## **SIEMENS**

## **Data sheet**

6AG1212-1BE40-4XB0



Figure similar

SIPLUS S7-1200 CPU 1212C AC/DC/relay based on 6ES7212-1BE40-0XB0 with conformal coating, -20...+60 °C, compact CPU, AC/DC/relay, onboard I/O: 8 DI 24 V DC 6 DQ relay 2 A 2 AI 0-10 V DC, power supply: AC 85-264 V AC @ 47-63 Hz, program/data memory 75 KB

General information	
Product type designation	CPU 1212C AC/DC/relay
based on	6ES7212-1BE40-0XB0
Engineering with	
<ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	see entry ID: 109746275
Supply voltage	
Rated value (AC)	
• 120 V AC	Yes
• 230 V AC	Yes
permissible range, lower limit (AC)	85 V
permissible range, upper limit (AC)	264 V
Line frequency	
<ul> <li>permissible range, lower limit</li> </ul>	47 Hz
<ul> <li>permissible range, upper limit</li> </ul>	63 Hz
Input current	
Current consumption (rated value)	80 mA at 120 V AC; 40 mA at 240 V AC
Current consumption, max.	240 mA at 120 V AC; 120 mA at 240 V AC
Inrush current, max.	20 A; at 264 V
Output current	
for backplane bus (5 V DC), max.	1 000 mA; Max. 5 V DC for SM and CM
Encoder supply	
24 V encoder supply	
• 24 V	20.4 to 28.8V
Power loss	
Power loss, typ.	11 W
Memory	
Work memory	
• integrated	75 kbyte
Load memory	
• integrated	1 Mbyte
<ul> <li>Plug-in (SIMATIC Memory Card), max.</li> </ul>	with SIMATIC memory card
Backup	
• present	Yes; maintenance-free
without battery	Yes
CPU processing times	
for bit operations, typ.	0.085 μs; / Operation
for word operations, typ.	1.7 µs; / Operation
for floating point arithmetic, typ.	2.3 µs; / Operation
CPU-blocks	

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
ОВ	
Number, max.	Limited only by RAM for code
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	10 kbyte
Flag	
• Size, max.	4 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, 2 signal modules
Time of day	5 comm. modules, 1 signal board, 2 signal modules
·	
Clock	Voc
Hardware clock (real-time)     Realtwin time	Yes
Backup time	480 h; Typical
Deviation per day, max.	60 s/month at 25 °C
Digital inputs	
Number of digital inputs	8; Integrated
of which inputs usable for technological functions	4; HSC (High Speed Counting)
Source/sink input	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	8
Input voltage	
<ul> <li>Rated value (DC)</li> </ul>	24 V
• 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.	1 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	$0.2~\mathrm{ms},0.4~\mathrm{ms},0.8~\mathrm{ms},1.6~\mathrm{ms},3.2~\mathrm{ms},6.4~\mathrm{ms}$ and $12.8~\mathrm{ms},\mathrm{selectable}$ 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	Yes; Single phase : 3 at 100 kHz & 3 at 30 kHz, differential: 3 at 80 kHz & 3 at 30 kHz
Cable length	
• shielded, max.	500 m; 50 m for technological functions
unshielded, max.	300 m; for technological functions: No
Digital outputs	
Number of digital outputs	6; Relays
Switching capacity of the outputs	
with resistive load, max.	2 A
• on lamp load, max.	30 W with DC, 200 W with AC
Output delay with resistive load	55 77 Hill 50, 200 17 Hill 710
• "0" to "1", max.	10 ms; max.
• "1" to "0", max.	10 ms; max.
Switching frequency	Alle
of the pulse outputs, with resistive load, max.  Pales systems.	1 Hz
Relay outputs	
Number of relay outputs	6
Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000

• Inhielded, max.	Cable length	
- unshielded, max.  Number of analog inputs  * Votage  * Votage  * Votage  * Votage  * Votage  * Votage  * Ote + 10 V  - Input resistance (0 to 10 V)  * Analog outputs  Number of analog outputs  Number of analog outputs  * Resolution with overrange (bit including sign), max. * 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 and conversion time (per channel)  * Conversion time (per channel)  * Conversion time (per channel)  * PROFINET  * Conversion time (per channel)  * PROFINET  * Soluted  * Profined by Profined  * Ves  * Uniterface by Profined  * Ves  * Autorogostation  * Ves  * Autorogostation  * Profined  * PROFINET to Converse  * PROFINET to Converse  * PROFINET to Device  * Services  - Number of connectable to Devices, max.  * Transmission rate, max.  * 10 Mobits  * Services  - Number of Controllers with shared device, max.  * PROFINET to Device  * Services  - Number of Controllers with shared device, max.  * PROFINET to Device  * Services  - Number of Controllers with shared device, max.  * PROFINET to Device  * Services  - Number of Controllers with shared device, max.  * PROFINET to Device  * Services  - Number of Controllers with shared device, max.  * PROFINET to Device  * Services  - Number of Controllers with shared device, max.  * PROFINET to Device  * Services  - Number of Controllers with shared device, max.  * PROFINET to Device  * Services  - Number of Controllers with shared device, max.  * PROFINET to Device  * Services  -	Cable length	500 m
Number of analog inputs   2	,	
Number of analog inputs   2		150 111
Input ranges   Ves   V		2
Notinger   Yes		2
Inpart ranges (rated values), voltages   • 10 + 10 V		Van
• 10 to 10 V  — Input resistance (0 to 10 V)  Cable length  • shelded, max. 100 m; twisted and shielded  Analog outputs  Number of analog outputs  Number of analog outputs  Namber of analog outputs  Resolution with overange (bit including sign), max. 10 bit  • Resolution with overange (bit including sign), max. 10 bit  • Inlegration and conversion time/resolution per channel  • Resolution with overange (bit including sign), max. 10 bit  • Conversion time (per channel) 625 µs  Encoder  • Conversion time (per channel) 7 es  • Conversion time (per channel) 7 es  • Conversion time (per channel) 8 es  • Resolution with overange (bit including sign), max. 10 bit  • Interface 8 es ensor 9 es  • PROFINET  Isolated 9 es  Interface type 9 PROFINET  Isolated 9 es  • Ruttorcossing 7 es  Interface types 9 es  • Ruttorcossing 9 es  • PROFINET 10 Controller 9 es  • PROFINET 10 Contro		Yes
Anilog outputs  shelded, max. 100 m; twisted and shielded Anilog outputs  Number of analog outputs  Annilog value generation for the Inputs  Integration and conversion time/resolution per channel  Resolution with overange (bit including sign), max. Integration sign conversion time/resolution per channel  Resolution with overange (bit including sign), max. Integration sime, per channel)  Conversion time (per channel)  Conversion time (per channel)  Connectable encoders  - 2-wire sensor  Yes  Linterface  Interface bype  PROFINET  Isolated  Autonogostation  Yes  Autonogostation  Yes  Autonogostation  Yes  Autonogostation  Yes  PROFINET (D Controller  PROFINET (O CONTROLLER		V
a shielded, max.  Analog outputs  Number of analog outputs  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 and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Integration inter (per channel)  Resolution with overrange (bit including sign), max.  Yes  Conversion time (per channel)  Recorder  Connectable encoders  - 2-wire sensor  Yes  Interface  Interface type  Isolated  Yes  Autorospitation  Yes  Autorospitation  Yes  Recorder  PROFINET  PROFINET IO Controller  - PROFINET IO Device  - PROFINET IO Device  Yes  - PROFINET IO Device  Yes  - PROFINET IO Controller  - Transmission rate, max.  Services  - Number of connectable IO Devices, max.  PROFINET IO Controller  - Number of Connectable IO Devices, max.  PROFINET IO Controller  - Number of PROFINET IO  Yes  - Shared device  - Number of IO Controller swith shared device, max.  PROFINET IO Profice  Services  - Shared device  - Number of IO Controller swith shared device, max.  PROFINET IO Profine Yes  Supports protocol for PROFINET IO  Yes  PROFINET IO  PROFINET IO  Yes  PROFINET IO  PROFINET IO  PROFINET IO  Yes  PROFINET IO  PROFINET IO  Yes  PROFINET IO  PROFINET IO  Yes  PROFINET IO		
* shielded, max.  Analog outputs  O Analog value generation for the inputs Integration and conversion timeresolution per channel  Resolution with overrange (bit including sign), max. Integration from a parameterizable  Resolution with overrange (bit including sign), max. Integration time, parameterizable  Resolution with overrange (bit including sign), max. Integration time, parameterizable  Resolution with overrange (bit including sign), max. Integration time, parameterizable  Resolution with overrange (bit including sign), max. Integration time, parameterizable  Resolution with overrange (bit including sign), max. Integration time (see sign)  Resolution time (see		210UK ONMS
Analog outputs Number of analog outputs Analog value generation for the inputs Integration and conversion time/resolution per channel  • Resolution with overrange (foi including sign), max. • Integration time, parameterizable • Conversion time (per channel)  • Conversion time (per channel)  • Connectable encoders • 2-wire sensor • 2-wire sensor • 2-wire sensor • 2-wire sensor • Yes  Interface type  Interface type Interface type Interface type Interface type Interface type • RA 45 (Ethemet)  • PROFINET IO Controller • PROFINET IO Controller • PROFINET IO Controller • Yes • Que Its Communication • Yes • Que Its Communication • Yes • Que Its Communication • Yes • PROFINET IO Controller • Transmission rate, max. • 100 Mbit/is Services  — Number of connectable IO Devices, max.  PROFINET IO Controller with shared device, max  PROFINET IO Controller swith shared device, max  PROFINET IO Controller Supports protocol for PROFINET IO • Yes • PROFINET IO Controller Supports protocol for PROFINET IO • Yes • No • PROFINET IO Controller Supports Totocols • Controller Supports Supports Protocols • Controller Supports Supports Supports Protocols • Controller Supports Supports Supports Protocols • Controller Supports Supports Protocols • Controller Supports Supports Supports Protocols • Controller Supports • Ves • Controller Supp		100 ms tricated and abjudged
Number of analog outputs Ambor value generation for the inputs Integration and conversion time/sesolution per channel  • Resolution with overrange (bit including sign), max. • Integration time, parameterizable • Conversion time (per channel) • Connectable encoders • 2-wire sensor • 2-wire sensor • 2-wire sensor • 1-Interface by PROFINET Isolated • Ves automatic detection of transmission rate Autonogotation • Yes Autonogotation • Yes Autonogotation • PROFINET IO Controller • PROFINET IO Controller • PROFINET IO Controller • Yes • Open IE communication • Web server • Transmission rate, max. • Transmission rate • Transmission rate, max. • The communication • Web server • Services • Number of Connectable IO Devices, max.  PROFINET IO Device • Number of Connectable IO Devices, max.  PROFINET IO Controller • Transmission rate, max. • Transmissi		100 m, twisted and shielded
Analog value generation for the inputs Integration and conversion time/resolution per channel  Resolution with overange (bit including sign), max.  Integration time, parameterizable Conversion time (per channel)  Encodor  Connectable encoders  2-wire sensor Ves  Interface type PROFINET Isolated Yes  automatic detection of transmission rate Autorogolation Ves  Autorogolation PROFINET IO Controller PROFINET IO Controller PROFINET IO Controller PROFINET IO Controller  Transmission rate, max.  Services — Number of connectable IO Devices, max.  PROFINET IO Device Services — Number of IO Controllers with shared device, max.  PROFINET IO Device Services  - Number of IO Controllers with shared device, max.  PROFINET IO Device Services  - Number of IO Controllers with shared device, max.  PROFINET IO Device Services  - Number of IO Controllers with shared device, max.  PROFINET IO Device Services  - Number of IO Controllers with shared device, max.  PROFINET IO Device Services  - Number of IO Controllers with shared device, max.  PROFINET IO Device Services  - Number of IO Controllers with shared device, max.  PROFINET IO Device Services  - Number of IO Controllers with shared device, max.  PROFINET IO Device Services  - Number of IO Controllers with shared device, max.  PROFINET IO Device Services  - Shared device - Number of IO Controllers with shared device, max.  PROFINET IO Device Services  - Shared device - Number of IO Controllers with shared device, max.  PROFINET IO Device Services - Shared device - Number of IO Controllers with shared device, max.  PROFINET IO Device Services - Shared device - Number of IO Controllers with shared device, max.  PROFINET IO Device Services - Shared device - Number of IO Controllers with shared device, max.  PROFINET IO Device Services - Shared device - Number of IO Controllers - Number of IO C		0
Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Integration time, parameter/able  Conversion time (per channel)  Encoder  Connectable encoders  - 2-wire sensor  - 2-wire sensor  Ves  Interface bype  Interface bype  Sultimor/Boo  Autorogolation  Autorogolation  Autorogolation  Free Signature  - Resolution for transmission rate  Yes  Autorogolation  Yes  Autorogolation  Yes  Autorogolation  Yes  Procliner to Controller  - PROFINET IO Controller  - PROFINET IO Controller  - PROFINET IO Device  - Open IE communication  Yes  PROFINET IO Controller  - Transmission rate, max.  Services  - Number of connectable IO Devices, max.  16  PROFINET IO Device  Services  - Shared device  - Number of IO Controllers with shared device, max.  2  Protocols  Supports protocol for PROFINET IO  Yes  Protocols  Supports protocol (Ethernet)  - TCP/IP  Yes  Protocols (Ethernet)  - TCP/IP  Yes  Ves  - Supported  Yes  Ves  Ves  Ves  Ves  Protocols (Ethernet)  - TCP/IP  Yes  Ves  Ves  Ves  Ves  Ves  Ves  Ves		0
Resolution with overrange (bit including sign), max.     Integration time, parameterizable yes     Conversion time (per channel)     Sets µs    Convertable encoders		
■ Integration time, parameterizable ■ Conversion time (per channel) ■ Conversion time (per channel) ■ Connectable encoders ■ 2-wire sensor ■ Yes ■ Interface  Interface type Interface type Isolated  Autonegotiation	·	40.1%
Encoder           Connectable encoders           • 2-wire sensor         Yes           1. Interface           Interface type         PROFINET           Isolated         Yes           automatic detection of transmission rate         Yes           Autorepositation         Yes           Autoressing         Yes           • RJ 45 (Ethernet)         Yes           • RJ 45 (Ethernet)         Yes           • PROFINET IO Controller         Yes           • PROFINET IO Device         Yes           • Veb server         Yes           PROFINET IO Controller         Yes           • Ves revices         Yes           — Number of connectable IO Devices, max.         16           PROFINET IO Device         Yes           Services         — Shared device         Yes           — Number of IO Controllers with shared device, max.         2           PROFINET IO Devices         Yes           Supports protocol for PROFINET IO         Yes           PROFIBUS         Yes (M 1243-5 required           AS-Interface         Yes (CM 1243-5 required           AS-Interface         Yes (CM 1243-5 required           • TCP/IP         Yes           • I		
Connectable encoders		
Connectable encoders         Yes		625 μs
Interface   PROFINET   Isolated   Yes   automatic detection of transmission rate   Yes   Autonegotiation   Yes   Autonegotiation   Yes   Autocrossing   Yes   Testing   Yes   Testing   Yes   Autocrossing   Yes   Testing		
Interface type		Yes
Isolated		
automatic detection of transmission rate  Autocrossing Autocrossing Interface types  • RJ 45 (Ethernet)  Protocols  • PROFINET IO Controller • PROFINET IO Device • Open IE communication • Transmission rate, max.  • PROFINET IO Device • Transmission rate, max.  • Web server  • Transmission rate, max.  • Transmission r	·	
Autorossing Autorossing Interface types  • R.J. 45 (Ethernet)  Protocols  • PROFINET IO Controller • PROFINET IO Device • Open IE communication • Web server  PROFINET IO Controller • Transmission rate, max.  Services  — Number of connectable IO Devices, max.  16  PROFINET IO Device  Services  — Shared device — Number of IO Controllers with shared device, max.  Protocols  Supports protocol for PROFINET IO  PROFISIBL  Suports protocol for PROFINET IO  PROFISIBL  AS-Interface  Protocols (Ethernet) • TCP/IP  • TCP/IP  Ves  Open IE communication • TCP/IP  Ves  ISO-on-TCP (RFC1006) • Ves  Web server  • supported  Yes  Ves  Ves  Ves  Ves  Ves  Ves  Ves		
Autocrossing Yes  Interface types  • RJ 45 (Ethernet) Yes  • PROFINET IO Controller Yes  • PROFINET IO Device Yes  • Open IE communication Yes  - Number of connectable IO Devices, max. 100 Mbit/s  Services  - Number of connectable IO Devices, max. 16  PROFINET IO Device  Services  - Shared device - Number of IO Controllers with shared device, max. 2  Protocols  Supports protocol for PROFINET IO Yes  PROFISIBUS Yes; CM 1243-5 required  AS-Interface Yes  Protocols (Ethernet)  • TCP/IP  • TCP/IP  • Yes  UDP  Wes server  • supported  Wes server  • supported	automatic detection of transmission rate	Yes
Interface types	Autonegotiation	Yes
		Yes
Protocols	• •	
		Yes
PROFINET IO Device     Open IE communication     Yes     Web server     Yes  PROFINET IO Controller      Transmission rate, max. Services     — Number of connectable IO Devices, max.  PROFINET IO Device Services      — Shared device     — Number of IO Controllers with shared device, max.  Protocols  Supports protocol for PROFINET IO PROFISATE  No PROFIBUS AS-Interface Protocols (Ethernet)     ▼es  Protocols (Ethernet		
Web server  PROFINET IO Controller  Transmission rate, max.  Services  - Number of connectable IO Devices, max.  PROFINET IO Device  Services  - Shared device - Number of IO Controllers with shared device, max.  Protocols  Supports protocol for PROFINET IO PROFISafe No PROFIBUS AS-Interface Protocols (Ethernet)  TCP/IP  Open IE communication  TCP/IP  Ves  ISO-on-TCP (RFC1006) Yes  Web server  Supported  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Y		
PROFINET IO Controller  • Transmission rate, max. 100 Mbit/s  Services  — Number of connectable IO Devices, max. 16  PROFINET IO Device  Services  — Shared device — Number of IO Controllers with shared device, max. 2  Protocols  Supports protocol for PROFINET IO Yes PROFISafe No PROFIBUS Yes; CM 1243-5 required  AS-Interface Yes  Protocols (Ethernet)  • TCP/IP Yes  Open IE communication  • TCP/IP • ISO-on-TCP (RFC1006) • UDP  Web server • supported  100 Mbit/s  100 Mbit		Yes
Transmission rate, max.  Services  - Number of connectable IO Devices, max.  16  PROFINET IO Device  Services  - Shared device - Number of IO Controllers with shared device, max.  Protocols  Supports protocol for PROFINET IO PROFISafe No PROFIBUS AS-Interface Protocols (Ethernet)  TCP/IP Yes  Open IE communication  TCP/IP Yes  ISO-on-TCP (RFC1006) Yes  Web server  supported  100 Mbit/s  16  Yes  Yes  Yes  Yes  Yes  100 Mbit/s  16  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye		Yes
Services  - Number of connectable IO Devices, max. 16  PROFINET IO Device  Services  - Shared device Yes - Number of IO Controllers with shared device, max. 2  Protocols  Supports protocol for PROFINET IO Yes PROFISafe No PROFIBUS Yes; CM 1243-5 required AS-Interface Yes  Protocols (Ethernet)  • TCP/IP Yes Open IE communication  • TCP/IP Yes • ISO-on-TCP (RFC1006) Yes  Web server • supported  Yes	PROFINET IO Controller	
Number of connectable IO Devices, max.  PROFINET IO Device  Services  Shared device	·	100 Mbit/s
PROFINET IO Device  Services  - Shared device Yes - Number of IO Controllers with shared device, max. 2  Protocols  Supports protocol for PROFINET IO Yes PROFIsafe No PROFIBUS Yes; CM 1243-5 required  AS-Interface Yes Protocols (Ethernet)  • TCP/IP Yes  Open IE communication  • TCP/IP Yes  UDP Yes  Web server  • supported  Yes		
Services  Shared device		16
Shared device Yes Number of IO Controllers with shared device, max. 2  Protocols  Supports protocol for PROFINET IO Yes PROFISAGE No PROFIBUS Yes; CM 1243-5 required AS-Interface Yes Protocols (Ethernet)  • TCP/IP Yes Open IE communication  • TCP/IP Yes • ISO-on-TCP (RFC1006) • UDP Yes Web server • supported Yes		
— Number of IO Controllers with shared device, max.  Protocols  Supports protocol for PROFINET IO  PROFIsafe  No  PROFIBUS  AS-Interface  Protocols (Ethernet)  • TCP/IP  Open IE communication  • TCP/IP  • ISO-on-TCP (RFC1006)  • UDP  Wes  Ves  Yes  Yes  Ves  Yes  Yes  Yes  Y		
Supports protocol for PROFINET IO  PROFIsafe  PROFIBUS  AS-Interface  Protocols (Ethernet)  TCP/IP  Open IE communication  TCP/IP  ISO-on-TCP (RFC1006)  UDP  Wes  Ves  Yes  Yes  Yes  Yes  Yes  Yes  Y		
Supports protocol for PROFINET IO         Yes           PROFIsafe         No           PROFIBUS         Yes; CM 1243-5 required           AS-Interface         Yes           Protocols (Ethernet)         Yes           • TCP/IP         Yes           Open IE communication         Yes           • ISO-on-TCP (RFC1006)         Yes           • UDP         Yes           Web server         *supported           • supported         Yes		2
PROFIBUS         No           PROFIBUS         Yes; CM 1243-5 required           AS-Interface         Yes           Protocols (Ethernet)         Yes           • TCP/IP         Yes           Open IE communication         Yes           • ISO-on-TCP (RFC1006)         Yes           • UDP         Yes           Web server         Yes	Protocols	
PROFIBUS         Yes; CM 1243-5 required           AS-Interface         Yes           Protocols (Ethernet)         • TCP/IP           ● TCP/IP         Yes           Open IE communication         • TCP/IP           ● ISO-on-TCP (RFC1006)         Yes           ● UDP         Yes           Web server         • supported           ● supported         Yes	Supports protocol for PROFINET IO	Yes
AS-Interface Yes  Protocols (Ethernet)	PROFIsafe	No
Protocols (Ethernet)         Yes           ● TCP/IP         Yes           Open IE communication         Yes           ● TCP/IP         Yes           ● ISO-on-TCP (RFC1006)         Yes           ● UDP         Yes           Web server         Yes           ● supported         Yes	PROFIBUS	Yes; CM 1243-5 required
■ TCP/IP Yes  Open IE communication      ■ TCP/IP Yes      ■ ISO-on-TCP (RFC1006) Yes      ■ UDP Yes  Web server      ■ supported Yes	AS-Interface	Yes
Open IE communication           ● TCP/IP         Yes           ● ISO-on-TCP (RFC1006)         Yes           ● UDP         Yes           Web server         Yes	Protocols (Ethernet)	
		Yes
● ISO-on-TCP (RFC1006)  ● UDP  Yes  Web server  ● supported  Yes	Open IE communication	
<ul><li>UDP</li><li>Yes</li><li>Web server</li><li>supported</li><li>Yes</li></ul>	• TCP/IP	Yes
Web server  ● supported Yes		Yes
• supported Yes	• UDP	Yes
	Web server	
• User-defined websites Yes	• supported	Yes
	User-defined websites	Yes
Further protocols	Further protocols	
• MODBUS Yes	• MODBUS	Yes
communication functions / header	communication functions / header	

S7 communication	V
• supported	Yes
• as server	Yes
as client	Yes
Number of connections	
• overall	16; dynamically
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	
<ul> <li>Number of configurable Traces</li> </ul>	2; Up to 512 KB of data per trace are possible
Integrated Functions	
Counter	
Number of counters	4
<ul> <li>Counting frequency, max.</li> </ul>	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	FOOV AO for A rejecto
Potential separation digital inputs	500V AC for 1 minute
between the channels, in groups of	1
Potential separation digital outputs	
Potential separation digital outputs	Relays
between the channels	No
between the channels, in groups of	2
EMC	
Interference immunity against discharge of static electricity	
<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	
<ul> <li>Interference immunity on supply lines acc. to IEC 61000- 4-4</li> </ul>	Yes
<ul> <li>Interference immunity on signal cables acc. to IEC 61000- 4-4</li> </ul>	Yes
Interference immunity against voltage surge	
<ul> <li>Interference immunity on supply lines acc. to IEC 61000- 4-5</li> </ul>	Yes
Interference immunity against conducted variable disturbance indu	ced by high-frequency fields
<ul> <li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</li> </ul>	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
Ambient conditions	
Free fall	
• Fall height, max.	0.3 m; five times, in product package
	o.o m, me times, in product package
Ambient temperature during operation	
Ambient temperature during operation  • min.	-20 °C; = Tmin; Startup @ 0 °C

• max.	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical
<ul> <li>horizontal installation, min.</li> </ul>	-20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C
<ul> <li>horizontal installation, max.</li> </ul>	60 °C; = Tmax
<ul> <li>vertical installation, min.</li> </ul>	-20 °C; = Tmin
vertical installation, max.	50 °C; = Tmax
At cold restart, min.	0 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
<ul> <li>Installation altitude above sea level, max.</li> </ul>	2 000 m
Ambient air temperature-barometric pressure-altitude	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax - 20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m); above 2 000 m max. 132 V AC
Relative humidity	
<ul> <li>With condensation, tested in accordance with IEC 60068- 2-38, max.</li> </ul>	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Vibrations	
<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
Operation, tested according to IEC 60068-2-6  Chapt testing	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),
Resistance	duration 11 ms
Coolants and lubricants	
Resistant to commercially available coolants and	Yes; Incl. diesel and oil droplets in the air
lubricants	res, mor. deser and on droplets in the dir
Use in stationary industrial systems	
<ul> <li>to biologically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
<ul> <li>to chemically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); $^{\star}$
<ul> <li>to mechanically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
<ul> <li>to biologically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
<ul> <li>to chemically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); $^{\star}$
<ul> <li>to mechanically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6S3 incl. sand, dust; *
Usage in industrial process technology	
<ul> <li>Against chemically active substances acc. to EN 60654-4</li> </ul>	Yes; Class 3 (excluding trichlorethylene)
<ul> <li>Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04</li> </ul>	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
Remark	
<ul> <li>Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04</li> </ul>	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating	
Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability
<ul> <li>Protection against fouling acc. to EN 60664-3</li> </ul>	Yes; Type 1 protection
<ul> <li>Military testing according to MIL-I-46058C, Amendment 7</li> </ul>	Yes; Discoloration of coating possible during service life
<ul> <li>Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC- CC-830A</li> </ul>	Yes; Conformal coating, Class A
configuration / header	
configuration / programming / header	
Programming language	
— LAD	Yes
— FBD	Yes

— SCL	Yes
programming / cycle time monitoring / header	
adjustable	Yes
Dimensions	
Width	90 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	425 g

last modified:

