# **SIEMENS**

## Data sheet

## 6ES7212-1AE40-0XB0

SIMATIC S7-1200, CPU 1212C, COMPACT CPU, DC/DC/DC, ONBOARD I/O: 8 DI 24V DC; 6 DO 24 V DC; 2 AI 0 - 10V DC, POWER SUPPLY: DC 20.4 - 28.8 V DC, PROGRAM/DATA





General information	
Product type designation	CPU 1212C DC/DC/DC
Engineering with	
Programming package	STEP 7 V13 SP1 or higher
Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Load voltage L+	
• Rated value (DC)	24 V
<ul><li>permissible range, lower limit (DC)</li></ul>	20.4 V
<ul> <li>permissible range, upper limit (DC)</li> </ul>	28.8 V
Input current	
Current consumption (rated value)	400 mA; Typical
Inrush current, max.	12 A; at 28.8 V DC
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	Permissible range: 20.4V to 28.8V
Power loss	
Power loss, typ.	9 W
Memory	
Work memory	
• integrated	50 kbyte
• expandable	No
Load memory	
• integrated	1 Mbyte
Plug-in (SIMATIC Memory Card), max.	2 Gbyte; 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),	10 kbyte
max.	
Flag	
• Number, max.	4 kbyte; Size of bit memory address area
Address area	
I/O address area	
• Inputs	1 024 byte
Outputs	1 024 byte
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	
Clock	
Hardware clock (real-time)	Yes
Backup time	480 h; Typical
<ul> <li>Deviation per day, max.</li> </ul>	+/- 60 s/month at 25 °C
Digital inputs	
Number of digital inputs	8; Integrated
<ul> <li>of which inputs usable for technological</li> </ul>	6; HSC (High Speed Counting)
functions	
Source/sink input	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	8
Input voltage	
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 current	
● for signal "1", typ.	1 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	$0.1  /  0.2  /  0.4  /  0.8  /  1.6  /  3.2  /  6.4  /  10.0  /  12.8  /  20.0 \; \mu s; \; 0.05  /  0.1 \\ /  0.2  /  0.4  /  0.8  /  1.6  /  3.2  /  6.4  /  10.0  /  12.8  /  20.0 \; ms$
— at "0" to "1", min.	0.1 μs
— at "0" to "1", max.	20 ms
for interrupt inputs	
— parameterizable	Yes
for counter/technological functions	
— parameterizable	Single phase: 3 @ 100 kHz & 1 @ 30 kHz, differential: 3 @ 80 kHz & 1 @ 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
<ul><li>of which high-speed outputs</li></ul>	4; 100 kHz Pulse Train Output
Short-circuit protection	No; to be provided externally
Limitation of inductive shutdown voltage to	L+ (-48 V)
Switching capacity of the outputs	
<ul><li>with resistive load, max.</li></ul>	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
• for signal "0" residual current, max.	0.1 mA
Output delay with resistive load	0.1 1101
• "0" to "1", max.	1 μs
•	3 µs
• "1" to "0", max.	3 µs
Switching frequency	100 kHz
• of the pulse outputs, with resistive load, max.	100 KHZ
Cable length	
• shielded, max.	500 m
• unshielded, max.	150 m
Analog inputs	
Number of analog inputs	2
Input ranges	
Voltage	Yes
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
<ul><li>Input resistance (0 to 10 V)</li></ul>	≥100k ohms
Cable length	
• shielded, max.	100 m; twisted and shielded
Analog outputs  Number of analog outputs	0
Cable length	0
	100 m; shielded, twisted pair
• shielded, max.	100 III, Silielded, twisted pail
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
<ul> <li>Resolution with overrange (bit including sign),</li> </ul>	10 bit
max.	
<ul> <li>Integration time, parameterizable</li> </ul>	Yes
<ul><li>Conversion time (per channel)</li></ul>	625 μs
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
1. Interface	PROFINET
Interface type	PROFINET
Physics	Ethernet
Isolated	Yes

Autonegolidation Yes Autonegolidation Yes Functionality  PROFINET IO Controller PROFINET IO Controller Services —Number of IO devices with prioritized startup, max.  Protocols Supports protocol for PROFINET IO PROFIBES AS-Interface Yes PROFINES AS-Interface Yes Protocols (Ethernet)  TCP/IP Yes Open IE communication Sources  NODBUS Yes Further protocols  Yes Sources  Yes Open IE communication  Sources Yes Yes  Yes Open IE communication  Sources Yes Yes  Yes Open IE communication  Sources Yes Yes  Yes  Yes  Yes  Yes  Yes  Ye	automatic detection of transmission rate	Yes
Autocrossing Functionality  ProFINET IO Controller PROFINET IO Device Yes PROFINET IO Controller Services - Number of IO devices with prioritized startup, max.  Protocols  Supports protocol for PROFINET IO Yes Supports protocol for PROFINET IO Yes PROFIBUS Yes; CM1243-5 required AS-Interface Yes Protocols (Ethernet) • TCP/IP Yes Open IE communication • ISC-on-TCP (RFC1006) Yes Purported Yes • as server Yes • as client Yes Open IE communication • *Upported Yes • as server • supported Yes • Upp • UDP  Web server • supported Yes • Forcing Yes • Forcing Yes		
Functionality  PROFINET IO Controller PROFINET IO Device PROFINET IO Controller Services  - Number of IO devices with prioritized startup, max.  Procosos  Supports protocol for PROFINET IO PROFIBUS AS-Interface Protocols (Ethernet) • 1CP/IP  Open IE communication • ISO-on-TCP (RFC1006) Purcher protocols  **Yes  **OMOBUS **Yes  **Ommunication functions  **S7 communication • supported • as server • as client  Open IE communication • 1CP/IP • UDP  Ves  **Open IE communication  • Status/control variable • Variables  **Ves  **Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing • Forcing • Forcing  • Forcing  Pessent  **Ves  **Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing • Forcing • Forcing • Forcing • Proceson  **Ves  **Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing • Forcing • Forcing • Forcing  **Pes  **Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing • Forcing • Forcing • Forcing • Forcing  **Pes  **Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing • Forcing		
PROFINET IO Device Yes PROFINET IO Device Yes PROFINET IO Controller Services  — Number of IO devices with prioritized startup, max.  Protocols  Supports protocol for PROFINET IO Yes PROFIBUS Yes; CM 1243-5 required A.S-Interface Yes Protocols (Ethemet)  • TCP/IP Yes Open IE communication • ISO-on-TCP (RFC1006) Yes Further protocols  • MODBUS Yes  Communication functions  \$7 communication • supported Yes • as client Yes  Open IE communication • 1CP/IP Yes • as client Yes  Open IE communication • supported Yes • as prever Yes • as client Yes  Open IE communication • TCP/IP Yes • UDDP Yes  Web server  • supported Yes • UDP Yes  Web server  • supported Yes • Supported Yes • UDP Yes  Web server  • supported Yes		
PROFINET IO Device Yes  PROFINET IO Controller  Services  - Number of IO devices with prioritized startup, max.  Protocols  Supports protocol for PROFINET IO Yes PROFIBUS Yes; CM 1243-5 required  AS-Interface Yes Protocols (Ethernet)  • TCP/IP Yes Open IE communication  • ISO-on-TCP (RFC1006) Yes  Protocols (Ethernet)  • MODBUS Yes  Communication functions  87 communication  • supported Yes • as client Yes • as client Yes  Open IE communication  • TCP/IP Yes • as client Yes  Open IE communication  • TCP/IP Yes • as upported Yes • as priore Yes • supported Yes • as priore Yes • supported Yes • as client Yes  Open IE communication  • TCP/IP Yes • as client Yes  Open IE communication  • TCP/IP Yes • supported Yes • Supported Yes • Supported Yes • Supported Yes • User-defined websites Yes  Test commissioning functions  Status/control variable Yes • Variables Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing • Forcing • Forcing  Forcing • Forcing		Yes
PROFINET IO Controller  Services - Number of IO devices with prioritized startup, max.  Protocols Supports protocol for PROFINET IO Yes PROFIBUS Yes; CM 1243-5 required AS-Interface Yes Protocols (Ethernet) - TCP/IP Yes Open IE communication - ISO-on-TCP (RFC1006) Yes Further protocols - MODBUS Yes  Communication functions  S7 communication - supported Yes - as server Yes - as client Yes Open IE communication - TCP/IP Yes Open IE communication - Sy communication -		
Services  - Number of IO devices with prioritized startup, max.  Protocols  Supports protocol for PROFINET IO Yes PROFIBUS Yes; CM 1243-5 required  AS-Interface Yes  Protocols (Ethernet)  • TCPIP Yes Open IE communication  • ISO-n-TCP (RFC1006) Yes  Further protocols  • MODBUS Yes  Communication functions  S7 communication  • supported Yes • as server Yes • as server Yes • as client Yes  Open IE communication  • TCP/IP Yes  UDP Yes  Web server  • supported Yes  • USP • User-defined websites Yes  Status/control  • Status/control variable Yes • Ves • Status/control variable Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing • Forcing • Forcing Present • present  • present  • present		100
Number of IO devices with prioritized startup, max.  Protocols  Supports protocol for PROFINET IO Yes PROFIBUS Yes; CM 1243-5 required As-Interface Yes Protocols (Ethernet)  • TCP/IP Yes Open IE communication • ISO-on-TCP (RFC1006) • MODBUS Yes  **Communication functions  S7 communication • supported Yes • as server Yes • as client Yes Open IE communication  • TCP/IP Yes  Open IE communication  • Supported Yes • as server Yes • as client Yes  Open IE communication  • TCP/IP Yes • UDP Yes  Web server  • Status/control variable Yes  • Status/control variable Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing • Forcing Diagnostic buffer • present  • yes		
Protocols  Supports protocol for PROFINET IO Yes PROFIBUS Yes; CM 1243-5 required AS-Interface Yes Protocols (Ethernet)  • TCP/IP Yes Open IE communication • ISO-on-TCP (RFC1006) Yes Further protocols • MODBUS Yes  Communication functions  57 communication • supported Yes • as client Yes • as client Yes Open IE communication  • TCP/IP Yes • UDP Yes  Web server • supported Yes • as client Yes  Open IE communication • TCP/IP Yes • UDP Yes  Web server • supported Yes • User-defined websites Yes  Test commissioning functions  Status/control • Status/control variable Yes • Variables Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing • Forcing Yes Diagnostic buffer • present Yes		16
Supports protocol for PROFINET IO  PROFIBUS AS-Interface Protocols (Ethernet)  • TCP/IP  Open IE communication  • ISO-on-TCP (RFC1006)  • MODBUS  **Communication  • Supported • as server • as client  Open IE communication  • TCP/IP  • UDP  Wes  Web server  • supported • User-defined websites  **Test communisoling functions  Status/control  • Status/control variable • Variables  Forcing  • Forcing Diagnostic buffer  • present  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	·	
Supports protocol for PROFINET IO PROFIBUS AS-Interface AS-Interface Protocols (Ethernet)  • TCP/IP POpen IE communication • ISO-on-TCP (RFC1006) Further protocols • MODBUS  S7 communication  • supported • as server • as server • as client  Open IE communication  • TCP/IP  Yes  Open IE communication  • supported • as server • as client  Open IE communication  • TCP/IP  • UDP  Yes  Web server  • supported • Yes • UDP  Yes  Ves  Status/control  • Status/control variable • Variables  Forcing • Forcing  • Forcing  Present  Yes  Ves  Ves  Ves  Ves  Ves  Ves  Ves		
PROFIBUS   Yes CM 1243-5 required		
AS-Interface Yes  Protocols (Ethernet)  • TCP/IP Yes  Open IE communication  • ISO-on-TCP (RFC1006) Yes  Further protocols  • MODBUS Yes  Communication functions  S7 communication  • supported Yes  • as client Yes  • as client Yes  UDP Yes  Web server  • supported Yes  • USer-defined websites Yes  Test commissioning functions  Status/control  • Status/control variable Yes  • Variables Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing  • Forcing Yes  Diagnostic buffer  • present Yes		
Protocols (Ethernet)         Yes           • TCP/IP         Yes           Open IE communication         Yes           • ISO-on-TCP (RFC1006)         Yes           Further protocols         Yes           • MODBUS         Yes           Communication functions           S7 communication           • supported         Yes           • as server         Yes           • as client         Yes           Open IE communication         Yes           • TCP/IP         Yes           • UDP         Yes           Web server         Yes           • Supported         Yes           • User-defined websites         Yes           Test-commissioning functions           Status/control           • Status/control variable         Yes           • Variables         Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters           Forcing           • Forcing         Yes           Diagnostic buffer         Yes		
• TCP/IP Yes Open IE communication • ISO-on-TCP (RFC1006) Yes Further protocols • MODBUS Yes  Communication functions S7 communication • supported • as server • as client Yes • as client Yes • UDP Yes  Web server • supported Yes • USer-defined websites Yes  Test commissioning functions  Status/control • Status/control variable Yes • Variables Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing • Forcing Yes  Diagnostic buffer • present Yes		Yes
Open IE communication  Iso-on-TCP (RFC1006)  Further protocols  MODBUS  Yes  Communication functions  S7 communication  Isoported Isos server Isos ser		
● ISO-on-TCP (RFC1006)  Further protocols  ● MODBUS  Yes  Communication functions  S7 communication  ● supported  ● as server  ● as client  Open IE communication  ● TCP/IP  ● UDP  Yes  Web server  ● supported  ● User-defined websites  Yes  Status/control variable  ● Variables  Forcing  ● Forcing  Present  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Foreing  Present  Yes  Pres  Present  Yes		Yes
Further protocols  MODBUS  Yes  Communication functions  \$7 communication  supported sa server sa sclient  Open IE communication  TCP/IP UDP Yes  UDP Yes  Ves  Ves  Ves  Ves  Ves  Ves  Ves		
MODBUS  Forcing  MODBUS  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	• ISO-on-TCP (RFC1006)	Yes
Communication functions  S7 communication  • supported • as server • as client  Open IE communication  • TCP/IP • UDP  Web server  • supported • User-defined websites  Test commissioning functions  Status/control • Status/control variable • Variables  Forcing • Forcing  Diagnostic buffer • present  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	Further protocols	
S7 communication  • supported • as server • as client  Open IE communication  • TCP/IP • UDP  Yes  Web server  • supported • User-defined websites  Test commissioning functions  Status/control • Status/control variable • Variables  Forcing • Forcing  • Forcing  Diagnostic buffer • present  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	• MODBUS	Yes
S7 communication  • supported • as server • as client  Open IE communication  • TCP/IP • UDP  Yes  Web server  • supported • User-defined websites  Test commissioning functions  Status/control • Status/control variable • Variables  Forcing • Forcing  • Forcing  Diagnostic buffer • present  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	Communication functions	
as server as client  Open IE communication  TCP/IP UDP Yes  UDP Yes  Web server  supported User-defined websites  Yes  Test commissioning functions  Status/control  Status/control  Yes Variables Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing Forcing Forcing Yes  Diagnostic buffer  present  Yes		
<ul> <li>as server</li> <li>as client</li> <li>Yes</li> <li>Open IE communication</li> <li>TCP/IP</li> <li>UDP</li> <li>Yes</li> <li>UDP</li> <li>Yes</li> <li>User-defined websites</li> <li>Yes</li> <li>Forcing</li> <li>Forcing</li> <li>Forcing</li> <li>Yes</li> <li>Diagnostic buffer</li> <li>Present</li> <li>Yes</li> </ul>	• supported	Yes
as client  Open IE communication  TCP/IP UDP Yes  UDP Yes  Web server  supported User-defined websites Yes  Test commissioning functions  Status/control  Status/control variable Variables Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing Forcing Forcing Present Yes  Yes  Yes		Yes
Open IE communication  TCP/IP UDP Yes  Web server  supported User-defined websites  Yes  Test commissioning functions  Status/control  Status/control variable Variables Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing Forcing Forcing Pesent Yes  Yes  Yes	• as client	Yes
■ TCP/IP     ■ UDP     Yes  Web server      ■ supported     ■ User-defined websites  Test commissioning functions  Status/control      ■ Status/control variable     ■ Variables  Forcing     ■ Forcing  Diagnostic buffer      ● present  Yes  Yes  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Yes  Diagnostic buffer  Yes		
● UDP  Web server  ● supported ● User-defined websites  Yes  Test commissioning functions  Status/control  ● Status/control variable ● Variables  Forcing  ● Forcing  Process  Diagnostic buffer ● present  Yes  Yes  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Yes  Yes  Yes		Yes
Web server		
<ul> <li>supported</li> <li>User-defined websites</li> <li>Yes</li> <li>Test commissioning functions</li> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters</li> <li>Forcing</li> <li>Forcing</li> <li>Yes</li> <li>Diagnostic buffer</li> <li>present</li> <li>Yes</li> </ul>		
Ves  Test commissioning functions  Status/control      Status/control variable     Variables      Variables  Forcing      Forcing      Process  Diagnostic buffer      present  Yes  Yes  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Yes  Yes  Yes		Yes
Test commissioning functions  Status/control  Status/control variable  Variables  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing  Forcing  Procing  Procing  Yes  Diagnostic buffer  present  Yes		
Status/control  Status/control variable  Variables  Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  Forcing  Forcing  Yes  Diagnostic buffer  present  Yes	• Oser-defined websites	100
<ul> <li>Status/control variable</li> <li>Variables</li> <li>Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters</li> <li>Forcing</li> <li>Forcing</li> <li>Yes</li> <li>Diagnostic buffer</li> <li>present</li> <li>Yes</li> </ul>		
<ul> <li>Variables</li> <li>Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters</li> <li>Forcing</li> <li>Forcing</li> <li>Yes</li> <li>Diagnostic buffer</li> <li>present</li> <li>Yes</li> </ul>	Status/control	
Forcing  • Forcing  Diagnostic buffer  • present  Yes	Status/control variable	Yes
<ul> <li>Forcing</li> <li>Diagnostic buffer</li> <li>present</li> <li>Yes</li> </ul>	<ul><li>Variables</li></ul>	
Diagnostic buffer  • present  Yes	Forcing	
• present Yes	• Forcing	Yes
P 111	Diagnostic buffer	
Traces	• present	Yes
	Traces	

Number of configurable Traces	2; Up to 512 KB of data per trace
-------------------------------	-----------------------------------

Integrated Functions	
Number of counters	6
Counting frequency (counter) max.	100 kHz
Frequency meter	Yes
controlled positioning	Yes
PID controller	Yes
Number of alarm inputs	4
Number of pulse outputs	4
Limit frequency (pulse)	100 kHz

1

### Potential separation

#### Potential separation digital inputs

500V AC for 1 minute • Potential separation digital inputs

• between the channels, in groups of

#### Potential separation digital outputs

• Potential separation digital outputs 500V AC for 1 minute

• between the channels, in groups of

#### Permissible potential difference

between different circuits 500 V DC between 24 V DC and 5 V DC

## ЕМС 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 6 kV - 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

• on the supply lines acc. to IEC 61000-4-5

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

• Interference immunity against high-frequency

radiation acc. to IEC 61000-4-6

Yes

Yes

8 kV

Yes

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

are possible

## Degree and class of protection

Degree of protection acc. to EN 60529

● IP20	Yes
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
Marine approval	Yes
Ambient conditions	
Free fall	
● Fall height, max.	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 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
<ul> <li>horizontal installation, max.</li> </ul>	60 °C
• vertical installation, min.	-20 °C
• vertical installation, max.	50 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	
Operation, min.	795 hPa
<ul><li>Operation, max.</li></ul>	1 080 hPa
• Storage/transport, min.	660 hPa
Storage/transport, max.	1 080 hPa
<ul> <li>permissible operating height</li> </ul>	-1000 to 2000 m
Relative humidity	
Operation, max.	95 %; no condensation
Vibrations	
Vibrations	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 test	
• 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
Extended ambient conditions	
Pollutant concentrations	
— SO2 at RH < 60% without condensation	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
Configuration	

Programming	
Programming language	
— LAD	Yes
— FBD	Yes
— SCL	Yes
Cycle time monitoring	
● adjustable	Yes
Dimensions	
Difficiations	
Width	90 mm
	90 mm 100 mm
Width	
Width Height	100 mm
Width Height Depth	100 mm