## Data sheet

SIMATIC S7-1200F, CPU 1214 FC, compact CPU, DC/DC/DC, onboard I/O: 14 DI 24 V DC; 10 DO 24 V DC; 2 AI 0-10 V DC, Power supply: DC 20.4-28.8V DC, Program/data memory 125 KB



General information	
Product type designation	CPU 1214FC DC/DC/DC
Firmware version	V4.2
Engineering with	
Programming package	STEP 7 V14 or higher
Supply voltage	
Rated value (DC)	
• 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
<ul><li>permissible range, lower limit (DC)</li></ul>	20.4 V
• permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption, max.	1 500 mA; max. with all expansion accessories
Inrush current, max.	12 A; at 28.8 V DC
l²t	0.5 A <sup>2</sup> ·s

Output current	
for backplane bus (5 V DC), max.	1 600 mA; Max. 5 V DC for SM and CM
Encoder supply	
24 V encoder supply	L+ minus 4 V DC min.
• 24 V	L+ minus 4 V DC min.
Power loss	
Power loss, typ.	12 W
Memory	
Work memory	
• integrated	125 kbyte
expandable	No
Load memory	
• integrated	4 Mbyte
<ul> <li>Plug-in (SIMATIC Memory Card), max.</li> </ul>	with SIMATIC memory card
Backup	
• present	Yes
maintenance-free	Yes
without battery	Yes
CPU processing times	
for bit operations, typ.	0.08 μs; / instruction
for word operations, typ.	1.7 µs; / instruction
for floating point arithmetic, typ.	2.3 µs; / instruction
CPU-blocks	
Number of blocks (total)	DBs, FCs, FBs, counters and timers. The maximum number of
realities of blooke (total)	addressable blocks ranges from 1 to 65535. There is no
	restriction, the entire working memory can be used
ОВ	
• Number, max.	Limited only by RAM for code
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags),	10 kbyte
max.	
Flag	
Number, max.	8 kbyte; Size of bit memory address area
Local data	
• per priority class, max.	16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB
Address area	
Process image	
• Inputs, adjustable	1 kbyte
Outputs, adjustable	1 kbyte



Hardware configuration				
Number of modules per system, max.	3 comm. modules, 1 signal board, 8 signal modules			
Time of day				
Clock				
Hardware clock (real-time)	Yes			
Backup time	480 h; typical; 12 days min. at 40 °C			
Deviation per day, max.	±60 s per month			
Digital inputs				
Number of digital inputs	14			
<ul> <li>of which inputs usable for technological functions</li> </ul>	6; HSC (High Speed Counting)			
Source/sink input	Yes			
Number of simultaneously controllable inputs				
all mounting positions				
— up to 40 °C, max.	14; 14 inputs at 55 °C horizontal or 45 °C vertical			
Input voltage				
Rated value (DC)	24 V; DC at 4 mA nominal			
• for signal "0"	5 V DC at 1 mA			
• for signal "1"	15 V DC at 2.5 mA			
Input current				
• for signal "1", typ.	4 mA; nominal			
Input delay (for rated value of input voltage)				
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 technological functions				
— parameterizable	Yes; Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz			
Cable length				
• shielded, max.	500 m; 50 m for technological functions			
• unshielded, max.	150 m; for technological functions: No			
Digital autouta				
Digital outputs  Number of digital outputs	10			
of which high-speed outputs	4; 100 kHz Pulse Train Output			
Short-circuit protection	No; to be provided externally			
Switching capacity of the outputs	ino, to be provided externally			
	0.5 A			
<ul><li>with resistive load, max.</li></ul>	V.V A			

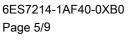


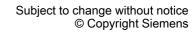
**☼ PNAP** 

• on lamp load, max.	5 W
Output voltage	
• for signal "0", max.	0.1 V; with 10 kOhm load
• for signal "1", min.	20 V
Output current	
● for signal "1" rated value	0.5 A
• for signal "0" residual current, max.	0.1 mA
Output delay with resistive load	
• "0" to "1", max.	1 μs
• "1" to "0", max.	3 µs
Switching frequency	
• of the pulse outputs, with resistive load, max.	100 kHz
Relay outputs	
Number of relay outputs	0
Cable length	
• shielded, max.	500 m
• unshielded, max.	150 m
Analog inputs	
Number of analog inputs	2
Input ranges	
<ul><li>Voltage</li></ul>	Yes
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	≥100k ohms
Cable length	
• shielded, max.	100 m; twisted and shielded
Analog outputs	
Number of analog outputs	0
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign),	10 bit
Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.	
Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Integration time, parameterizable	Yes
Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.	
Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.  • Integration time, parameterizable  • Conversion time (per channel)  Encoder	Yes
Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.  • Integration time, parameterizable  • Conversion time (per channel)  Encoder  Connectable encoders	Yes 625 μs
Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.  • Integration time, parameterizable  • Conversion time (per channel)  Encoder	Yes
Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.  • Integration time, parameterizable  • Conversion time (per channel)  Encoder  Connectable encoders  • 2-wire sensor  1. Interface	Yes 625 µs Yes
Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.  • Integration time, parameterizable  • Conversion time (per channel)  Encoder  Connectable encoders  • 2-wire sensor	Yes 625 μs



Autocrossing Autocrossing Autocrossing Autocrossing Autocrossing Autocrossing  Pes  **RJ 45 (Ethernet) **Nes  **Number of ports  **Indeparted switch  **Profiner I/O Controller  **PROFINET I/O Controller  **PROFINET I/O Controller  **PROFINET I/O Device  **SIMATIC communication  **Open IE communication  **Ves  **Open IE communication  **Web server  **Media redundancy  **Profiner I/O Controller  **Transmission rate, max.  **On Molit/s  **Services	automatic detection of transmission rate	Yes
Autocrossing ves  Interface types  RJ 45 (Ethernet)  Number of ports  Integrated switch  No  PROFINET IO Controller  PROFINET IO Device  SIMATIC communication  Ves  SIMATIC communication  Ves  No  Media redundancy  No  PROFINET IO Controller  Transmission rate, max.  100 Mbit/s  Services  PG/OP communication  Yes  No  No  PROFINET IO Controller  Transmission rate, max.  100 Mbit/s  Services  PG/OP communication  Yes  No  No  No  No  PROFINET IO Controller  IT Transmission rate, max.  No  No  No  PROFINET IO Controller  IND  No  No  No  PROFINET IO Controller  IND  No  No  IRT  No  No  No  PROFINET IO Controller  No  No  IRT  No  No  No  PROFInerary  Profitized startup  No  Profitized startup  No  No  No  No  Profitized startup  No  Profitized startup  No  Number of IO devices with prioritized startup, max.  Number of connectable IO Devices, max.  Number of IO Devices that can be simultaneously activated/deactivated, max.  Updating time  The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  PROFINET IO Device  PROFINET IO Devices		
• RJ 45 (Ethernet) Yes  • Number of ports 1 • Integrated switch No  PROFINET IO Controller Yes  • PROFINET IO Device Yes  • SIMATIC communication Yes  • Open IE communication Yes  • Media redundancy No  PROFINET IO Controller  • Transmission rate, max. 100 Mbit/s  Sarvices  — PG/OP communication Yes  — PROFIlenery No  — IRT No  — MRPD No  — PROFIlenery No  — PROFIlenery Yes  — Number of IO devices with prioritized startup, max.  — Number of connectable IO Devices, max. 16  — Number of connectable IO Devices, max. 16  — Activation/deactivation of IO Devices Yes  — Number of IO Devices that can be simultaneously activated/deactivated, max.  — Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  **ROFINET IO Device**  **ROFINET IO Device**  **Services**  — PG/OP communication Yes  **POGINET IO Device**  **POGINET IO Device**  **Services**  — PG/OP communication Yes  **POGINET IO Device**  **POGINET I		
RJ 45 (Ethernet) Number of ports Integrated switch No Profotocols  PROFINET IO Controller PROFINET IO Device Services  PROFINET IO Controller Teamsmission rate, max. PROFINET IO Controller Services  PROFINET IO Controller Teams No No No PROFINET IO Controller Teams No N	<u> </u>	
<ul> <li>Number of ports</li> <li>integrated switch</li> <li>PROFINET IO Controller</li> <li>PROFINET IO Device</li> <li>Yes</li> <li>SIMATIC communication</li> <li>Yes</li> <li>Silmatic communication</li> <li>Yes</li> <li>Media redundancy</li> <li>Media redundancy</li> <li>Moreofinet IO Controller</li> <li>Transmission rate, max.</li> <li>Transmission rate, max.</li> <li>Services</li> <li>PG/OP communication</li> <li>Yes</li> <li>Services</li> <li>PG/OP communication</li> <li>Yes</li> <li>Sof routing</li> <li>No</li> <li>MRP</li> <li>MRP</li> <li>No</li> <li>MRPD</li> <li>PROFlenergy</li> <li>No</li> <li>PROFlenergy</li> <li>Prioritized startup</li> <li>No</li> <li>Number of IO devices with prioritized startup, max.</li> <li>Number of connectable IO Devices, max.</li> <li>Activation/deactivation of IO Devices</li> <li>Number of IO Devices that can be simultaneously activated/deactivated, max.</li> <li>Updating time</li> <li>The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.</li> </ul> PROFINET IO Device Services PG/OP communication Yes		Yes
Integrated switch Protocols  PROFINET IO Controller PROFINET IO Device SiMATIC communication Open IE communication Web server Media redundancy No PROFINET IO Controller Transmission rate, max.  Services  PROFO communication Yes Services  PROFIcenergy No PROFIcenergy No PROFIcenergy No PROFIcenergy No Profitized startup Yes Number of IO devices with prioritized startup, max. Number of connectable IO Devices, max. Number of connectable IO Devices for RT, max. Services  Number of IO Devices that can be simultaneously activated/deactivated, max. Updating time  The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  PROFINET IO Device Services  PROFONET IO Device Services  PGOP communication Yes Services		
Protocols  PROFINET IO Device PROFINET IO Device PROFINET IO Device SilMATIC communication Yes Open IE communication Yes Media redundancy No PROFINET IO Controller Transmission rate, max. 100 Mbit/s Services PG/OP communication Yes PG/OP communication Yes PG/OP communication Yes PG/OP communication PG/OP	·	
PROFINET IO Device SIMATIC communication Yes Open IE communication Web server Media redundancy No PROFINET IO Controller Transmission rate, max.  100 Mbit/s Services  PG/OP communication Yes Services  PG/OP communication Yes Services  PG/OP communication Yes Services  PG/OP communication No HRP No HRP No PROFIenergy No PROFIenergy No Prioritized startup Prioritized startup Number of IO devices with prioritized startup, max. Number of connectable IO Devices, max. Number of connectable IO Devices for RT, max.  Number of Devices that can be simultaneously activated/deactivated, max.  Updating time  The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices  PROFINET IO Device  Services  PG/OP communication Yes PG/OP communication Yes PG/OP communication Yes PG/OP communication Yes	Protocols	
PROFINET IO Device SIMATIC communication Yes Open IE communication Web server Media redundancy No PROFINET IO Controller Transmission rate, max.  Services  PG/OP communication Yes Services  PG/OP communication Yes Services  PG/OP communication Yes Services  PG/OP communication Yes Services  PG/OP communication No HRP No HRP No PROFInergy No PROFInergy No Prioritized startup Prioritized startup Number of IO devices with prioritized startup, max. Number of connectable IO Devices, max. Number of connectable IO Devices for RT, max.  Of which in line, max. Activation/deactivation of IO Devices Number of IO Devices that can be simultaneously activated/deactivated, max.  Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  PROFINET IO Device Services  PG/OP communication Yes Services  PG/OP communication Yes Services	PROFINET IO Controller	Yes
SIMATIC communication Open IE communication Web server Media redundancy Media redundancy Transmission rate, max.  Services  PG/OF communication Yes Services	PROFINET IO Device	Yes
Open IE communication  Web server  Media redundancy  Transmission rate, max.  100 Mbit/s  Services  PG/OP communication  Yes  Services  PG/OP communication  Yes  Isochronous mode  IRT  MRP  MRP  MRP  MRP  No  PROFlenergy  Prioritized startup  No  Number of IO devices with prioritized startup, max.  Number of connectable IO Devices, max.  Number of connectable IO Devices for RT, max.  Activation/deactivation of IO Devices  Ne  Number of IO Devices that can be simultaneously activated/deactivated, max.  Updating time  PROFINET IO Device  Services  PG/OP communication  Yes		Yes
Web server     Media redundancy     No  PROFINET IO Controller      Transmission rate, max.      Transmission rate, max.  Services      PG/OP communication     ST routing     No     Isochronous mode     IRT     No     MRP     No     PROFlenergy     Prioritized startup     Proritized startup     Number of IO devices with prioritized startup, max.     Number of connectable IO Devices, max.     Number of connectable IO Devices for RT, max.     Number of IO Devices that can be simultaneously activated/deactivated, max.     Updating time  PROFINET IO Device  Services  PG/OP communication     Yes     Yes     No     The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  PGO/OP communication     Yes     PG/OP communication     Yes     S7 routing  Yes		Yes
PROFINET IO Controller  ● Transmission rate, max. 100 Mbit/s  Services	·	Yes
PROFINET IO Controller  ● Transmission rate, max.  100 Mbit/s  Services  - PG/OP communication Yes - S7 routing Yes - Isochronous mode No - IRT No - MRP No - MRPD No - PROFlenergy No - Prioritized startup Yes - Number of IO devices with prioritized startup, max Number of connectable IO Devices, max Number of connectable IO Devices for RT, max of which in line, max Activation/deactivation of IO Devices Yes - Number of IO Devices that can be simultaneously activated/deactivated, max Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO Devices  Services - PG/OP communication Yes - S7 routing Yes	Media redundancy	No
Services	PROFINET IO Controller	
<ul> <li>— PG/OP communication</li> <li>— S7 routing</li> <li>— Isochronous mode</li> <li>— IRT</li> <li>— MRP</li> <li>— MRPD</li> <li>— MRPD</li> <li>— PROFlenergy</li> <li>— Prioritized startup</li> <li>— Prioritized startup</li> <li>— Number of IO devices with prioritized startup, max.</li> <li>— Number of connectable IO Devices, max.</li> <li>— Number of connectable IO Devices for RT, max.</li> <li>— of which in line, max.</li> <li>— Activation/deactivation of IO Devices</li> <li>— Number of IO Devices that can be simultaneously activated/deactivated, max.</li> <li>— Updating time</li> <li>The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.</li> </ul>	Transmission rate, max.	100 Mbit/s
- S7 routing Yes - Isochronous mode No - IRT No - MRP No - MRPD No - PROFINET IO Device Services - PG/OP communication - IRT No - No - Prioriting - No - No - No - No - PROFINET IO Device - No	Services	
- Isochronous mode	— PG/OP communication	Yes
— IRT — MRP — MRPD — MRPD — No — PROFlenergy — Prioritized startup — Ves — Number of IO devices with prioritized startup, max. — Number of connectable IO Devices, max. — Number of connectable IO Devices for RT, max. — of which in line, max. — of which in line, max. — Activation/deactivation of IO Devices — Number of IO Devices that can be simultaneously activated/deactivated, max. — Updating time  PROFINET IO Device  Services — PG/OP communication — Yes — S7 routing  No	— S7 routing	Yes
— MRP — MRPD — MRPD — No — PROFlenergy — Prioritized startup — Number of IO devices with prioritized startup, max. — Number of connectable IO Devices, max. — Number of connectable IO Devices for RT, max. — of which in line, max. — of which in line, max. — Activation/deactivation of IO Devices — Number of IO Devices that can be simultaneously activated/deactivated, max. — Updating time  The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  PROFINET IO Device  Services — PG/OP communication — S7 routing  Yes	— Isochronous mode	No
— MRPD — PROFlenergy — Prioritized startup — Number of IO devices with prioritized startup, max. — Number of connectable IO Devices, max. — Number of connectable IO Devices for RT, max. — of which in line, max. — of which in line, max. — Activation/deactivation of IO Devices — Number of IO Devices that can be simultaneously activated/deactivated, max. — Updating time  The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  PROFINET IO Device  Services — PG/OP communication — S7 routing  Yes	— IRT	No
PROFlenergy Prioritized startup No Prioritized startup Number of IO devices with prioritized startup, max. Number of connectable IO Devices, max. Number of connectable IO Devices for RT, max. Of which in line, max. Of which in line, max. Activation/deactivation of IO Devices Number of IO Devices that can be simultaneously activated/deactivated, max. Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  PROFINET IO Device  Services PG/OP communication Yes Ser routing Yes	— MRP	No
— Prioritized startup — Number of IO devices with prioritized startup, max.  — Number of connectable IO Devices, max. — Number of connectable IO Devices for RT, max. — of which in line, max. — of which in line, max. — Activation/deactivation of IO Devices — Number of IO Devices that can be simultaneously activated/deactivated, max. — Updating time  The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  PROFINET IO Device  Services  — PG/OP communication — S7 routing  Yes	— MRPD	No
<ul> <li>Number of IO devices with prioritized startup, max.</li> <li>Number of connectable IO Devices, max.</li> <li>Number of connectable IO Devices for RT, max.</li> <li>of which in line, max.</li> <li>Activation/deactivation of IO Devices</li> <li>Number of IO Devices that can be simultaneously activated/deactivated, max.</li> <li>Updating time</li> <li>The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.</li> </ul> PROFINET IO Device Services — PG/OP communication Yes — S7 routing	— PROFlenergy	No
startup, max.  — Number of connectable IO Devices, max.  — Number of connectable IO Devices for RT, max.  — of which in line, max.  — of which in line, max.  — Activation/deactivation of IO Devices  — Number of IO Devices that can be simultaneously activated/deactivated, max.  — Updating time  The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  PROFINET IO Device  Services  — PG/OP communication  — S7 routing  Yes  Yes	— Prioritized startup	Yes
<ul> <li>Number of connectable IO Devices for RT, max.</li> <li>of which in line, max.</li> <li>Activation/deactivation of IO Devices</li> <li>Number of IO Devices that can be simultaneously activated/deactivated, max.</li> <li>Updating time</li> <li>The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.</li> <li>PROFINET IO Device</li> <li>Services</li> <li>PG/OP communication</li> <li>Yes</li> <li>S7 routing</li> <li>Yes</li> </ul>		16
max.  — of which in line, max.  — Activation/deactivation of IO Devices  — Number of IO Devices that can be simultaneously activated/deactivated, max.  — Updating time  The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  PROFINET IO Device  Services  — PG/OP communication — S7 routing  Yes  Yes	— Number of connectable IO Devices, max.	16
<ul> <li>— of which in line, max.</li> <li>— Activation/deactivation of IO Devices</li> <li>— Number of IO Devices that can be simultaneously activated/deactivated, max.</li> <li>— Updating time</li> <li>The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.</li> <li>PROFINET IO Device</li> <li>Services</li> <li>— PG/OP communication</li> <li>— S7 routing</li> </ul>	— Number of connectable IO Devices for RT,	16
<ul> <li>— Activation/deactivation of IO Devices</li> <li>— Number of IO Devices that can be simultaneously activated/deactivated, max.</li> <li>— Updating time</li> <li>The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.</li> <li>PROFINET IO Device</li> <li>Services</li> <li>— PG/OP communication</li> <li>— S7 routing</li> <li>Yes</li> <li>Yes</li> </ul>	max.	
<ul> <li>Number of IO Devices that can be simultaneously activated/deactivated, max.</li> <li>Updating time</li> <li>The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.</li> <li>PROFINET IO Device</li> <li>Services</li> <li>PG/OP communication</li> <li>Yes</li> <li>S7 routing</li> </ul>	— of which in line, max.	16
simultaneously activated/deactivated, max.  — Updating time  The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  PROFINET IO Device  Services  — PG/OP communication — S7 routing  Yes  Yes	<ul> <li>Activation/deactivation of IO Devices</li> </ul>	Yes
communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.  PROFINET IO Device  Services  — PG/OP communication — S7 routing  Yes  Yes		8
Services  — PG/OP communication Yes — S7 routing Yes	— Updating time	communication component set for PROFINET IO, on the number
<ul><li>— PG/OP communication</li><li>— S7 routing</li><li>Yes</li><li>Yes</li></ul>	PROFINET IO Device	
— S7 routing Yes		
	— PG/OP communication	
— Isochronous mode No	— S7 routing	
	— Isochronous mode	No





— IRT	No
— MRP	No
— MRPD	No
— PROFlenergy	Yes
— Shared device	Yes
<ul> <li>Number of IO Controllers with shared device, max.</li> </ul>	2

Protocols	
Supports protocol for PROFINET IO	Yes
PROFIBUS	Yes; CM 1243-5 (master) or CM 1242-5 (slave) required
AS-Interface	Yes; CM 1243-2 required
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Open IE communication	
• TCP/IP	Yes
<ul><li>Data length, max.</li></ul>	8 kbyte
• ISO-on-TCP (RFC1006)	Yes
— Data length, max.	8 kbyte
• UDP	Yes
— Data length, max.	1 472 byte
Web server	
• supported	Yes
<ul> <li>User-defined websites</li> </ul>	Yes
Further protocols	
• MODBUS	Yes

Communication functions	
S7 communication	
• supported	Yes
• as server	Yes
• as client	Yes
<ul> <li>User data per job, max.</li> </ul>	See online help (S7 communication, user data size)
Number of connections	
• overall	16; dynamically

Test commissioning functions		
Status/control		
Status/control variable	Yes	



<ul><li>Variables</li></ul>	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters				
Forcing					
<ul><li>Forcing</li></ul>	Yes				
Diagnostic buffer					
• present	Yes				
Traces					
<ul> <li>Number of configurable Traces</li> </ul>	2				
<ul> <li>Memory size per trace, max.</li> </ul>	512 kbyte				
ntegrated Functions					
Number of counters	6				
Counting frequency (counter) max.	100 kHz				
Frequency measurement	Yes				
controlled positioning	Yes				
Number of position-controlled positioning axes, max.	8				
Number of positioning axes via pulse-direction interface	Up to 4 with SB 1222				
PID controller	Yes				
Number of alarm inputs	4				
Potential separation					
Potential separation digital inputs					
<ul> <li>Potential separation digital inputs</li> </ul>	Functional isolation (Optocoupler)				
EMC					
Interference immunity against discharge of static electr	icity				
<ul> <li>Interference immunity against discharge of static electricity acc. to IEC 61000-4-2</li> </ul>	Yes				
<ul> <li>Test voltage at air discharge</li> </ul>	8 kV				
Test voltage at contact discharge	6 kV				
Interference immunity to cable-borne interference					
• Interference immunity on supply lines acc. to IEC 61000-4-4	Yes				
• Interference immunity on signal cables acc. to IEC 61000-4-4	Yes				
Interference immunity against voltage surge					
• Interference immunity on supply lines acc. to	Yes				

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IEC 6	100	٦ ،	_				

IEC 61000-4-5

## Interference immunity against conducted variable disturbance induced by high-frequency fields

• Interference immunity against high-frequency radiation acc. to IEC 61000-4-6

Yes

## Emission of radio interference acc. to EN 55 011

• Limit class A, for use in industrial areas

Yes; Group 1

• Limit class B, for use in residential areas

Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011



Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	Voc
CE mark	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	Yes
Highest safety class achievable in safety mode	
<ul> <li>Performance level according to ISO 13849-1</li> </ul>	PLe
• SIL acc. to IEC 61508	SIL 3
Ambient conditions	
Free fall	
● Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	
• min.	0 °C
• max.	55 °C
horizontal installation, min.	0 °C
horizontal installation, max.	55 °C
• vertical installation, min.	0 °C
• vertical installation, max.	45 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	
• Storage/transport, min.	660 hPa
	1 139 hPa
Storage/transport, max.  Polative hymidity	1 100 III a
Relative humidity	OF Ware condensation
Operation, max.  Niheations	95 %; no condensation
Vibrations	2 - (
<ul> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail
<ul> <li>Operation, tested according to IEC 60068-2-6</li> </ul>	Yes
Shock testing	
• 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
Pollutant concentrations	
SO2 at RH < 60% without condensation	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
Configuration	



Programming	
Programming language	
— LAD	Yes; incl. failsafe
— FBD	Yes; incl. failsafe
— SCL	Yes
Know-how protection	
User program protection/password protection	Yes
Copy protection	Yes
<ul> <li>Block protection</li> </ul>	Yes
Cycle time monitoring	
adjustable	Yes
Dimensions	
Width	110 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	435 g
last modified:	10/13/2020

