 mm

Weights

Weight, approx.	441.3 g
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