



SIMATIC S7-1200, CPU 1215C,  
 COMPACT CPU, DC/DC/RELAY,  
 2 PROFINET PORT,  
 ONBOARD I/O: 14 DI 24V DC;  
 10 DO RELAY 2A, 2 AI 0-10V DC,  
 2 AO 0-20MA DC,  
 POWER SUPPLY: DC 20.4 - 28.8 V DC,  
 PROGRAM/DATA MEMORY: 100 KB

General information	
Engineering with	
Programming package	STEP 7 V13 or higher
Supply voltage	
24 V DC	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Load voltage L+	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption (rated value)	500 mA ; Typical
Inrush current, max.	12 A ; at 28.8 V DC
Encoder supply	
24 V encoder supply	
24 V	Permissible range: 20.4V to 28.8V
Output current	

<b>Current output to backplane bus (5 V DC), max.</b>	1600 mA ; Max. 5 V DC for SM and CM
<b>Power loss</b>	
<b>Power loss, typ.</b>	12 W
<b>Memory</b>	
<b>Type of memory</b>	EEPROM
<b>usable memory for user data</b>	100 kbyte
<b>Work memory</b>	
<b>integrated</b>	100 kbyte
<b>expandable</b>	No
<b>Load memory</b>	
<b>integrated</b>	4 Mbyte
<b>plug-in (SIMATIC Memory Card), max.</b>	2 Gbyte ; with SIMATIC memory card
<b>Backup</b>	
<b>present</b>	Yes ; maintenance-free
<b>without battery</b>	Yes
<b>CPU processing times</b>	
<b>for bit operations, typ.</b>	0.085 $\mu$ s ; / Operation
<b>for word operations, typ.</b>	1.7 $\mu$ s ; / Operation
<b>for floating point arithmetic, typ.</b>	2.3 $\mu$ s ; / Operation
<b>CPU-blocks</b>	
<b>Number of blocks (total)</b>	DBs, FCs, FBs, counters and timers. The maximum number of addressable blocks ranges from 1 to 65535. There is no restriction, the entire working memory can be used
<b>OB</b>	
<b>Number, max.</b>	Limited only by RAM for code
<b>Data areas and their retentivity</b>	
<b>retentive data area in total (incl. times, counters, flags), max.</b>	10 kbyte
<b>Flag</b>	
<b>Number, max.</b>	8 kbyte ; Size of bit memory address area
<b>Address area</b>	
<b>I/O address area</b>	
<b>I/O address area, overall</b>	1024 bytes for inputs / 1024 bytes for outputs
<b>Process image</b>	
<b>Inputs, adjustable</b>	1 kbyte
<b>Outputs, adjustable</b>	1 kbyte
<b>Hardware configuration</b>	
<b>Number of modules per system, max.</b>	3 comm. modules, 1 signal board, 8 signal modules
<b>Time of day</b>	

<b>Clock</b>	
Hardware clock (real-time clock)	Yes
Deviation per day, max.	+/- 60 s/month at 25 °C
Backup time	480 h ; Typical
<b>Digital inputs</b>	
Number of digital inputs	14 ; Integrated
of which inputs usable for technological functions	6 ; HSC (High Speed Counting)
integrated channels (DI)	14
m/p-reading	Yes
<b>Number of simultaneously controllable inputs</b>	
all mounting positions	
up to 40 °C, max.	14
<b>Input voltage</b>	
Rated value, DC	24 V
for signal "0"	5 V DC at 1 mA
for signal "1"	15 VDC at 2.5 mA
<b>Input current</b>	
for signal "1", typ.	1 mA
<b>Input delay (for rated value of input voltage)</b>	
for standard inputs	
parameterizable	0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 ms
at "0" to "1", min.	0.1 µs
at "0" to "1", max.	20 ms
for interrupt inputs	
parameterizable	Yes
for counter/technological functions	
parameterizable	Yes ; Single phase : 3 at 100 kHz & 3 at 30 kHz, differential: 3 at 80 kHz & 3 at 30 kHz
<b>Cable length</b>	
Cable length, shielded, max.	500 m ; 50 m for technological functions
Cable length unshielded, max.	300 m ; For technological functions: No
<b>Digital outputs</b>	
Number of digital outputs	10 ; Relays
integrated channels (DO)	10
Short-circuit protection	No ; to be provided externally
<b>Switching capacity of the outputs</b>	
with resistive load, max.	2 A
on lamp load, max.	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>	
Max. number of relay outputs, integrated	10
Number of relay outputs	10
Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100,000
<b>Cable length</b>	
Cable length, shielded, max.	500 m
Cable length unshielded, max.	150 m
<b>Analog inputs</b>	
integrated channels (AI)	2 ; 0 to 10 V
Number of analog inputs	2
<b>Input ranges</b>	
Voltage	Yes
<b>Input ranges (rated values), voltages</b>	
0 to +10 V	Yes
Input resistance (0 to 10 V)	≥100k ohms
<b>Cable length</b>	
Cable length, shielded, max.	100 m ; twisted and shielded
<b>Analog outputs</b>	
integrated channels (AO)	2 ; 0 to 20 mA
Number of analog outputs	2
<b>Cable length</b>	
Cable length, shielded, max.	100 m ; Shielded, twisted wire pair
<b>Analog value generation</b>	
<b>Integration and conversion time/resolution per channel</b>	
Resolution with overrange (bit including sign), max.	10 bit
Integration time, parameterizable	Yes
Conversion time (per channel)	625 μs
<b>Encoder</b>	
<b>Connectable encoders</b>	
2-wire sensor	Yes
<b>1. Interface</b>	
Interface type	PROFINET
Physics	Ethernet, 2-port switch, 2*RJ45

<b>isolated</b>	Yes
<b>automatic detection of transmission rate</b>	Yes
<b>Autonegotiation</b>	Yes
<b>Autocrossing</b>	Yes
<b>Functionality</b>	
<b>PROFINET IO Device</b>	Yes
<b>PROFINET IO Controller</b>	Yes
<b>PROFINET IO Controller</b>	
<b>Prioritized startup supported</b>	
<b>Number of IO Devices, max.</b>	16
<b>Communication functions</b>	
<b>S7 communication</b>	
<b>supported</b>	Yes
<b>as server</b>	Yes
<b>as client</b>	Yes
<b>Open IE communication</b>	
<b>TCP/IP</b>	Yes
<b>ISO-on-TCP (RFC1006)</b>	Yes
<b>UDP</b>	Yes
<b>Web server</b>	
<b>supported</b>	Yes
<b>User-defined websites</b>	Yes
<b>Test commissioning functions</b>	
<b>Status/control</b>	
<b>Status/control variable</b>	Yes
<b>Variables</b>	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
<b>Forcing</b>	
<b>Forcing</b>	Yes
<b>Diagnostic buffer</b>	
<b>present</b>	Yes
<b>Integrated Functions</b>	
<b>Number of counters</b>	6
<b>Counting frequency (counter) max.</b>	100 kHz
<b>Frequency meter</b>	Yes
<b>controlled positioning</b>	Yes
<b>PID controller</b>	Yes
<b>Number of alarm inputs</b>	4
<b>Number of pulse outputs</b>	4

<b>Galvanic isolation</b>	
<b>Galvanic isolation digital inputs</b>	
<b>Galvanic isolation digital inputs</b>	500V AC for 1 minute
<b>between the channels, in groups of</b>	1
<b>Galvanic isolation digital outputs</b>	
<b>Galvanic isolation digital outputs</b>	Relays
<b>between the channels</b>	No
<b>Permissible potential difference</b>	
<b>between different circuits</b>	500 V DC between 24 V DC and 5 V DC
<b>EMC</b>	
<b>Interference immunity against discharge of static electricity</b>	
<b>Interference immunity against discharge of static electricity acc. to IEC 61000-4-2</b>	Yes
<b>Test voltage at air discharge</b>	8 kV
<b>Test voltage at contact discharge</b>	6 kV
<b>Interference immunity to cable-borne interference</b>	
<b>on the supply lines acc. to IEC 61000-4-4</b>	Yes
<b>Interference immunity on signal cables acc. to IEC 61000-4-4</b>	Yes
<b>Interference immunity against voltage surge</b>	
<b>on the supply lines acc. to IEC 61000-4-5</b>	Yes
<b>Interference immunity against conducted variable disturbance induced by high-frequency fields</b>	
<b>Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</b>	Yes
<b>Emission of radio interference acc. to EN 55 011</b>	
<b>Emission of radio interference acc. to EN 55 011 (limit class A)</b>	Yes ; Group 1
<b>Emission of radio interference acc. to EN 55 011 (limit class B)</b>	Yes ; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011
<b>Degree and class of protection</b>	
<b>IP20</b>	Yes
<b>Standards, approvals, certificates</b>	
<b>CE mark</b>	Yes
<b>UL approval</b>	Yes
<b>cULus</b>	Yes
<b>RCM (former C-TICK)</b>	Yes
<b>FM approval</b>	Yes
<b>Marine approval</b>	
<b>Marine approval</b>	Yes
<b>Ambient conditions</b>	
<b>Operating temperature</b>	

min.	-20 °C
max.	60 °C
horizontal installation, min.	-20 °C
horizontal installation, max.	60 °C
vertical installation, min.	-20 °C
vertical installation, max.	50 °C
<b>Storage/transport temperature</b>	
min.	-40 °C
max.	70 °C
<b>Air pressure</b>	
Operation, min.	795 hPa
Operation, max.	1080 hPa
Storage/transport, min.	660 hPa
Storage/transport, max.	1080 hPa
<b>Relative humidity</b>	
Operation, max.	95 % ; no condensation
<b>Vibrations</b>	
Vibrations	2G wall mounting, 1G DIN rail
Operation, tested according to IEC 60068-2-6	Yes
<b>Shock test</b>	
tested according to IEC 60068-2-27	Yes ; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms
<b>Climatic and mechanical conditions for storage and transport</b>	
<b>Climatic conditions for storage and transport</b>	
<b>Free fall</b>	
Drop height, max. (in packaging)	0.3 m ; five times, in dispatch package
<b>Temperature</b>	
permissible temperature range	-40 °C to +70 °C
<b>Relative humidity</b>	
permissible range (without condensation) at 25 °C	95 %
<b>Mechanical and climatic conditions during operation</b>	
<b>Climatic conditions in operation</b>	
<b>Temperature</b>	
min.	-20 °C
max.	60 °C
<b>Air pressure acc. to IEC 60068-2-13</b>	
permissible air pressure	1080 to 795 hPa
permissible operating height	-1000 to 2000 m

<b>Pollutant concentrations</b>	
<b>SO2 at RH &lt; 60% without condensation</b>	SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
<b>Configuration</b>	
<b>Programming</b>	
<b>Programming language</b>	
<b>LAD</b>	Yes
<b>FBD</b>	Yes
<b>SCL</b>	Yes
<b>Cycle time monitoring</b>	
<b>adjustable</b>	Yes
<b>Dimensions</b>	
<b>Width</b>	130 mm
<b>Height</b>	100 mm
<b>Depth</b>	75 mm
<b>Weights</b>	
<b>Weight, approx.</b>	550 g
Status	Aug 27, 2014