## SIEMENS

## Data sheet

## 6ES7214-1AG40-0XB0



SIMATIC S7-1200, CPU 1214C, 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 100 KB

Figuresimilar	
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General information					
Product type designation	CPU 1214C DC/DC/DC				
Firmware version	V4.5				
Engineering with					
<ul> <li>Programming package</li> </ul>	STEP 7 V17 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				
Reverse polarity protection	Yes				
Load voltage L+					
<ul> <li>Rated value (DC)</li> </ul>	24 V				
• permissible range, lower limit (DC)	20.4 V				
<ul> <li>permissible range, upper limit (DC)</li> </ul>	28.8 V				
Input current					
Current consumption (rated value)	500 mA; CPU only				
Current consumption, max.	1 500 mA; CPU with all expansion modules				
Inrush current, max.	12 A; at 28.8 V				
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					
• 24 V	L+ minus 4 V DC min.				
Power loss					
Power loss, typ.	12 W				
Memory					
Work memory					
integrated	100 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 hit operations, two	0.00 ver linetruction				
for bit operations, typ.	0.08 µs; / instruction				
for word operations, typ. for floating point arithmetic, typ.	1.7 µs; / instruction 2.3 µs; / instruction				
CPU-blocks	DD. F.O. FD. constant and finant. The maximum number of				
Number of blocks (total)	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				
OB					
• Number, max.	Limited only by RAM for code				
Data areas and their retentivity					
Retentive data area (incl. timers, counters, flags), max.	14 kbyte				
Flag					
• Size, max.	8 kbyte; Size of bit memory address area				
Local data					
<ul> <li>per priority class, max.</li> </ul>	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					
	Voc				
Hardware clock (real-time)     Rockup time	Yes				
<ul><li>Backup time</li><li>Deviation per day, max.</li></ul>	480 h; Typical ±60 s/month at 25 °C				
Digital inputs					
Number of digital inputs	14; Integrated				
of which inputs usable for technological functions	6; HSC (High Speed Counting)				
Source/sink input	Yes				
Number of simultaneously controllable inputs					
all mounting positions	14				
— up to 40 °C, max. Input voltage	14				
Rated value (DC)	24 V				
• for signal "0"	5 V DC at 1 mA				
• for signal "1"	15 V DC at 2.5 mA				
Input delay (for rated value of input voltage)					
for standard inputs					
— parameterizable	0.2 ms, 0.4 ms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 ms, selectable				
	in groups of four				
— at "0" to "1", min.	0.2 ms				
— at "0" to "1", max.	12.8 ms				
for interrupt inputs					
— parameterizable	Yes				
for technological functions					
— parameterizable	Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3				
Cabla lanath	@ 30 kHz				
Cable length	E00 m E0 m far tachaglaris - I fur stime				
<ul> <li>shielded, max.</li> </ul>	500 m; 50 m for technological functions				
• unshielded, max.	300 m; for technological functions: No				
Digital outputs					
Number of digital outputs	10				
of which high-speed outputs	4; 100 kHz Pulse Train Output				
Limitation of inductive shutdown voltage to	L+ (-48 V)				
Switching capacity of the outputs					
with resistive load, max.	0.5 A				
• 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
<ul> <li>for signal "0" residual current, max.</li> </ul>	0.1 mA
Output delay with resistive load	
• "0" to "1", max.	1 µs
• "1" to "0", max.	5 µs
Switching frequency	
<ul> <li>of the pulse outputs, with resistive load, max.</li> </ul>	100 kHz
Relay outputs	
Number of relay outputs	0
Cable length	
• shielded, max.	500 m
<ul> <li>unshielded, max.</li> </ul>	150 m
Analog inputs	
Number of analog inputs	2
Input ranges	
Voltage	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	
<ul> <li>Resolution with overrange (bit including sign), max.</li> </ul>	10 bit
<ul> <li>Integration time, parameterizable</li> </ul>	Yes
Conversion time (per channel)	625 µs
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
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1. Interface	
1. Interface Interface type	PROFINET
1. Interface Interface type Isolated	PROFINET Yes
1. Interface Interface type Isolated automatic detection of transmission rate	PROFINET Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation	PROFINET Yes Yes Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing	PROFINET Yes Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types	PROFINET Yes Yes Yes Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)	PROFINET Yes Yes Yes Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports	PROFINET Yes Yes Yes Yes 1
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch	PROFINET Yes Yes Yes Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols	PROFINET Yes Yes Yes Yes 1 No
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller	PROFINET Yes Yes Yes Yes 1 No
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • SIMATIC communication	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • SIMATIC communication         • Open IE communication	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes Yes; Optionally also encrypted
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • SIMATIC communication         • Open IE communication         • Web server	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes; Optionally also encrypted Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes Yes; Optionally also encrypted
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device         • SIMATIC communication         • Web server         • Media redundancy         PROFINET IO Controller	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes; Optionally also encrypted Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy	PROFINET Yes Yes Yes Yes Yes 1 No Yes Yes Yes Yes; Optionally also encrypted Yes No
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy         PROFINET IO Controller	PROFINET Yes Yes Yes Yes Yes 1 No Yes Yes Yes Yes; Optionally also encrypted Yes No
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy         PROFINET IO Controller         • Transmission rate, max.         Services	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes; Optionally also encrypted Yes No
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy         PROFINET IO Controller         • Transmission rate, max.         Services         — PG/OP communication	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes; Optionally also encrypted Yes No 100 Mbit/s
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy         PROFINET IO Controller         • Transmission rate, max.         Services         — PG/OP communication         — Isochronous mode	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes; Optionally also encrypted Yes No 100 Mbit/s Yes; encryption with TLS V1.3 pre-selected No
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy         PROFINET IO Controller         • Transmission rate, max.         Services         - PG/OP communication         - IRT	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes; Optionally also encrypted Yes No 100 Mbit/s Yes; encryption with TLS V1.3 pre-selected No No
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy         PROFINET IO Controller         • Transmission rate, max.         Services         - PG/OP communication         - IRT         - PROFIenergy	PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy         PROFINET IO Controller         • Transmission rate, max.         Services         - PG/OP communication         - IRT         - PROFIenergy         - PROFIenergy         - Prioritized startup	PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy         PROFINET IO Controller         • Transmission rate, max.         Services         - PG/OP communication         - IRT         - PROFIenergy         - PROFIenergy         - Prioritized startup         - Number of IO devices with prioritized startup,	PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autoressing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy         PROFINET IO Controller         • Transmission rate, max.         Services         - PG/OP communication         - IRT         - PROFIenergy         - Prioritized startup         - Number of IO devices with prioritized startup, max.         - Number of connectable IO Devices, max.         - Number of connectable IO Devices for RT,	PROFINET Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autocrossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy         PROFINET IO Controller         • Transmission rate, max.         Services         - PG/OP communication         - Isochronous mode         - IRT         - PROFIenergy         - Prioritized startup         - Number of IO devices with prioritized startup, max.         - Number of connectable IO Devices, max.         - Number of connectable IO Devices for RT, max.	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes Yes Yes Optionally also encrypted Yes No 100 Mbit/s Yes; encryption with TLS V1.3 pre-selected No No No No No Yes 16
1. Interface         Interface type         Isolated         automatic detection of transmission rate         Autonegotiation         Autonegotiation         Autorossing         Interface types         • RJ 45 (Ethernet)         • Number of ports         • integrated switch         Protocols         • PROFINET IO Controller         • PROFINET IO Device         • SIMATIC communication         • Open IE communication         • Web server         • Media redundancy         PROFINET IO Controller         • Transmission rate, max.         Services         - PG/OP communication         - IRT         - PROFIenergy         - Prioritized startup         - Number of IO devices with prioritized startup, max.         - Number of connectable IO Devices, max.         - Number of connectable IO Devices for RT,	PROFINET Yes Yes Yes Yes Yes Yes Yes Yes

Bundarbouldy advanced each value, max.     For an informant value of the update line also depends on the advanced of modPRET (10) with number of 10 devices and the quantity of configured value of data.     FOCIPIENT IO Device     Services     FOCIP communication     FOCIP communication     FOCIP communication     FociPienery     Shared device     FOCIP communication     FOCIPIENT     Shared device     FOCIP communication     FociPienery     Shared device     FOCIPIENT     Shared device     FOCIPIENT     Shared device     FOCIPIENT     Shared device		8				
PROFINET IC Device         communication component set for PROFINET IC. on the number of IC devices and the quantity of configured user data.           PROFINET IC Device         Services           PROFINET IC Device         Services           Services         Prescretation           - PROFINET IC Device         Yes: encryption with TLS V1.3 pre-selected           - Isothorous mode         No           - RT         No           - PROFINET IC DEVICE         Yes:           - Number of IC Contuliers with shared device; max.         Yes           Profiles         Yes           Profiles         Yes: CM 1243-5 (nave) required           PROFILES         Yes: CM 1243-2 required           Profiles         Yes	simultaneously activated/deactivated, max.	The minimum value of the update time also depends on the				
PROFINET IO Device     Services       - PGOP communication     Yes: encryption with TLS V1.3 pre-selected       - Isotronous mode     No       - PROFInenzy     Yes       - Shared device     Yes       - Number of IO Controllers with shared device,     Yes       - Number of IO Controllers with shared device,     Yes       - Number of IO Controllers with shared device,     Yes       - Number of IO Controllers with shared device,     Yes       - Number of IO Controllers with shared device,     Yes       - Number of IO Controllers with shared device,     Yes       - Number of IO Controllers with shared device,     Yes       Proficeois     Yes       - Number of IO Controllers with shared device,     Yes       Proficeois     Yes       Proficeois     Yes       - Stantariac     Yes       Proficeois     Yes       - Controll     Yes       - Controllers     Yes       - Other     Yes       - Controllers     Yes       - Controllers     Yes       - Stantariac     Yes       - Controllers     Yes       - Controllers     Yes       - Stantariac     Yes       - Stantariac     Yes       - Stantariac     Yes       - Data length, max.<		communication component set for PROFINET IO, on the number of IO				
Services      PGCP0 communication     Yes; encryption with TLS V1.3 pre-selected      Hochronous mode     No      Hochronous mode     No      Hochronous mode     No      Hochronous mode     Yes       PROFilaste     No      Hochronous mode     Yes		devices and the quantity of configured user data.				
- PGOP communication         Yes; encryption with TLS V1.3 pre-selected           - IsoChronous mode         No           - IRT         No           - PROFinancy         Yes           - Shared device         Yes           - Number of IO Controllers with shared device,         Yes           - Number of IO Controllers with shared device,         Yes           - Number of IO Controllers with shared device,         Yes           PROFIBUS         Yes; CM 1243-5 (master) or CM 1242-5 (slave) required           PROFIBUS         Yes; CM 1243-5 (master) or CM 1242-5 (slave) required           OPC UA         Yes; OPC UA Server           - Shinterface         Yes; CM 1243-5 (master) or CM 1242-5 (slave) required           Protocols (Ethernet)         Yes; OPC UA Server           - Shinterface         Yes; CM 1243-5 (master) or CM 1242-5 (slave) required           Protocols (Ethernet)         Yes; CM 1243-5 (master) or CM 1242-5 (slave) required           OPC UA         Yes; OPC UA Server           - TOPIP         Yes           - TOPIP         Yes           OPC UA         Yes           - TOPIP         Yes           - TOPIP         Yes           - DOPC         Yes           - MRPD         No           - MRPD <td></td> <td></td>						
− leachronous mode         No           − IPRO Florency         Yas           − PROFInercy         Yas           − Number of IO Controllers with shared device, max.         2           Protocols         Yes           Protocols		Yes; encryption with TLS V1.3 pre-selected				
PROFilenergy         Yes          Number of IO Controllers with shared device, max.         Yes           Supports protocol for PROFINET IO         Yes           PROFIsale         No           PROFISALE         No           PROFISALE         No           PROFISALE         No           PROFISALE         No           PROFISALE         No           PROFISALE         Yes: CM 1243-5 (master) or CM 1242-5 (slave) required           OPC UA         Yes: CM 1243-5 (master) or CM 1242-5 (slave) required           PROFISALE         Yes: CM 1243-2 required           Protocols (Ethement)         Yes           - Drotop         Yes           - Drotop         Yes           - MRPD         No           - MRPD         No           - MRPD         No           - Strotopic         Yes           - Drais length, max.         8 ktyle           - Strotopic         Yes           - Drais length, max.         8 ktyle           - Strotopic         Yes           - Drais length, max.         1472 byle           Web senser         Yes: data access (read, write, subscritop), method call, runtime license required           - Application authentication	— Isochronous mode					
<ul> <li>Shared davice Yes</li> <li>Number of IO Controllers with shared device, 2</li> <li>Protocols</li> <li>Supports protocol for PROFINET IO</li> <li>Yes</li> <li>PROFIBUS</li> <li>Yes (M 1243-5 (master) or OM 1242-5 (slave) required</li> <li>OPC UA</li> <li>Yes (M 1243-5 (master) or OM 1242-5 (slave) required</li> <li>OPC UA</li> <li>Yes (M 1243-5 (master) or OM 1242-5 (slave) required</li> <li>OPC UA</li> <li>Yes (M 1243-5 (master) or OM 1242-5 (slave) required</li> <li>OPC UA</li> <li>Yes (M 1243-2 (required</li> <li>Protocols (Ethemet)</li> <li>TOP/P</li> <li>Yes (M 1243-2 (required</li> <li>Protocols (Ethemet)</li> <li>TOP/P</li> <li>Yes</li> <li>ULDP</li> <li>Yes</li> <li>ULDP</li> <li>Yes</li> <li>ULDP</li> <li>Yes</li> <li>OPCP</li> <li>Yes</li> <li>OPC IA</li> <li>OPCP</li> <li>Yes</li> <li>OPC IA</li> <li>OPC</li></ul>	— IRT	No				
- Number of IO Controllers with shared device, max.  Protocols  Supports protocol for PROFINET IO PROFINAT  Supports protocol for PROFINET IO PROFINAT  PROFINAT  Protocols  Characterized Protocols  Protocols  Characterized  Protocols  Protocols  Protocols  Characterized  Protocols  Characterized  Protocols  Characterized  Protocols  Characterized  Protocols  Characterized  Protocols  Protocols  Protocols  Characterized  Protocols  Protocols	— PROFlenergy	Yes				
max. Protocols Supports protocol for PROFINET IO PROFIBUS Supports protocol for PROFINET IO PROFIBUS Supports protocol for PROFINET IO PROFIBUS OPE UA S-Interface Protocols (Ethameti)  TCP/P OPU So Protocols (Ethameti)  TCP/P OPU So PROFIBUS OPE OPU PROFINET OPU PROFINE  TCP/P PROFINE  TCP/PROFINE  TCP/PROFINE  TCP/PROFINE  TCP/PROFINE	— Shared device	Yes				
Protocols         Yes           Supports protocol for PROFINET IO         Yes           PROFIses         No           PROFISUS         Yes; CM 1243-5 (master) or CM 1242-5 (slave) required           OPC UA         Yes; CM 1243-2 required           Protocols (Ethernet)         Yes           • TCP/IP         Yes           • DCP         No           • SNMP         Yes           • DCP         Yes           • LLDP         Yes           • Balandame         No           • SNMP         Yes           • LLDP         Yes           Redundancy mode         Media retundancy           - MRP         No           - MRP         No           - MRP         No           - Otal length, max.         8 kbyte           • ISO-on-TCP (RFC1006)         Yes           - Otal length, max.         8 kbyte           • UDP         Yes           - Data length, max.         1472 byte           Web server         Yes           • UDP         Yes           - Data length, max.         1472 byte           Web server         Yes (data access (read, wite, subscribe), method call, runtime license required		2				
Supports protocol for PROFINET IO         Yes           PROFIBUS         No           PROFIBUS         Yes; CM 1243-5 (master) or CM 1242-5 (slave) required           QPC UA         Yes; CM 1243-2 required           PROFIBUS         Yes; CM 1243-2 required           Protocols (Ethernet)         Yes           • TCP/P         No           • DHCP         No           • SMMP         Yes           • DCP         Yes           • DCP         Yes           • DCP         Yes           • DCP         Yes           • MRP         MR           - MRPD         No           • SToruling         Yes           • Data length, max.         8 kbyte           • STO-OP (RFC1006)         Yes           • Data length, max.         8 kbyte           • UDP         Yes           - Data length, max.         1 472 byte           • UDP         Yes           • Data length, max.         1 472 byte           • Suported         Yes           • Data length, max.         1 472 byte           • Suported         Yes           • OPC UA Server         Yes           • OPC UA Server         TCP/R <td></td> <td></td>						
PROFISIS         No           PROFISIS         Yes; CM 1243-5 (master) or CM 1242-5 (slave) required           OPC UA         Yes; CM 1243-2 required           Protocols (themet)         Yes; CM 1243-2 required           • TCP/IP         Yes           • DICP         No           • SMMP         Yes           • DICP         No           • SMMP         Yes           • DICP         Yes           • Redundancy mode         Wes           Media redundancy         Yes           • Data length, max.         Yes           • SToroung         Yes           • Data length, max.         Yes           • Datolength, max.         Yes <t< td=""><td></td><td>Yes</td></t<>		Yes				
OPC UA     Yes: OPC UA Server       AS-Interface     Yes: CM1243-2 required       Protocols (Ethernet)     Yes       • TCP/IP     Yes       • DHCP     No       • SNMP     Yes       • DCP     Yes       • DCP     Yes       • DCP     Yes       • DCP     Yes       • Eddondancy mode     Media redundancy       Media redundancy mode     No       Media redundancy mode     Yes       Open II Communication     Yes       • ST routing     Yes       Open II Communication     Yes       • Data length, max.     8 kbyte       • ISO-on-TCP (RFC1006)     Yes       • Data length, max.     8 kbyte       • UDP     Yes       • Data length, max.     1472 byte       Web server     Yes: data access (read, write, subscribe), method call, runtime license required       • OPC UA     Yes: data access (read, write, subscribe), method call, runtime license required       • OPC UA     Yes: data access (read, write, subscribe), method call, runtime license required       • OPC UA Server     Yes: data access (read, write, subscribe), method call, runtime license required       • OPC UA Server     Yes: data access (read, write, subscribe), method call, runtime license required       • Application authentrication     No manonymous*						
AS-Interface     Yes; CM 1243-2 required       Protocols (Ethernet)     • TCP/IP       • TCP/IP     Yes       • DHCP     No       • SIMNP     Yes       • DCP     Yes       • LDP     Yes       • Edundancy mode     -       Media redundancy     -       - MRP     No       - MRPD     No       SIMATIC communication     -       • ST routing     Yes       Open IE communication     -       • Data length, max.     8 kbyte       • ISO-on-TCP (RFC1006)     Yes       - Data length, max.     8 kbyte       • UDP     Yes       - Data length, max.     8 kbyte       • UDP     Yes       - Data length, max.     8 kbyte       • UDP     Yes       - Data length, max.     1472 byte       Web server     Yes       • UDP     Yes       • Data length, max.     1472 byte       Web server     Yes       • User defined websites     Yes       • Data length, max.     1472 byte       Web server     Yes       • Number of secorition     Yes: "Basic" license required       • OPC UA     Yes       • Number of secoritions preseion, max.     5 <td>PROFIBUS</td> <td>Yes; CM 1243-5 (master) or CM 1242-5 (slave) required</td>	PROFIBUS	Yes; CM 1243-5 (master) or CM 1242-5 (slave) required				
Protocols (Ethernet)         Yes           • DPICP         Yes           • DPICP         No           • SNMP         Yes           • DCP         Yes           • DCP         Yes           • DCP         Yes           • MRP         No           - MRP         No           SIMATIC communication         No           • STrouting         Yes           Open IE communication         Yes           • Data length, max.         8 kbyte           • ISO-on-TCP (RFC1006)         Yes           - Data length, max.         8 kbyte           • USer - defined websites         Yes           - Data length, max.         1 472 byte           Web server         Yes           • User - defined websites         Yes           OPC UA         Yes / Yes           • User - defined websites         Yes           • OPC UA Server         Yes; data access (read, write, subscribe), method cail, runtime license required           • OPC UA Server         Yes; data access (read, write, subscribe), method cail, runtime license required           • Application authentication         Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Rsa15, Basic256Rsa15, Basic256Rsa26           - User au	OPC UA	Yes; OPC UA Server				
• TCP/IP       Yes         • DHCP       No         • SINIP       Yes         • DCP       Yes         • LLDP       Yes         Redundancy mode       No         Media redundancy       No         - MRP       No         - MRPD       No         SIMATIC communication       Ves         • TCP/IP       Yes         • TCP/IP       Yes         • Data length, max.       8 kbyte         • ISO-On-TCP (RFC1006)       Yes         - Data length, max.       8 kbyte         • UDP       Yes         - Data length, max.       8 kbyte         • UDP       Yes         - Data length, max.       1472 byte         Web server       Yes         • supported       Yes         • OPC UA       Yes         • Runtime license required       Yes; "Basic" license required         • OPC UA       Server         • Supported       Yes         • User adtinentication       Available security policies: None, Basic128Rsa15, Basic256Rsa15, Ba	AS-Interface					
• DHCPNo• SINIPYes• DCPYes• LDPYesRedundancy mode	Protocols (Ethernet)					
• SNMP     Yes       • DCP     Yes       • LLDP     Yes       Redurdancy mode     Media redundancy       - MRP     No       - MRP     No       - MRP     No       STouting     Yes       Open IE communication     -       • TCP/IP     Yes       - Data length, max.     8 ktyle       • ISO-on-TCP (RFC1006)     Yes       - Data length, max.     8 ktyle       • UDP     Yes       - Data length, max.     8 ktyle       • UDP     Yes       - Data length, max.     1 472 byte       Web server     Yes       • Suported     Yes       OPC UA     Yes       • Runtime license required     Yes; "Basic" license required       • OPC UA     Yes       • Runtime license required     Yes; "data access (read, write, subscribe), method call, runtime license required       • Application authentication     access (read, write, subscribe), method call, runtime license required       • Number of subscriptions per session, max.     10       • Number of subscriptions per session, max.     5       • Number of sessions, max.     20       • Number of server interfaces, max.     20       • Number of server interfaces, max.     200       • Number of se						
<ul> <li>DCP Yes</li> <li>LLDP Yes</li> <li>Ves</li> <li>Redundancy mode</li> <li>Media redundancy</li> <li>MRP</li> <li>MRP</li> <li>No</li> <li>SIMATIC communication</li> <li>STrotining</li> <li>Yes</li> <li>Open IE communication</li> <li>SToromunication</li> <li>STORE required</li> <li>Yes</li> <li>Data length, max.</li> <li>8 kbyte</li> <li>ISC-on-TCP (RFC1006)</li> <li>Yes</li> <li>Data length, max.</li> <li>8 kbyte</li> <li>ISC-on-TCP (RFC1006)</li> <li>Yes</li> <li>Data length, max.</li> <li>8 kbyte</li> <li>UDP</li> <li>Yes</li> <li>Data length, max.</li> <li>1472 byte</li> <li>Web server</li> <li>Supported</li> <li>Ves</li> <li>USer-defined websites</li> <li>Yes</li> <li>OPC UA</li> <li>Patientific access (read, write, subscribe), method call, runtime license required</li> <li>OPC UA</li> <li>Portion authentication</li> <li>Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic</li></ul>						
• LLDP       Yes         Redundancy mode       Media redundancy        MRP       No        MRPD       No         SIMATIC communication       No         • TCP/IP       Yes         Open IE communication       Ves        Data length, max.       8 kbyte         • ICP/IP       Yes        Data length, max.       8 kbyte         • UDP       Yes        Data length, max.       1472 byte         Web server       Yes         • UDP       Yes        Data length, max.       1472 byte         Web server       Yes         • UDP       Yes        Data length, max.       1472 byte         Web server       Yes         • UDP - Data length, max.       1472 byte         Web server       Yes         • UDP - Lota length, max.       1472 byte         • UDP - Lota length, max.       1472 byte         Web server       Yes         • UDP - Lota length, max.       1472 byte         • UDP - Lota length, max.       Yes         OPC UA       Server         • OPC UA Server       Yes         - Applicitation authentication <t< td=""><td></td><td></td></t<>						
Redundancy mode         MRP       No        MRP       No         StMATIC communication       Yes         Open IE communication       Yes         • TCP/IP       Yes         - Data length, max.       8 kbyle         • ISO-on-TCP (RFC1006)       Yes         - Data length, max.       8 kbyle         • UDP       Yes         - Data length, max.       1 472 byte         Web server       Yes         - Data length, max.       1 472 byte         Web server       Yes         • UDP       Yes         - Data length, max.       1 472 byte         Web server       Yes         • User-defined websites       Yes         OPC UA       Yes; 'Basic' license required         • Runtime license required       Yes; 'Basic' license required         • OPC UA       Server         - Application authentication       Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Rsa25, Basic256Rsa						
Media redundancy     No       — MRPD     No       SIMATIC communication     Yes       • S7 routing     Yes       Open IE communication     *       • TCP/IP     Yes       — Data length, max.     8 kbyte       • ISO-on-TCP (RFC1006)     Yes       — Data length, max.     8 kbyte       • UDP     Yes       — Data length, max.     8 kbyte       • UDP     Yes       — Data length, max.     1 472 byte       Web server     Yes       • UDP     Yes       — Data length, max.     1 472 byte       Web server     Yes       • Upported     Yes       • User-defined websites     Yes       OPC UA     Yes; 'data access (read, write, subscribe), method call, runtime license required       • OPC UA     Yes; 'data access (read, write, subscribe), method call, runtime license required       - Application authentication     Tanonymous" or by user name & password       - Number of subscriptions per session, max.     10       - Number of server interfaces, max.     20       - Number of server interfaces, max.     2       - Number of ondes for user-defined server interfaces, max.     2       - Number of ondes for user-defined server interfaces, max.     2       - Number of ondes for user-defined server		Yes				
MRP     No      MRPD     No       SIMATIC communication						
MRPD     No       SIMATIC communication	-	No				
SIMATIC communication       Yes         Open IE communication       Yes         Open IE communication       Yes            - Data length, max.       8 kbyte            - ISO-on-TCP (RFC1006)       Yes            - Data length, max.       8 kbyte            - Data length, max.       8 kbyte            - Data length, max.       1472 byte         Web server       Yes            - Data length max.       1472 byte         Web server       Yes            - User defined websites       Yes         OPC UA       Yes; "Basic" license required            - Application authentication        Yes; data access (read, write, subscribe), method call, runtime license required            - Application authentication        "anonymous" or by user name & password            - User authentication        "anonymous" or by user name & password            - Number of subscriptions per session, max.       10            - Number of subscriptions per session, max.       20            - Number of source interfaces, max.       20            - Number of source interfaces, max.       2            - Number of oredes for user-defined server interfaces, max.       2            - Numb						
Open IE communication       Yes            • TCP/IP        Yes            • Data length, max.       8 kbyte            • ISO-on-TCP (RFC1006)       Yes            • Data length, max.       8 kbyte            • UDP        Yes            • Data length, max.       1472 byte         Web server              • Supported        Yes             • User-defined websites        Yes             • OPC UA               • Runtime license required        Yes; "Basic" license required             • Application authentication           · Available security policies: None, Basic128Rsa15, Basic256Rsa15,             • User authentication           · anonymous" or by user name & password             • Number of sessions, max.           10             • Number of server methods, max.           20               • Number of server methods, max.           20             • Number of server interfaces, max.           20             • Number of onotiored items, recommended max.           1000              • Number o						
• TCP/IP       Yes         — Data length, max.       8 kbyte         • ISO-on-TCP (RFC1006)       Yes         — Data length, max.       8 kbyte         • UDP       Yes         — Data length, max.       8 kbyte         • UDP       Yes         — Data length, max.       8 kbyte         • UDP       Yes         — Data length, max.       1472 byte         Web server	S7 routing	Yes				
Data length, max.8 kbyte• ISO-on-TCP (RFC1006)Yes Data length, max.8 kbyte• UDPYes Data length, max.1 472 byteWeb server	Open IE communication					
· ISO-on-TCP (RFC1006)Yes- Data length, max.8 kbyte· UDPYes- Data length, max.1 472 byteWeb server1 472 byteWeb serverYes• User-defined websitesYesOPC UAYes; "Basic" license required• Runtime license requiredYes; data access (read, write, subscribe), method call, runtime license required• OPC UA ServerYes; data access (read, write, subscribe), method call, runtime license required- Application authenticationAvailable security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256- User authentication"anonymous" or by user name & password- Number of sessions, max.10- Number of subscriptions per session, max.5- Sampling interval, min.200 ms- Number of server methods, max.20- Number of server interfaces, max.2- Number of server interfaces, max.2- Number of nonitored items, recommended max.2000- Number of nonitored items, recommended max.2000- Number of nonitored items, recommended max.2000- Number of nonitored items, recommended max.3000- Number of notes for user-defined server2000- NoDBUSYescommunication functions / header557 communication functions / headerYes	• TCP/IP	Yes				
Data length, max.8 kbyte• UDPYes Data length, max.1472 byteWeb server-• supportedYes• User-defined websitesYesOPC UA-• OPC UA ServerYes; "Basic" license required• OPC UA ServerYes; data access (read, write, subscribe), method call, runtime license required- Application authenticationYes; data access (read, write, subscribe), method call, runtime license required- Application authentication"anonymous" or by user name & password- Number of subscriptions per session, max.5- Sampling interval, min.100 ms- Number of subscriptions per session, max.20- Number of solver methods, max.20- Number of solver methods, max.20- Number of solver interfaces, max.2- Number of notored iterns, recommended max.2000- Number of solver interfaces, max.2- Number of notored iterns, recommended max.2- Number of notored iterns, recommended max.3- Number of notioned iterns, recommended max.3- Solver- Solver- Solver- Solver- Solver- Solver- Solver- Solver<	-	8 kbyte				
• UDPYes- Data length, max.1 472 byteWeb server						
— Data length, max.       1 472 byte         Web server       -         • supported       Yes         • User-defined websites       Yes         OPC UA       -         • OPC UA Server       Yes; data access (read, write, subscribe), method call, runtime license required         • OPC UA Server       Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256         - User authentication       Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256         - Number of sessions, max.       10         - Number of subscriptions per session, max.       5         - Sampling interval, min.       100 ms         - Number of server methods, max.       20         - Number of server interfaces, max.       20         - Number of server interfaces, max.       2         - Number of nonitored items, recommended max.       1000         - Number of nonitored items, recommended max.       2         - Number of nodes for user-defined server interfaces, max.       2         - Number of nodes for user-defined server interfaces, max.       2         • MODBUS       Yes         communication functions / header       Yes	-					
Web server         • supported       Yes         • User-defined websites       Yes         OPC UA       •         • Runtime license required       Yes; "Basic" license required         • OPC UA Server       Yes; data access (read, write, subscribe), method call, runtime license required         - Application authentication       Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256         - User authentication       "anonymous" or by user name & password         - Number of sessions, max.       10         - Number of sessions, max.       5         - Sampling interval, min.       100 ms         - Number of server methods, max.       20         - Number of server interfaces, max.       2         - Number of server interfaces, max.       2         - Number of server interfaces, max.       2         - Number of nonitored items, recommended max.       2000         - Number of nonitored items, recommended max.       2         - Number of nonitored items, recommended max.       2         - Number of nodes for user-defined server interfaces, max.       2         • MODBUS       Yes         communication functions / header       57 communication         • supported       Yes						
• supported       Yes         • User-defined websites       Yes         OPC UA	-	1 472 byte				
User-defined websites       Yes         OPC UA       • Runtime license required       Yes; "Basic" license required         • OPC UA Server       Yes; data access (read, write, subscribe), method call, runtime license required         - Application authentication       Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256         - User authentication       available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256         - User authentication       anonymous" or by user name & password         - Number of sessions, max.       10         - Number of subscriptions per session, max.       5         - Sampling interval, min.       200 ms         - Publishing interval, min.       200 ms         - Number of server methods, max.       20         - Number of server interfaces, max.       2         - Number of nonitored items, recommended max.       2000         - Number of nodes for user-defined server interfaces, max.       2         - Number of nodes for user-defined server interfaces, max.       2         • MODBUS       Yes         communication functions / header       S7 communication         • supported       Yes		Yes				
OPC UA         • Runtime license required       Yes; "Basic" license required         • OPC UA Server       Yes; data access (read, write, subscribe), method call, runtime license required         - Application authentication       Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256         - User authentication       "anonymous" or by user name & password         - Number of sessions, max.       10         - Number of subscriptions per session, max.       5         - Sampling interval, min.       100 ms         - Number of server methods, max.       20         - Number of server interfaces, max.       2         - Number of server interfaces, max.       2         - Number of nodes for user-defined server interfaces, max.       2         - Number of nodes for user-defined server interfaces, max.       2         • MODBUS       Yes         Communication functions / header       Yes						
• OPC UA ServerYes; data access (read, write, subscribe), method call, runtime license required- Application authenticationAvailable security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256- User authentication"anonymous" or by user name & password- Number of sessions, max.10- Number of subscriptions per session, max.5- Sampling interval, min.100 ms- Publishing interval, min.200 ms- Number of server methods, max.20- Number of server interfaces, max.20- Number of nonitored items, recommended max.1000- Number of nodes for user-defined server interfaces, max.2- Number of nodes for user-defined server interfaces, max.2• MODBUSYescommunication • supportedYes	OPC UA					
required         Application authentication       Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Rsa256         - User authentication       "anonymous" or by user name & password         - Number of sessions, max.       10         - Number of subscriptions per session, max.       5         - Sampling interval, min.       100 ms         - Publishing interval, min.       200 ms         - Number of server methods, max.       20         - Number of monitored items, recommended max.       1000         - Number of server interfaces, max.       2         - Number of nodes for user-defined server interfaces, max.       2         - Number of nodes for user-defined server interfaces, max.       2         - Number of nodes for user-defined server interfaces, max.       2         • MODBUS       Yes         communication functions / header       Yes	Runtime license required	Yes; "Basic" license required				
- Application authenticationAvailable security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256- User authentication"anonymous" or by user name & password- Number of sessions, max.10- Number of subscriptions per session, max.5- Sampling interval, min.100 ms- Publishing interval, min.200 ms- Number of server methods, max.20- Number of server methods, max.20- Number of server interfaces, max.2- Number of server interfaces, max.2- Number of server interfaces, max.2- Number of nodes for user-defined server interfaces, max.2000- Number of nodes for user-defined server interfaces, max.2- MODBUSYescommunicationYesS7 communicationYes	OPC UA Server					
User authentication"anonymous" or by user name & password Number of sessions, max.10 Number of subscriptions per session, max.5 Sampling interval, min.100 ms Publishing interval, min.200 ms Number of server methods, max.20 Number of monitored items, recommended max.1 000 Number of server interfaces, max.2 Number of server interfaces, max.2 Number of nodes for user-defined server interfaces, max.2000 Number of nodes for user-defined server interfaces, max.2 Sord SordYes Sord						
Number of sessions, max.10 Number of subscriptions per session, max.5 Sampling interval, min.100 ms Publishing interval, min.200 ms Number of server methods, max.20 Number of monitored items, recommended max.1000 Number of server interfaces, max.2 Number of server interfaces, max.2 Number of nodes for user-defined server interfaces, max.2 Sorder	— Application authentication	Available security policies: None, Basic128Rsa15, Basic256Rsa15,				
Sampling interval, min.100 ms Publishing interval, min.200 ms Number of server methods, max.20 Number of monitored items, recommended max.1 000 Number of server interfaces, max.2 Number of nodes for user-defined server interfaces, max.2 000Further protocolsYescommunication functions / headerS7 communication • supportedYes		Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256				
Publishing interval, min.200 ms Number of server methods, max.20 Number of monitored items, recommended max.1 000 Number of server interfaces, max.2 Number of nodes for user-defined server interfaces, max.2 000Further protocolsYes• MODBUSYesS7 communication • supportedYesYes	— User authentication	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password				
Number of server methods, max.20 Number of monitored items, recommended max.1 000 Number of server interfaces, max.2 Number of nodes for user-defined server interfaces, max.2 000Further protocols2 000• MODBUSYescommunication functions / headerYes\$7 communication • supportedYes	<ul><li>— User authentication</li><li>— Number of sessions, max.</li></ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10				
Number of monitored items, recommended max.1 000 Number of server interfaces, max.2 Number of nodes for user-defined server interfaces, max.2 000Further protocols2 000• MODBUSYesS7 communication • supportedYesYes	<ul> <li>User authentication</li> <li>Number of sessions, max.</li> <li>Number of subscriptions per session, max.</li> <li>Sampling interval, min.</li> </ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5				
max.2 Number of server interfaces, max.2 Number of nodes for user-defined server interfaces, max.2Further protocols2• MODBUSYesCommunication functions / header\$7 communicationYes• supportedYes	<ul> <li>User authentication</li> <li>Number of sessions, max.</li> <li>Number of subscriptions per session, max.</li> <li>Sampling interval, min.</li> <li>Publishing interval, min.</li> </ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms				
Number of server interfaces, max.     2       Number of nodes for user-defined server interfaces, max.     2 000       Further protocols     Yes       • MODBUS     Yes       communication functions / header     S7 communication       • supported     Yes	<ul> <li>User authentication</li> <li>Number of sessions, max.</li> <li>Number of subscriptions per session, max.</li> <li>Sampling interval, min.</li> <li>Publishing interval, min.</li> <li>Number of server methods, max.</li> </ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20				
interfaces, max.       Further protocols       • MODBUS     Yes       communication functions / header       S7 communication       • supported     Yes	<ul> <li>User authentication</li> <li>Number of sessions, max.</li> <li>Number of subscriptions per session, max.</li> <li>Sampling interval, min.</li> <li>Publishing interval, min.</li> <li>Number of server methods, max.</li> <li>Number of monitored items, recommended</li> </ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20				
Further protocols       • MODBUS     Yes       communication functions / header       S7 communication       • supported     Yes	<ul> <li>User authentication</li> <li>Number of sessions, max.</li> <li>Number of subscriptions per session, max.</li> <li>Sampling interval, min.</li> <li>Publishing interval, min.</li> <li>Number of server methods, max.</li> <li>Number of monitored items, recommended max.</li> </ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20 1 000				
MODBUS Yes  communication functions / header  S7 communication      supported Yes	<ul> <li>User authentication</li> <li>Number of sessions, max.</li> <li>Number of subscriptions per session, max.</li> <li>Sampling interval, min.</li> <li>Publishing interval, min.</li> <li>Number of server methods, max.</li> <li>Number of monitored items, recommended max.</li> <li>Number of server interfaces, max.</li> <li>Number of nodes for user-defined server</li> </ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20 1 000 2				
S7 communication • supported Yes	<ul> <li>User authentication</li> <li>Number of sessions, max.</li> <li>Number of subscriptions per session, max.</li> <li>Sampling interval, min.</li> <li>Publishing interval, min.</li> <li>Number of server methods, max.</li> <li>Number of monitored items, recommended max.</li> <li>Number of server interfaces, max.</li> <li>Number of nodes for user-defined server interfaces, max.</li> </ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20 1 000 2				
• supported Yes	<ul> <li>User authentication</li> <li>Number of sessions, max.</li> <li>Number of subscriptions per session, max.</li> <li>Sampling interval, min.</li> <li>Publishing interval, min.</li> <li>Number of server methods, max.</li> <li>Number of monitored items, recommended max.</li> <li>Number of server interfaces, max.</li> <li>Number of nodes for user-defined server interfaces, max.</li> </ul> Further protocols	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20 1 000 2 2 000				
	<ul> <li>User authentication</li> <li>Number of sessions, max.</li> <li>Number of subscriptions per session, max.</li> <li>Sampling interval, min.</li> <li>Publishing interval, min.</li> <li>Number of server methods, max.</li> <li>Number of monitored items, recommended max.</li> <li>Number of server interfaces, max.</li> <li>Number of nodes for user-defined server interfaces, max.</li> </ul> Further protocols <ul> <li>MODBUS</li> </ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20 1 000 2 2 000				
• as server Yes	<ul> <li>User authentication</li> <li>Number of sessions, max.</li> <li>Number of subscriptions per session, max.</li> <li>Sampling interval, min.</li> <li>Publishing interval, min.</li> <li>Number of server methods, max.</li> <li>Number of monitored items, recommended max.</li> <li>Number of server interfaces, max.</li> <li>Number of nodes for user-defined server interfaces, max.</li> </ul> Further protocols <ul> <li>MODBUS</li> </ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20 1 000 2 2 000				
	<ul> <li>User authentication</li> <li>Number of sessions, max.</li> <li>Number of subscriptions per session, max.</li> <li>Sampling interval, min.</li> <li>Publishing interval, min.</li> <li>Number of server methods, max.</li> <li>Number of monitored items, recommended max.</li> <li>Number of server interfaces, max.</li> <li>Number of nodes for user-defined server interfaces, max.</li> <li>Further protocols</li> <li>MODBUS</li> <li>Communication functions / header</li> </ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20 1 000 2 2 000 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	PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; S7 Connections: 8 reserved / 14 max; Open User Connections: 8 reserved / 14 max; Web Connections: 2 reserved / 30 max; OPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max			
Test commissioning functions				
Status/control				
<ul> <li>Status/control variable</li> </ul>	Yes			
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters			
Forcing				
Forcing	Yes			
Diagnostic buffer				
• present	Yes			
Traces	2			
Number of configurable Traces	2			
Memory size per trace, max.	512 kbyte			
Interrupts/diagnostics/status information				
Diagnostics indication LED				
RUN/STOP LED	Yes			
	Yes			
MAINT LED	Yes			
Integrated Functions				
Frequency measurement	Yes			
controlled positioning	Yes			
Number of position-controlled positioning axes, max.	8 4: With integrated outputs			
Number of positioning axes via pulse-direction interface PID controller	4; With integrated outputs Yes			
Number of alarm inputs	4			
Number of pulse outputs	4			
LIMILITEQUENCY (DUISE)				
Limit frequency (pulse) Potential separation	100 kHz			
Potential separation				
Potential separation Potential separation digital inputs				
Potential separation Potential separation digital inputs • Potential separation digital inputs	No 1			
Potential separation Potential separation digital inputs	No			
Potential separation Potential separation digital inputs    Potential separation digital inputs  between the channels, in groups of	No			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs	No 1			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs	No 1 Yes			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • Potential separation digital outputs         • between the channels	No 1 Yes No			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • between the channels	No 1 Yes No			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static	No 1 Yes No			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         • Interference immunity against discharge of static	No 1 Yes No 1 Yes			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels         • between the channels         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         • Interference immunity against discharge of static         electricity acc. to IEC 61000-4-2         — Test voltage at air discharge	No 1 Yes No 1 Yes 8 kV			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         • Interference immunity against discharge of static         • Test voltage at air discharge         - Test voltage at contact discharge	No 1 Yes No 1 Yes			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels         • between the channels         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         • Interference immunity against discharge         — Test voltage at air discharge         — Test voltage at contact discharge         Interference immunity to cable-borne interference         • Interference immunity on supply lines acc. to IEC	No 1 Yes No 1 Yes 8 kV			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	No 1 Yes No 1 Yes 8 kV 6 kV			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2         — Test voltage at air discharge         — Test voltage at contact discharge         Interference immunity to cable-borne interference         • Interference immunity on supply lines acc. to IEC 61000-4-4         • Interference immunity on signal cables acc. to IEC 61000-4-4	No 1 Yes No 1 Yes 8 kV 6 kV			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	No 1 Yes No 1 Yes 8 kV 6 kV			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2         — Test voltage at air discharge         — Test voltage at contact discharge         • Interference immunity to cable-borne interference         • Interference immunity on supply lines acc. to IEC 61000-4-4         • Interference immunity on signal cables acc. to IEC 61000-4-4         • Interference immunity on signal cables acc. to IEC 61000-4-4	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2         — Test voltage at air discharge         — Test voltage at contact discharge         • Interference immunity to cable-borne interference         • Interference immunity on supply lines acc. to IEC 61000-4-4         • Interference immunity on signal cables acc. to IEC 61000-4-4         • Interference immunity on signal cables acc. to IEC 61000-4-4         • Interference immunity on signal cables acc. to IEC 61000-4-4         • Interference immunity on signal cables acc. to IEC 61000-4-4	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • Detential separation digital outputs         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2         Test voltage at air discharge         Test voltage at contact discharge         Interference immunity to cable-borne interference         • Interference immunity on supply lines acc. to IEC 61000-4-4         • Interference immunity on signal cables acc. to IEC 61000-4-4         • Interference immunity against voltage surge         • Interference immunity on supply lines acc. to IEC 61000-4-5         Interference immunity against conducted variable disturbanc         • Interference immunity against conducted variable disturbanc         • Interference immunity against conducted variable disturbanc	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         • Interference immunity against discharge         — Test voltage at air discharge         — Test voltage at contact discharge         Interference immunity to cable-borne interference         • Interference immunity on supply lines acc. to IEC 61000-4-4         • Interference immunity on supply lines acc. to IEC 61000-4-4         • Interference immunity on supply lines acc. to IEC 61000-4-5         Interference immunity on supply lines acc. to IEC 61000-4-5         Interference immunity against conducted variable disturbanc         • Interference immunity against conducted variable disturbanc         • Interference immunity against conducted variable disturbanc         • Interference immunity against high-frequency radiation acc. to IEC 61000-4-6         Emission of radio interference acc. to EN 55 011	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes e induced by high-frequency fields Yes			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes Yes Yes Yes Yes Yes			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2         — Test voltage at air discharge         — Test voltage at contact discharge         Interference immunity to cable-borne interference         • Interference immunity on supply lines acc. to IEC 61000-4-4         • Interference immunity on signal cables acc. to IEC 61000-4-4         • Interference immunity against voltage surge         • Interference immunity against conducted variable disturbanc         • Interference immunity against conducted variable disturbanc         • Interference immunity against conducted variable disturbanc         • Interference immunity against high-frequency radiation acc. to IEC 61000-4-6         Emission of radio interference acc. to EN 55 011         • Limit class A, for use in industrial areas         • Limit class B, for use in residential areas	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes e induced by high-frequency fields Yes			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes Yes Yes Yes Yes Yes			
Potential separation         Potential separation digital inputs         • Potential separation digital inputs         • between the channels, in groups of         Potential separation digital outputs         • Potential separation digital outputs         • between the channels         • between the channels         • between the channels         • between the channels, in groups of         EMC         Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2         — Test voltage at air discharge         — Test voltage at contact discharge         Interference immunity to cable-borne interference         • Interference immunity on supply lines acc. to IEC 61000-4-4         • Interference immunity on signal cables acc. to IEC 61000-4-4         • Interference immunity against voltage surge         • Interference immunity against conducted variable disturbanc         • Interference immunity against conducted variable disturbanc         • Interference immunity against conducted variable disturbanc         • Interference immunity against high-frequency radiation acc. to IEC 61000-4-6         Emission of radio interference acc. to EN 55 011         • Limit class A, for use in industrial areas         • Limit class B, for use in residential areas	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes Yes Yes Yes Yes Yes			

Standards, approvals, certificates				
CE mark	Yes			
UL approval	Yes			
cULus	Yes			
FM approval	Yes			
RCM (formerly C-TICK)	Yes			
KC approval	Yes			
Marine approval	Yes			
Ambient conditions				
Free fall				
<ul> <li>Fall height, max.</li> </ul>	0.3 m; five times, in product package			
Ambient temperature during operation				
• min.	-20 °C			
• max.	60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical			
horizontal installation, min.	-20 °C			
horizontal installation, max.	60 °C			
vertical installation, min.	-20 °C			
vertical installation, max.	50 °C			
Ambient temperature during storage/transportation	-40 °C			
● min. ● max.	-40 °C 70 °C			
max.     Air pressure acc. to IEC 60068-2-13				
Operation, min.	795 hPa			
Operation, max.	795 hPa 1 080 hPa			
<ul> <li>Operation, max.</li> <li>Storage/transport, min.</li> </ul>	660 hPa			
Storage/transport, max.	1 080 hPa			
Altitude during operation relating to sea level				
Installation altitude, min.	-1 000 m			
<ul> <li>Installation altitude, max.</li> </ul>	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual			
Relative humidity				
Operation, max.	95 %; no condensation			
Vibrations				
Vibration resistance during operation acc. to IEC 60068-2-6	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 / header				
configuration / programming / header Programming language				
	Yes			
— FBD	Yes			
— SCL	Yes			
Know-how protection				
User program protection/password protection	Yes			
Copy protection	Yes			
Block protection	Yes			
Access protection				
<ul> <li>protection of confidential configuration data</li> </ul>	Yes			
Protection level: Write protection	Yes			
<ul> <li>Protection level: Read/write protection</li> </ul>	Yes			
Protection level: Complete protection	Yes			
programming / cycle time monitoring / header				
adjustable	Yes			
Dimensions				
Width	110 mm			
Height	100 mm			
Depth	75 mm			

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Weight, approx.

last modified:

415 g

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