

Siemens  
EcoTech



SIMATIC S7-1500, CPU 1516-3 PN/DP, central processing unit with 2 MB work memory for program and 7.5 MB for data 1st interface: PROFINET IRT with 2-port switch, 2nd interface: PROFINET RT, 3rd interface: PROFIBUS, 6 ns bit performance, SIMATIC Memory Card required - - approvals and certificates according to entry 109817466 at support.industry.siemens.com to be considered! -

General information	
Product type designation	CPU 1516-3 PN/DP
HW functional status	FS04
Firmware version	V4.0
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> <li>Isochronous mode</li> </ul>	Yes; Distributed and central; with minimum OB 6x cycle of 375 µs (distributed) and 1 ms (central)
<ul style="list-style-type: none"> <li>SysLog</li> </ul>	Yes
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V20 (FW V4.0) / V18 (FW V3.0) or higher; configurable with older TIA Portal versions as 6ES7516-3AN02-0AB0
Configuration control	
via dataset	Yes
Display	
Screen diagonal [cm]	6.1 cm
Control elements	
Number of keys	8
Mode buttons	2
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Mains buffering	
<ul style="list-style-type: none"> <li>Mains/voltage failure stored energy time</li> </ul>	5 ms
<ul style="list-style-type: none"> <li>Repeat rate, min.</li> </ul>	1/s
Input current	
Current consumption (rated value)	0.69 A
Current consumption, max.	1.08 A
Inrush current, max.	1.15 A; Rated value
I <sup>2</sup> t	0.6 A <sup>2</sup> ·s
Power	
Infeed power to the backplane bus	12 W
Power consumption from the backplane bus (balanced)	6.7 W
Power loss	

Power loss, typ.	4 W
<b>Memory</b>	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
<b>Work memory</b>	
• integrated (for program)	2 Mbyte
• integrated (for data)	7.5 Mbyte
<b>Load memory</b>	
• Plug-in (SIMATIC Memory Card), max.	32 Gbyte
<b>Backup</b>	
• maintenance-free	Yes
<b>CPU processing times</b>	
for bit operations, typ.	6 ns
for word operations, typ.	7 ns
for fixed point arithmetic, typ.	9 ns
for floating point arithmetic, typ.	37 ns
<b>CPU-blocks</b>	
Number of elements (total)	8 000; Blocks (OB, FB, FC, DB) and UDTs
<b>DB</b>	
• Number range	1 ... 60 999; subdivided into: number range that can be used by the user: 1 ... 59 999, and number range of DBs created via SFC 86: 60 000 ... 60 999
• Size, max.	7.5 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
<b>FB</b>	
• Number range	0 ... 65 535
• Size, max.	1 Mbyte
<b>FC</b>	
• Number range	0 ... 65 535
• Size, max.	1 Mbyte
<b>OB</b>	
• Size, max.	1 Mbyte
• Number of free cycle OBs	100
• Number of time alarm OBs	20
• Number of delay alarm OBs	20
• Number of cyclic interrupt OBs	20; With minimum OB 3x cycle of 250 µs
• Number of process alarm OBs	50
• Number of DPV1 alarm OBs	3
• Number of isochronous mode OBs	3
• Number of technology synchronous alarm OBs	2
• Number of startup OBs	100
• Number of asynchronous error OBs	4
• Number of synchronous error OBs	2
• Number of diagnostic alarm OBs	1
<b>Nesting depth</b>	
• per priority class	24
<b>Counters, timers and their retentivity</b>	
<b>S7 counter</b>	
• Number	2 048
<b>Retentivity</b>	
— adjustable	Yes
<b>IEC counter</b>	
• Number	Any (only limited by the main memory)
<b>Retentivity</b>	
— adjustable	Yes
<b>S7 times</b>	
• Number	2 048
<b>Retentivity</b>	
— adjustable	Yes
<b>IEC timer</b>	
• Number	Any (only limited by the main memory)
<b>Retentivity</b>	
— adjustable	Yes

Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 472 KB
Extended retentive data area (incl. timers, counters, flags), max.	7.5 Mbyte; When using PS 6 0W 24/48/60 V DC HF
Flag	
<ul style="list-style-type: none"> <li>• Size, max.</li> <li>• Number of clock memories</li> </ul>	16 kbyte 8; 8 clock memory bit, grouped into one clock memory byte
Data blocks	
<ul style="list-style-type: none"> <li>• Retentivity adjustable</li> <li>• Retentivity preset</li> </ul>	Yes No
Local data	
<ul style="list-style-type: none"> <li>• per priority class, max.</li> </ul>	64 kbyte; max. 16 KB per block
Address area	
Number of IO modules	8 192; max. number of modules / submodules
I/O address area	
<ul style="list-style-type: none"> <li>• Inputs</li> <li>• Outputs</li> </ul>	32 kbyte; All inputs are in the process image 32 kbyte; All outputs are in the process image
per integrated IO subsystem	
<ul style="list-style-type: none"> <li>— Inputs (volume)</li> <li>— Outputs (volume)</li> </ul>	8 kbyte 8 kbyte
per CM/CP	
<ul style="list-style-type: none"> <li>— Inputs (volume)</li> <li>— Outputs (volume)</li> </ul>	8 kbyte 8 kbyte
Subprocess images	
<ul style="list-style-type: none"> <li>• Number of subprocess images, max.</li> </ul>	32
Hardware configuration	
Number of distributed IO systems	64; A distributed I/O system is characterized not only by the integration of distributed I/O via PROFINET or PROFIBUS communication modules, but also by the connection of I/O via AS-i master modules or links (e.g. IE/PB-Link)
Number of DP masters	
<ul style="list-style-type: none"> <li>• integrated</li> <li>• Via CM</li> </ul>	1 8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total
Number of IO Controllers	
<ul style="list-style-type: none"> <li>• integrated</li> <li>• Via CM</li> </ul>	2 8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total
Rack	
<ul style="list-style-type: none"> <li>• Modules per rack, max.</li> <li>• Number of lines, max.</li> </ul>	32; CPU + 31 modules 1
PtP CM	
<ul style="list-style-type: none"> <li>• Number of PtP CMs</li> </ul>	the number of connectable PtP CMs is only limited by the number of available slots
Time of day	
Clock	
<ul style="list-style-type: none"> <li>• Type</li> <li>• Backup time</li> <li>• Deviation per day, max.</li> </ul>	Hardware clock 6 wk; At 40 °C ambient temperature, typically 10 s; Typ.: 2 s
Operating hours counter	
<ul style="list-style-type: none"> <li>• Number</li> </ul>	16
Clock synchronization	
<ul style="list-style-type: none"> <li>• supported</li> <li>• to DP, master</li> <li>• on DP, device</li> <li>• in AS, master</li> <li>• in AS, device</li> <li>• on Ethernet via NTP</li> </ul>	Yes Yes Yes; via PROFIBUS CM / CP Yes Yes Yes
Interfaces	
Number of PROFINET interfaces	2
Number of PROFIBUS interfaces	1
1. Interface	
Interface types	

<ul style="list-style-type: none"> <li>• RJ 45 (Ethernet)</li> <li>• Number of ports</li> <li>• integrated switch</li> </ul>	<p>Yes; X1</p> <p>2</p> <p>Yes</p>
<b>Protocols</b>	
<ul style="list-style-type: none"> <li>• IP protocol</li> <li>• PROFINET IO Controller</li> <li>• PROFINET IO Device</li> <li>• SIMATIC communication</li> <li>• Open IE communication</li> <li>• Web server</li> <li>• Media redundancy</li> </ul>	<p>Yes; IPv4</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes; Optionally also encrypted</p> <p>Yes</p> <p>Yes</p>
<b>PROFINET IO Controller</b>	
<b>Services</b>	
<ul style="list-style-type: none"> <li>— Isochronous mode</li> <li>— Direct data exchange</li> <li>— IRT</li> <li>— PROFINergy</li> <li>— Prioritized startup</li> <li>— Number of connectable IO Devices, max.</li> <li>— Of which IO devices with IRT, max.</li> <li>— Number of connectable IO Devices for RT, max.</li> <li>— of which in line, max.</li> <li>— Number of IO Devices that can be simultaneously activated/deactivated, max.</li> <li>— Number of IO Devices per tool, max.</li> <li>— Updating times</li> <li>— PROFINET Security Class</li> </ul>	<p>Yes</p> <p>Yes; Requirement: IRT and isochronous mode (MRPD optional)</p> <p>Yes</p> <p>Yes; per user program</p> <p>Yes; Max. 32 PROFINET devices</p> <p>256; in total, up to 1024 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET</p> <p>64</p> <p>256</p> <p>256</p> <p>8; in total across all interfaces</p> <p>8</p> <p>The minimum value of the update time also depends on communication share set for PROFINET IO, on the number of IO devices, and on the quantity of configured user data</p> <p>1</p>
<b>Update time for IRT</b>	
<ul style="list-style-type: none"> <li>— for send cycle of 250 <math>\mu</math>s</li> <li>— for send cycle of 500 <math>\mu</math>s</li> <li>— for send cycle of 1 ms</li> <li>— for send cycle of 2 ms</li> <li>— for send cycle of 4 ms</li> <li>— With IRT and parameterization of "odd" send cycles</li> </ul>	<p>250 <math>\mu</math>s to 4 ms; Note: In the case of IRT with isochronous mode, the minimum update time of 375 <math>\mu</math>s of the isochronous OB is decisive</p> <p>500 <math>\mu</math>s to 8 ms</p> <p>1 ms to 16 ms</p> <p>2 ms to 32 ms</p> <p>4 ms to 64 ms</p> <p>Update time = set "odd" send clock (any multiple of 125 <math>\mu</math>s: 375 <math>\mu</math>s, 625 <math>\mu</math>s ... 3 875 <math>\mu</math>s)</p>
<b>Update time for RT</b>	
<ul style="list-style-type: none"> <li>— for send cycle of 250 <math>\mu</math>s</li> <li>— for send cycle of 500 <math>\mu</math>s</li> <li>— for send cycle of 1 ms</li> <li>— for send cycle of 2 ms</li> <li>— for send cycle of 4 ms</li> </ul>	<p>250 <math>\mu</math>s to 128 ms</p> <p>500 <math>\mu</math>s to 256 ms</p> <p>1 ms to 512 ms</p> <p>2 ms to 512 ms</p> <p>4 ms to 512 ms</p>
<b>PROFINET IO Device</b>	
<b>Services</b>	
<ul style="list-style-type: none"> <li>— Isochronous mode</li> <li>— IRT</li> <li>— PROFINergy</li> <li>— Shared device</li> <li>— Number of IO Controllers with shared device, max.</li> <li>— activation/deactivation of I-devices</li> <li>— Asset management record</li> <li>— PROFINET Security Class</li> </ul>	<p>No</p> <p>Yes</p> <p>Yes; per user program</p> <p>Yes</p> <p>4</p> <p>Yes; per user program</p> <p>Yes; per user program</p> <p>SNMP Configuration and DCP Read Only</p>
<b>2. Interface</b>	
<b>Interface types</b>	
<ul style="list-style-type: none"> <li>• RJ 45 (Ethernet)</li> <li>• Number of ports</li> <li>• integrated switch</li> </ul>	<p>Yes; X2</p> <p>1</p> <p>No</p>
<b>Protocols</b>	
<ul style="list-style-type: none"> <li>• IP protocol</li> </ul>	<p>Yes; IPv4</p>

• PROFINET IO Controller	Yes
• PROFINET IO Device	Yes
• SIMATIC communication	Yes
• Open IE communication	Yes; Optionally also encrypted
• Web server	Yes
• Media redundancy	No
<b>PROFINET IO Controller</b>	
<b>Services</b>	
— Isochronous mode	No
— Direct data exchange	No
— IRT	No
— PROFINergy	Yes; per user program
— Prioritized startup	No
— Number of connectable IO Devices, max.	32; in total, up to 1024 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
— Number of connectable IO Devices for RT, max.	32
— of which in line, max.	32
— Number of IO Devices that can be simultaneously activated/deactivated, max.	8; in total across all interfaces
— Number of IO Devices per tool, max.	8
— Updating times	The minimum value of the update time also depends on communication share set for PROFINET IO, on the number of IO devices, and on the quantity of configured user data
— PROFINET Security Class	1
<b>Update time for RT</b>	
— for send cycle of 1 ms	1 ms to 512 ms
<b>PROFINET IO Device</b>	
<b>Services</b>	
— Isochronous mode	No
— IRT	No
— PROFINergy	Yes; per user program
— Prioritized startup	No
— Shared device	Yes
— Number of IO Controllers with shared device, max.	4
— activation/deactivation of I-devices	Yes; per user program
— Asset management record	Yes; per user program
— PROFINET Security Class	SNMP Configuration and DCP Read Only
<b>3. Interface</b>	
<b>Interface types</b>	
• RS 485	Yes; X3
• Number of ports	1
<b>Protocols</b>	
• PROFIBUS DP master	Yes
• PROFIBUS DP device	No
• SIMATIC communication	Yes
<b>PROFIBUS DP master</b>	
• Number of connections, max.	48; for the integrated PROFIBUS DP interface
• max. number of DP devices	125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
<b>Services</b>	
— Equidistance	Yes
— Isochronous mode	Yes
— activation/deactivation of DP devices	Yes
<b>Interface types</b>	
<b>RJ 45 (Ethernet)</b>	
• 100 Mbps	Yes
• Autonegotiation	Yes
• Autocrossing	Yes
• Industrial Ethernet status LED	Yes
<b>RS 485</b>	
• Transmission rate, max.	12 Mbit/s
<b>Protocols</b>	

PROFIsafe	No
<b>Number of connections</b>	
• Number of connections, max.	256; via integrated interfaces of the CPU and connected CPs / CMs
• Number of connections reserved for ES/HMI/web	10
• Number of connections via integrated interfaces	128
• Number of S7 routing paths	16
<b>Redundancy mode</b>	
• H-Sync forwarding	Yes
<b>Media redundancy</b>	
— Media redundancy	only via 1st interface (X1)
— MRP	Yes; MRP Automanager according to IEC 62439-2 Edition 2.0, MRP Manager; MRP Client
— MRP interconnection, supported	Yes; as MRP ring node according to IEC 62439-2 Edition 3.0
— MRPD	Yes; Requirement: IRT
— Switchover time on line break, typ.	200 ms; For MRP, bumpless for MRPD
— Number of stations in the ring, max.	50
<b>SIMATIC communication</b>	
• PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
• S7 routing	Yes
• Data record routing	Yes
• S7 communication, as server	Yes
• S7 communication, as client	Yes
• User data per job, max.	See online help (S7 communication, user data size)
<b>Open IE communication</b>	
• TCP/IP	Yes
— Data length, max.	64 kbyte
— several passive connections per port, supported	Yes
• ISO-on-TCP (RFC1006)	Yes
— Data length, max.	64 kbyte
• UDP	Yes
— Data length, max.	2 kbyte; 1 472 bytes for UDP broadcast
— UDP multicast	Yes; max. 118 multicast circuits
• DHCP	Yes
• DNS	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
• Encryption	Yes; Optional
<b>Web server</b>	
• HTTP	Yes; Standard and user pages
• HTTPS	Yes; Standard and user pages
• web API	
— Number of sessions, max.	100
— number of simultaneous HTTP calls, max.	4
— HTTP request body, max.	131 072 byte
<b>OPC UA</b>	
• Runtime license required	Yes; "Medium" license required
• OPC UA Client	Yes; Data Access (registered Read/Write), Method Call
— Application authentication	Yes
— Security policies	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
— User authentication	"anonymous" or by user name & password
— Number of connections, max.	10
— Number of nodes of the client interfaces, recommended max.	2 000
— Number of elements for one call of OPC-UA_NodeGetHandleList/OPC-UA_ReadList/OPC-UA_WriteList, max.	300
— Number of elements for one call of OPC-UA_NameSpaceGetIndexList, max.	20
— Number of elements for one call of OPC-UA_MethodGetHandleList, max.	100
— Number of simultaneous calls of the client	1

instructions for session management, per connection, max.

— Number of simultaneous calls of the client instructions for data access, per connection, max.

— Number of registerable nodes, max.

— Number of registerable method calls of OPC-UA\_MethodCall, max.

— Number of inputs/outputs when calling OPC-UA\_MethodCall, max.

● OPC UA Server

— Application authentication

— Security policies

— User authentication

— GDS support (certificate management)

— Number of sessions, max.

— Number of accessible variables, max.

— Number of registerable nodes, max.

— Number of subscriptions per session, max.

— Sampling interval, min.

— Publishing interval, min.

— Number of server methods, max.

— Number of inputs/outputs per server method, max.

— Number of monitored items, recommended max.

— Number of server interfaces, max.

— Number of nodes for user-defined server interfaces, max.

● Alarms and Conditions

— Number of program alarms

— Number of alarms for system diagnostics

5

5 000

100

20

Yes; data access (read, write, subscribe), method call, alarms & condition (A&C), custom address space, role-based access control

Yes

available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256, Aes128Sha256RsaOaep, Aes256Sha256RsaPss

"anonymous" or by user name & password

Yes

48

100 000

20 000

50

100 ms

100 ms

50; max. 20 concurrently running jobs each for asynchronous instructions OPC-UA\_ServerMethodPre and OPC-UA\_ServerMethodPost

20

4 000; for 1 s sampling interval and 1 s send interval

10 of each "Server interfaces" / "Companion specification" type and 20 of the type "Reference namespace"

30 000

Yes

200

100

Further protocols

● MODBUS

Yes; MODBUS TCP

**Isochronous mode**

Equidistance

Yes

**S7 message functions**

Number of login stations for message functions, max.

64

number of subscriptions, max.

500

number of tags/attributes for subscriptions, max.

8 000

Program alarms

Yes

Number of configurable program messages, max.

10 000; Program messages are generated by the "Program\_Alarm" block, ProDiag or GRAPH

Number of loadable program messages in RUN, max.

10 000

Number of simultaneously active program alarms

● Number of program alarms

1 000

● Number of alarms for system diagnostics

200

● Number of alarms for motion technology objects

160

**Test commissioning functions**

Joint commission (Team Engineering)

Yes; Parallel online access possible for up to 8 engineering systems

Status block

Yes; Up to 8 simultaneously (in total across all ES clients)

Single step

No

Number of breakpoints

8

Profiling

Yes

Status/control

● Status/control variable

Yes

● Variables

Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters

● Number of variables, max.

— of which status variables, max.

200; per job

— of which control variables, max.

200; per job

Forcing

● Forcing

Yes

● Forcing variables

Peripheral inputs/outputs

<ul style="list-style-type: none"> <li>• Number of variables, max.</li> </ul>	200
<b>Diagnostic buffer</b>	
<ul style="list-style-type: none"> <li>• present</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Number of entries, max.</li> </ul>	3 200
<ul style="list-style-type: none"> <li>— of which powerfail-proof</li> </ul>	500
<b>Traces</b>	
<ul style="list-style-type: none"> <li>• Number of configurable Traces</li> </ul>	4
<ul style="list-style-type: none"> <li>• Memory size per trace, max.</li> </ul>	512 kbyte
<b>Interrupts/diagnostics/status information</b>	
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>• RUN/STOP LED</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• ERROR LED</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• MAINT LED</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• STOP ACTIVE LED</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Connection display LINK TX/RX</li> </ul>	Yes
<b>Supported technology objects</b>	
Motion Control	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool
<ul style="list-style-type: none"> <li>• Number of available Motion Control resources for technology objects</li> </ul>	2 400
<ul style="list-style-type: none"> <li>• Required Motion Control resources</li> </ul>	
<ul style="list-style-type: none"> <li>— per speed-controlled axis</li> </ul>	40
<ul style="list-style-type: none"> <li>— per positioning axis</li> </ul>	80
<ul style="list-style-type: none"> <li>— per synchronous axis</li> </ul>	160
<ul style="list-style-type: none"> <li>— per external encoder</li> </ul>	80
<ul style="list-style-type: none"> <li>— per output cam</li> </ul>	20
<ul style="list-style-type: none"> <li>— per cam track</li> </ul>	160
<ul style="list-style-type: none"> <li>— per probe</li> </ul>	40
<ul style="list-style-type: none"> <li>• Positioning axis</li> </ul>	
<ul style="list-style-type: none"> <li>— Number of positioning axes at motion control cycle of 4 ms (typical value)</li> </ul>	11
<ul style="list-style-type: none"> <li>— Number of positioning axes at motion control cycle of 8 ms (typical value)</li> </ul>	20
Controller	
<ul style="list-style-type: none"> <li>• PID_Compact</li> </ul>	Yes; Universal PID controller with integrated optimization
<ul style="list-style-type: none"> <li>• PID_3Step</li> </ul>	Yes; PID controller with integrated optimization for valves
<ul style="list-style-type: none"> <li>• PID-Temp</li> </ul>	Yes; PID controller with integrated optimization for temperature
Counting and measuring	
<ul style="list-style-type: none"> <li>• High-speed counter</li> </ul>	Yes
<b>Standards, approvals, certificates</b>	
Siemens Eco Profile (SEP)	Siemens EcoTech
Recycler Guide available	Yes
<b>Ecological footprint</b>	
<ul style="list-style-type: none"> <li>• environmental product declaration</li> </ul>	Yes
<b>Global warming potential</b>	
<ul style="list-style-type: none"> <li>— global warming potential, (total) [CO2 eq]</li> </ul>	102 kg
<ul style="list-style-type: none"> <li>— global warming potential, (during production) [CO2 eq]</li> </ul>	26.5 kg
<ul style="list-style-type: none"> <li>— global warming potential, (during operation) [CO2 eq]</li> </ul>	76.7 kg
<ul style="list-style-type: none"> <li>— global warming potential, (after end of life cycle) [CO2 eq]</li> </ul>	-0.898 kg
<b>product functions / security / header</b>	
PROFINET Security Class	1
signed firmware update	Yes
Secure Boot	Yes
safely removing data	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>• horizontal installation, min.</li> </ul>	-30 °C; No condensation
<ul style="list-style-type: none"> <li>• horizontal installation, max.</li> </ul>	60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off
<ul style="list-style-type: none"> <li>• vertical installation, min.</li> </ul>	-30 °C; No condensation

<ul style="list-style-type: none"> <li>vertical installation, max.</li> </ul>	40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off
<b>Ambient temperature during storage/transportation</b>	
<ul style="list-style-type: none"> <li>min.</li> </ul>	-40 °C
<ul style="list-style-type: none"> <li>max.</li> </ul>	70 °C
<b>Altitude during operation relating to sea level</b>	
<ul style="list-style-type: none"> <li>Installation altitude above sea level, max.</li> </ul>	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual

**configuration / header**

**configuration / programming / header**

<b>Programming language</b>	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes

**Know-how protection**

<ul style="list-style-type: none"> <li>User program protection/password protection</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Copy protection</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Block protection</li> </ul>	Yes

**Access protection**

<ul style="list-style-type: none"> <li>protection of confidential configuration data</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Password for display</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Protection level: Write protection</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Protection level: Read/write protection</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Protection level: Write protection for Failsafe</li> </ul>	No
<ul style="list-style-type: none"> <li>Protection level: Complete protection</li> </ul>	Yes
<ul style="list-style-type: none"> <li>User administration</li> </ul>	Yes; device-wide and centralized
<ul style="list-style-type: none"> <li>Number of users</li> </ul>	100
<ul style="list-style-type: none"> <li>Number of groups</li> </ul>	100
<ul style="list-style-type: none"> <li>Number of roles</li> </ul>	50

**programming / cycle time monitoring / header**

<ul style="list-style-type: none"> <li>lower limit</li> </ul>	adjustable minimum cycle time
<ul style="list-style-type: none"> <li>upper limit</li> </ul>	adjustable maximum cycle time

**Dimensions**

Width	70 mm
Height	147 mm
Depth	129 mm

**Weights**

Weight, approx.	469 g
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**Classifications**

	Version	Classification
eClass	14	27-24-22-07
eClass	12	27-24-22-07
eClass	9.1	27-24-22-07
eClass	9	27-24-22-07
eClass	8	27-24-22-07
eClass	7.1	27-24-22-07
eClass	6	27-24-22-07
ETIM	10	EC000236
ETIM	9	EC000236
ETIM	8	EC000236
ETIM	7	EC000236
IDEA	4	3565
UNSPSC	15	32-15-17-05

**Approvals / Certificates**

**General Product Approval**



[Miscellaneous](#)

[Manufacturer Declaration](#)



[Miscellaneous](#)

General Product Approval

For use in hazardous locations



[KC](#)

[TUEV](#)

[EM](#)



[EM](#)

For use in hazardous locations

Maritime application

[CCC-Ex](#)

[Miscellaneous](#)



[Type Examination Certificate](#)



IECEX



ABS

Maritime application



LRS

[NK / Nippon Kaiji Kyokai](#)



RINA

[CCS \(China Classification Society\)](#)

Maritime application

other

Environment



[PROFINET](#)



Profibus



Siemens EcoTech



last modified:

7/17/2025