# **SIEMENS**

## **Data sheet**

6ES7211-1HE40-0XB0





SIMATIC S7-1200, CPU 1211C, compact CPU, DC/DC/relay, onboard I/O: 6 DI 24 V DC; 4 DO relay 2 A; 2 AI 0-10 V DC, power supply: DC 20.4-28.8 V DC, program/data memory 75 KB



Figure similar

General information	
Product type designation	CPU 1211C DC/DC/relay
Firmware version	V4.7
Engineering with	
<ul> <li>Programming package</li> </ul>	STEP 7 V20 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
<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)	300 mA; CPU only
Current consumption, max.	900 mA; CPU with all expansion modules
Inrush current, max.	12 A; at 28.8 V DC
l²t	0.8 A <sup>2</sup> ·s
Output current	
for backplane bus (5 V DC), max.	750 mA; Max. 5 V DC for CM
Encoder supply	
24 V encoder supply	
• 24 V	L+ minus 4 V DC min.
Power loss	
Power loss, typ.	8 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	Yes

without battery	Yes
CPU processing times	
for bit operations, typ.	0.08 μs; / instruction
for word operations, typ.	1.7 µs; / instruction
for floating point arithmetic, typ.	2.3 µs; / instruction
CPU-blocks	
Number of blocks (total)	DBs, FCs, FBs, counters and timers. The maximum number of addressable blocks ranges from 1 to 65535. There is no restriction, the entire working memory can be used
OB	
<ul> <li>Number, max.</li> </ul>	Limited only by RAM for code
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	14 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	
<ul><li>Inputs, adjustable</li></ul>	1 kbyte
Outputs, adjustable	1 kbyte
Hardware configuration	
Number of modules per system, max.	3 communication modules, 1 signal board
Time of day	
Clock	
<ul> <li>Hardware clock (real-time)</li> </ul>	Yes
Backup time	480 h; Typical
Deviation per day, max.	±60 s/month at 25 °C
Digital inputs	
Number of digital inputs	6; 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	6
— up to 40 °C, max.	· ·
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	10 + DO Ut 2.0 HB1
• for signal "1", typ.	4 mA; nominal
Input delay (for rated value of input voltage)	,
for standard inputs	
— parameterizable	0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 /
-A NON A- 11411	0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 ms
— at "0" to "1", min.	0.2 ms
— at "0" to "1", max.	12.8 ms
for interrupt inputs	Yes
— parameterizable	100
for technological functions  — parameterizable	Single phase : 3 @ 100 kHz, differential: 3 @ 80 kHz
— parameterizable  Cable length	Single prides. O W 100 Kitz, dilicicitida. O W 00 Kitz
shielded, max.	500 m; 50 m for technological functions
• unshielded, max.	300 m; for technological functions: No
Digital outputs	out in, for tearmological functions. No
Number of digital outputs	4; Relays
Switching capacity of the outputs	i, ridiayo
with resistive load, max.	2 A
• on lamp load, max.	30 W with DC, 200 W with AC
Output delay with resistive load	
• "0" to "1", max.	10 ms; max.

a "1" to "0" may	10 mg; mgy
• "1" to "0", max.	10 ms; max.
Relay outputs	4
Number of relay outputs	4
Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000
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
— 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	
• Resolution with overrange (bit including sign), max.	10 bit
<ul> <li>Integration time, parameterizable</li> </ul>	Yes
Conversion time (per channel)	625 µs
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
1. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autocrossing	Yes
Interface types	
RJ 45 (Ethernet)	Yes
Number of ports	1
• integrated switch	No
Protocols	110
PROFINET IO Controller	Yes
PROFINET IO Device	Yes
SIMATIC communication	Yes
Open IE communication	Yes; Optionally also encrypted
Web server	Yes Optionally also encrypted
Media redundancy	No
PROFINET IO Controller	INO
Transmission rate, max.	100 Mhit/c
·	100 Mbit/s
Services	Voc. anarystian with TLS V4.2 are calcuted
— PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
— Isochronous mode	No No
— IRT	No No
— PROFlenergy	No Voc
— Prioritized startup	Yes
Number of IO devices with prioritized startup, max.	16
Number of connectable IO Devices, max.	16
Number of connectable IO Devices for RT, max.	16
— of which in line, max.	16
<ul> <li>Activation/deactivation of IO Devices</li> </ul>	Yes
<ul> <li>Number of IO Devices that can be simultaneously activated/deactivated, max.</li> </ul>	8
— Updating time	The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.

PROFINET IO Device	
Services	
— PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
— Isochronous mode	No
— IRT	No
— PROFlenergy	Yes
— 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 (master) or CM 1242-5 (slave) required
OPC UA	Yes; OPC UA Server
AS-Interface	
	Yes; CM 1243-2 required
Protocols (Ethernet)	W
• TCP/IP	Yes
• DHCP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Redundancy mode	
Media redundancy	
— MRP	No
— MRPD	No
SIMATIC communication	
S7 routing	Yes
Open IE communication	
• TCP/IP	Yes
<ul><li>— Data length, max.</li></ul>	8 kbyte
<ul> <li>several passive connections per port, supported</li> </ul>	Yes
• ISO-on-TCP (RFC1006)	Yes
— Data length, max.	8 kbyte
• UDP	Yes
— Data length, max.	1 472 byte
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
<ul> <li>User authentication</li> </ul>	"anonymous" or by user name & password
— Number of sessions, max.	10
<ul> <li>Number of subscriptions per session, max.</li> </ul>	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.      Number of nodes for user-defined server interfaces,	2 000
max.	_ ***
Further protocols	
• MODBUS	Yes
communication functions / header	
S7 communication	
• supported	Yes
• as server	Yes
• as client	Yes
User data per job, max.	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 / 68 max

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
Traces	
Number of configurable Traces	2
Memory size per trace, max.	512 kbyte
Interrupts/diagnostics/status information	
Diagnostics indication LED	
RUN/STOP LED	Yes
• ERROR LED	Yes
MAINT LED	Yes
Integrated Functions	103
Counter  Number of counters	6
	100 kHz
Counting frequency, max.  Frequency measurement	
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	F00.VAQ ( . 4 . 1 . 1
Potential separation digital inputs	500 V 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	1
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 induc	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
	IP20

UL approval UL approval Ves  PM approval FM approval F	CE mark	Yes
ECLL IS FM approval FM proval FM (CM (formerly C-TICK) FM approval FCM (formerly C-TICK) FX approval FCM (formerly C-TICK) FCM (formerly C-TIC		
Maproval   Yes   Yes		
RCM (formerly C-TICK)		
KC approval         Yes           Marine approval         Yes           Marine approval         Yes           Ecological footpint         Yes; type II acc. to ISO 14021           Clobal warming potential, (cluring production) [CO2 eq]         69.5 kg           — global warming potential, (during production) [CO2 eq]         69.5 kg           — global warming potential, (during operation) [CO2 eq]         7.9 kg           — global warming potential, (after end of life cycle) [CO2 eq]         -1 kg           Ambient conditions           Free fall           • Fall height, max.         0.3 m; five times, in product package           Ambient temperature during operation         -20 °C           • max.         60 °C           • horizontal installation, min.         -20 °C           • horizontal installation, max.         60 °C           • horizontal installation, max.         50 °C           • horizontal installation, max.         40 °C           • retrical installation, max.         50 °C           • nax.         90 °C           Alignmentature during storage/transport, max.         1080 hPa           • Operation, max.         90 °C           • Deparation, max.         1080 hPa           • Storage/transport, max.         10	• • • • • • • • • • • • • • • • • • • •	
Marine approval   Yes		
Ecological footprint   Provincemental product declaration   Yes: type II acc. to ISO 14021		
Senvironmental product declaration   Yes; type II acc. to ISO 14021		165
Global warming potential — global warming potential, (total) [CO2 eq] — global warming potential, (during production) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential, (after end of life cycle) [CO2 eq] — slobal warming potential slobal slobal warming potential slobal wa		Yes: tyne II acc. to ISO 14021
global warming potential, (total) [CO2 eq] global warming potential, (during production) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (after end of life cycle) global warming life cy		163, type if acc. to 160 14021
global warming potential, (during production) [CO2 eq] global warming potential, (after end of life cycle) and policy global warming potential, (after end of life cycle) and policy global warming potential, (after end of life cycle) and policy	* '	69.5 kg
eql —global warming potential, (during operation) [CO2 eq] —global warming potential, (after end of life cycle) [CO2 eq]  Ambient conditions  Free fall Fall height, max. 0.3 m; five times, in product package  Ambient temperature during operation  • min. • max. • horizontal installation, min. • horizontal installation, min. • horizontal installation, max. • horizontal installation, max. • horizontal installation, max. • vertical installation, max. • vertical installation, min. • Deperation, min. • Operation, min. • Operation, min. • Operation, max. • Storage/transport, min. • Installation altitude, min. • Operation, max.  Vibrations • Vibration resistance during operation acc. to IEC 60068-2-6  Operation, tested according to IEC 60068-2-6  Shock testing • Lested according to IEC 60068-2-7  Yes: IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms  • SO2 at RH < 60% without condensation • SO2 at RH < 60% without condensation • SO2 at SO3 ppm; H2S; < 0.1 ppm; RH < 60% condensation-free configuration / programming / header		-
eq  —global warming potential, (after end of life cycle) [CO2 eq]  Ambient conditions Free fall Free fall Free fall Free fall Fall height, max.  Ambient temperature during operation  imin. Folizontal installation, min. Folizontal installation, max. Folizontal installation installa		12.0 kg
CO2 eq   Mahibint conditions		57.9 kg
Free fall  Fall height, max.  Ambient temperature during operation  • min. • max. • horizontal installation, min. • horizontal installation, min. • vertical installation, max. • vertical installation, min. • vertical installation, min. • vertical installation, min. • vertical installation, min. • min. • max.  Another temperature during storage/transportation  • min. • max.  At 0 °C  Ambient temperature during storage/transportation  • min. • max.  1080 PB  • Operation, min. • Operation in min. • Storage/transport, min. • Operation poperation relating to sea level  • Installation altitude, min. • Installation altitude, min. • Installation altitude, min. • Operation, max.  • Operation		-1 kg
• Fall height, max.  Ambient temperature during operation  • min. • max. • 60 °C • horizontal installation, min. • horizontal installation, max. • 60 °C • horizontal installation, max. • cortical installation, max. • vertical installation vertical vert	mbient conditions	
Ambient temperature during operation  • min. • max. • horizontal installation, min. • horizontal installation, max. • ob °C • vertical installation, max. • 50 °C  Ambient temperature during storage/transportation • min. • max. • A0 °C • max.  Altitude temperature during storage/transportation • min. • Deparation, min. • Operation, min. • Operation, min. • Operation, max. • Storage/transport, min. • Storage/transport, min. • Storage/transport, max.  Altitude during operation relating to sea level • Installation altitude, min. • Installation altitude, min. • Installation altitude, max.  Storage/transport, max.  Altitude during operation relating to sea level • Installation altitude, min. • Installation altitude, max.  Storage/transport, max.  4 1 000 m • Installation altitude, max.  Storage/transport, max.  4 2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail • Vibration resistance during operation acc. to IEC 60068-2-6 • Operation, tested according to IEC 60068-2-6 • 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  Follutant concentrations • SO2 at RH < 60% without condensation  SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free  configuration / header	Free fall	
Ambient temperature during operation  • min. • max. • horizontal installation, min. • horizontal installation, max. • horizontal installation, max. • certical installation, max. • vertical installation, max. • vertical installation, max. • vertical installation, max. • vertical installation, max. • ob °C  • vertical installation, max. • 50 °C   Ambient temperature during storage/transportation • min. • max. • A0 °C • max.  Altitude temperature during storage/transportation • min. • Operation, min. • Operation, min. • Operation, max. • Storage/transport, min. • Operation, max. • Storage/transport, min. • Storage/transport, max.  Altitude during operation relating to sea level • Installation altitude, min. • Installation altitude, min. • Installation altitude, max.  Relative humidity • Operation, max.  Vibrations • Vibration resistance during operation acc. to IEC 60068-2-6 • Operation, tested according to IEC 60068-2-6 • 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  SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free	Fall height, max.	0.3 m; five times, in product package
• min. • max. • horizontal installation, min. • horizontal installation, max. • vertical installation, max. • 70 °C  Ambient temperature during storage/transportation • max. • 70 °C  Air pressure acc. to IEC 60068-2-13 • Operation, min. • Operation, min. • Operation, max. • Storage/transport, min. • Storage/transport, min. • Storage/transport, max. • 1 080 hPa  Altitude during operation relating to sea level • Installation altitude, min. • Installation altitude, min. • 1 1000 m • Installation altitude, min. • Operation, max.  *Vibrations  *Vibrations  *Vibrations  • Vibration resistance during operation acc. to IEC 60068-2-6 • Operation, tested according to IEC 60068-2-6 • Ves  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  *SO2 at RH < 60% without condensation free  *configuration / header	Ambient temperature during operation	
<ul> <li>horizontal installation, min.</li> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>vertical installation, min.</li> <li>vertical installation, max.</li> <li>50 °C</li> </ul> Ambient temperature during storage/transportation <ul> <li>min.</li> <li>max.</li> <li>40 °C</li> <li>max.</li> <li>To °C</li> </ul> Air pressure acc. to IEC 60068-2-13 <ul> <li>Operation, min.</li> <li>Operation, max.</li> <li>1 080 hPa</li> <li>Storage/transport, min.</li> <li>Storage/transport, max.</li> <li>1 080 hPa</li> </ul> Altitude during operation relating to sea level <ul> <li>Installation altitude, min.</li> <li>Installation altitude, min.</li> <li>Installation altitude, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> </ul> Relative humidity <ul> <li>Operation, max.</li> <li>Operation, max.</li> <li>Operation, min.</li> <li>Installation altitude in altitude in</li></ul>	• min.	-20 °C
• horizontal installation, max. • vertical installation, min. • vertical installation, max. • vertical installation, max.  • vertical installation, max.  50 °C  Ambient temperature during storage/transportation  • min. • max.  70 °C  Air pressure acc. to IEC 60068-2-13  • Operation, min. • Operation, max.  1 080 hPa  • Storage/fransport, min. • Storage/fransport, max.  1 1 080 hPa  Altitude during operation relating to sea level  • Installation altitude, min. • Installation altitude, max.  • 1 000 m • Installation altitude, max.  Poperation, max.  • Vibration resistance during operation acc. to IEC 60068-2-6  • Operation, tested according to IEC 60068-2-6  • Operation, tested according to IEC 60068-2-7  Pollutant concentrations • SO2 at RH < 60% without condensation  SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free configuration / programming / header	• max.	0° C
vertical installation, min. vertical installation, max.  50 °C  Ambient temperature during storage/transportation  min. max.  40 °C max.  70 °C  Ari pressure acc. to IEC 60068-2-13  Operation, min. Operation, max.  1080 hPa Storage/transport, min. Storage/transport, min. Storage/transport, max.  1080 hPa Storage/transport, max.  Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max.  Relative humidity Operation, max.  95 %; no condensation  Vibrations  Vibrations  2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail  2-6 Operation, tested according to IEC 60068-2-6  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  SO2 - 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free	• horizontal installation, min.	-20 °C
vertical installation, min.     vertical installation, max.      vertical installation, max.  Ambient temperature during storage/transportation      imin.     van 'C      max.  Are 'C  Air pressure acc. to IEC 60068-2-13      Operation, min.     Operation, max.      Operation, max.      Operation, max.      Storage/transport, min.     Storage/transport, min.     Storage/transport, max.  Altitude during operation relating to sea level      Installation altitude, min.     Installation altitude, max.  Relative humidity      Operation, max.      Vibrations      Vibrations      Vibration resistance during operation acc. to IEC 60068-2-6      Operation, tested according to IEC 60068-2-6      Ves  Shock testing      tested according to IEC 60068-2-27      Ves; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration / header  configuration / programming / header  configuration / programming / header		0° C
Ambient temperature during storage/transportation  • min. • max.  40 °C  70 °C  Air pressure acc. to IEC 60068-2-13  • Operation, min. • Operation, max.  1 080 hPa • Storage/transport, min. • Storage/transport, min. • Storage/transport, max.  1 1080 hPa  Altitude during operation relating to sea level  • Installation altitude, min. • Installation altitude, max.  * 1000 m • Installation altitude, max.  * 2 000 m; Restrictions for installation altitudes > 2 000 m, see manual  * Relative humidity  • Operation, max.  • Vibrations  • Vibration resistance during operation acc. to IEC 60068- 2-6 • Operation, tested according to IEC 60068-2-6  * Shock testing  • tested according to IEC 60068-2-27  • SO2 at RH < 60% without condensation  * 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  * SO2 at RH < 60% without condensation  * SO2 at RH < 60% without programming / header  * Configuration / programming / header	<ul> <li>vertical installation, min.</li> </ul>	-20 °C
<ul> <li>min.</li> <li>max.</li> <li>70 °C</li> <li>Air pressure acc. to IEC 60068-2-13</li> <li>Operation, min.</li> <li>Operation, max.</li> <li>1 080 hPa</li> <li>Storage/transport, min.</li> <li>660 hPa</li> <li>Storage/transport, max.</li> <li>1 080 hPa</li> <li>Altitude during operation relating to sea level</li> <li>Installation altitude, min.</li> <li>Installation altitude, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> <li>Relative humidity</li> <li>Operation, max.</li> <li>95 %; no condensation</li> <li>Vibrations</li> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> <li>Operation, tested according to IEC 60068-2-6</li> <li>Yes</li> <li>Shock testing</li> <li>tested according to IEC 60068-2-27</li> <li>Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms</li> <li>Pollutant concentrations</li> <li>SO2 at RH &lt; 60% without condensation</li> <li>S02: &lt; 0.5 ppm; H2S: &lt; 0.1 ppm; RH &lt; 60% condensation-free</li> </ul>	<ul> <li>vertical installation, max.</li> </ul>	50 °C
max. 70 °C  Air pressure acc. to IEC 60068-2-13	Ambient temperature during storage/transportation	
Air pressure acc. to IEC 60068-2-13  Operation, min. Operation, max. 1 080 hPa Storage/transport, min. Storage/transport, min. Storage/transport, min. Storage/transport, max. 1 080 hPa 1 080 hPa 1 080 hPa Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. So 000 m; Restrictions for installation altitudes > 2 000 m, see manual Relative humidity Operation, max. Storage/transport, max. So 000 m; Restrictions for installation altitudes > 2 000 m, see manual So 000 m; Restrictions for installation altitudes > 2 000 m, see manual Relative humidity Operation, max. So 000 m; Restrictions for installation altitudes > 2 000 m, see manual Relative humidity Operation, max. So 000 m; Restrictions for installation altitudes > 2 000 m, see manual Relative humidity Operation, max. So 000 m; Restrictions for installation altitudes > 2 000 m, see manual Relative humidity Operation, max. So 000 m; Restrictions for installation altitudes > 2 000 m, see manual Relative humidity Operation, max. So 000 m; Restrictions for installation altitudes > 2 000 m, see manual Relative humidity Operation, max. So 000 m; Restrictions for installation altitudes > 2 000 m, see manual Relative humidity Operation, max. So 000 m; Restrictions for installation altitudes > 2 000 m, see manual Relative humidity Operation, max. So 000 m; Restrictions for installation altitudes > 2 000 m, see manual Relative humidity Operation, max. So 000 m; Restrictions for installation altitudes > 2 000 m, see manual Relative humidity Operation, for operation for installation altitudes > 2 000 m, see manual Relative humidity Operation, for operation for installation altitudes > 2 000 m, see manual Relative humidity Operation, for operation for installation altitudes > 2 000 m, see manual Relative humidity Operation, for operation for installation altitudes > 2 000 m, see manual Relative humidity Operation, for operation for installation altitude for operation for installation altitude for installation altitude for in	• min.	-40 °C
Operation, min. Operation, max. Operation, max. Operation, max. Otorage/transport, min. Otorage/transport, max.  Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. Operation, max.  Operation, max.  Operation, max.  Operation resistance during operation acc. to IEC 60068-2-6 Operation, tested according to IEC 60068-2-6 Operation, tested according to IEC 60068-2-7  Shock testing Operation Solutions  Operation Solutions Operation S	• max.	70 °C
Operation, max. Storage/transport, min. Storage/transport, max.  Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max.  Felative humidity Operation, max.  Operation, max.  Storage/transport, max.  1 080 hPa  1 080	Air pressure acc. to IEC 60068-2-13	
Storage/transport, min. Storage/transport, max.  Altitude during operation relating to sea level  Installation altitude, min. Installation altitude, max.  Solve on the properation of the shock 15 g (peak value), duration 11 ms  Pollutant concentrations Solve of S	Operation, min.	795 hPa
Storage/transport, max.  Altitude during operation relating to sea level  Installation altitude, min. Installation altitude, max.  Source manual  Felative humidity Operation, max.  Operation, max.  Source manual  95 %; no condensation  Vibrations  Vibrations Operation, tested according to IEC 60068-2-6 Operation, tested according to IEC 60068-2-6  Shock testing  Itested according to IEC 60068-2-7  Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms  Pollutant concentrations Source manual  1 080 hPa  2 080 hpa  1 080 hpa  2 080 hpa  1 080 hpa  2 080 hpa  1 080 hpa  2 080	Operation, max.	1 080 hPa
Altitude during operation relating to sea level  Installation altitude, min. Installation altitude, max.  Solve the structure of the shock 15 g (peak value), duration 11 ms  Pollutant concentrations  Solve tasting Solve the structure of the shock 15 g (peak value), duration 1 ms  Pollutant concentrations Solve the structure of the shock 15 g (peak value), duration 1 programming / header  Sonfiguration / programming / header	• Storage/transport, min.	660 hPa
<ul> <li>Installation altitude, min.</li> <li>Installation altitude, max.</li> <li>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</li> <li>Relative humidity</li> <li>Operation, max.</li> <li>Vibrations</li> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> <li>Operation, tested according to IEC 60068-2-6</li> <li>Yes</li> <li>Shock testing</li> <li>tested according to IEC 60068-2-7</li> <li>Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms</li> <li>Pollutant concentrations</li> <li>SO2 at RH &lt; 60% without condensation</li> <li>S02: &lt; 0.5 ppm; H2S: &lt; 0.1 ppm; RH &lt; 60% condensation-free</li> </ul>	Storage/transport, max.	1 080 hPa
Installation altitude, max.  Relative humidity     Operation, max.  95 %; no condensation  Vibrations  Vibrations  Vibration resistance during operation acc. to IEC 60068-2-6  Operation, tested according to IEC 60068-2-6  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  SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free  Configuration / programming / header	Altitude during operation relating to sea level	
Relative humidity  Operation, max.  95 %; no condensation  Vibrations  Vibration resistance during operation acc. to IEC 60068-2-6  Operation, tested according to IEC 60068-2-6  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  SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free configuration / programming / header	Installation altitude, min.	-1 000 m
Operation, max.      Operation, max.      Operation resistance during operation acc. to IEC 60068-2-6      Operation, tested according to IEC 60068-2-6      Shock testing	<ul> <li>Installation altitude, max.</li> </ul>	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Vibrations  • Vibration resistance during operation acc. to IEC 60068- 2-6 • Operation, tested according to IEC 60068-2-6  Shock testing • tested according to IEC 60068-2-7  • tested according to IEC 60068-2-7  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  SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free configuration / header	Relative humidity	
Vibration resistance during operation acc. to IEC 60068- 2-6     Operation, tested according to IEC 60068-2-6  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  SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free configuration / header	Operation, max.	95 %; no condensation
2-6  • Operation, tested according to IEC 60068-2-6  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	Vibrations	
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	<b>.</b>	2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail
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     SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free configuration / header  configuration / programming / header	<ul> <li>Operation, tested according to IEC 60068-2-6</li> </ul>	Yes
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	Shock testing	
SO2 at RH < 60% without condensation     S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free configuration / header configuration / programming / header	• tested according to IEC 60068-2-27	
configuration / header configuration / programming / header		
configuration / programming / header	• SO2 at RH < 60% without condensation	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
	onfiguration / header	
Programming language	configuration / programming / header	
	Programming language	
— LAD Yes	— LAD	Yes
— FBD Yes	— FBD	Yes
— SCL Yes	— SCL	Yes
Know-how protection	Know-how protection	
User program protection/password protection     Yes	<ul> <li>User program protection/password protection</li> </ul>	Yes
Copy protection  Yes	Copy protection	Yes
Block protection     Yes	Block protection	Yes
Access protection	Access protection	
• protection of confidential configuration data  Yes	protection of confidential configuration data	Yes
Protection level: Write protection     Yes	Protection level: Write protection	Yes

• Protection level: Read/write protection Yes • Protection level: Complete protection Yes User administration Yes; device-wide Number of users 42 • Number of groups 14 • Number of roles 20 programming / cycle time monitoring / header • adjustable Yes Width 90 mm Height 100 mm Depth 75 mm Weights

380 g

Weight, approx

Version Classification 27-24-22-07 eClass 14 eClass 12 27-24-22-07 9.1 27-24-22-07 eClass 27-24-22-07 eClass 9 eClass 8 27-24-22-07 eClass 7.1 27-24-22-07 eClass 6 27-24-22-07 9 EC000236 ETIM **ETIM** EC000236 8 **ETIM** EC000236 **IDEA** 4 3565 **UNSPSC** 15 32-15-17-05

#### Approvals / Certificates

### **General Product Approval**





Manufacturer Declaration



Metrological Approval

KC

#### **General Product Approval**

EMV

For use in hazardous locations

Marine / Shipping

Miscellaneous







<u>FM</u>



## Marine / Shipping





NK / Nippon Kaiji Kyokai





CCS (China Classification Society)

Marine / Shipping

Environment

**Industrial Communication** 









**PROFINET** 

last modified: 2/18/2025 **☼**