SIEMENS

Data sheet

6ES7511-1AK02-0AB0



SIMATIC S7-1500, CPU 1511-1 PN, Central processing unit with working memory 150 KB for program and 1 MB for data, 1. interface: PROFINET IRT with 2 port switch, 60 NS bit-performance, SIMATIC memory card necessary

General information	
Product type designation HW functional status	CPU 1511-1 PN FS03
	V2.9
Firmware version Product function	V2.9
I&M data	Yes; I&M0 to I&M3
Isochronous mode	Yes; Distributed and central; with minimum OB 6x cycle of 625 µs
	(distributed) and 1 ms (central)
Engineering with	
STEP 7 TIA Portal configurable/integrated from version	V17 (FW V2.9) / V15 (FW V2.5) or higher; with older TIA Portal versions configurable as 6ES7511-1AK01-0AB0
Configuration control	
via dataset	Yes
Display	
Screen diagonal [cm]	3.45 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	
 Mains/voltage failure stored energy time 	5 ms
Repeat rate, min.	1/s
Input current	
Current consumption (rated value)	0.7 A
Current consumption, max.	0.95 A
Inrush current, max.	1.9 A; Rated value
l²t	0.02 A ² ·s
Power	
Infeed power to the backplane bus	10 W
Power consumption from the backplane bus (balanced)	5.5 W
Power loss	
Power loss, typ.	5.7 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	

 integrated (for program) 	150 kbyte
 integrated (for program) integrated (for data) 	1 Mbyte
Load memory	T Mbyte
Plug-in (SIMATIC Memory Card), max.	32 Gbyte
Backup	02 00510
maintenance-free	Yes
CPU processing times	
	60.00
for bit operations, typ.	60 ns
for word operations, typ.	72 ns
for fixed point arithmetic, typ.	96 ns
for floating point arithmetic, typ.	384 ns
CPU-blocks	
Number of elements (total)	4 000; Blocks (OB, FB, FC, DB) and UDTs
DB	
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.	1 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
FB	
Number range	0 65 535
• Size, max.	150 kbyte
FC	
Number range	0 65 535
• Size, max.	150 kbyte
OB	
• Size, max.	150 kbyte
 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 500 µs
 Number of process alarm OBs 	50
 Number of DPV1 alarm OBs 	3
 Number of isochronous mode OBs 	2
 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
Nesting depth	
 per priority class 	24
Counters, timers and their retentivity	
S7 counter	
Number	2 048
Retentivity	
— adjustable	Yes
IEC counter	
Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes
S7 times	
Number	2 048
Retentivity	
— adjustable	Yes
IEC timer	
Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	128 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 88 KB
Extended retentive data area (incl. timers, counters, flags),	1 Mbyte; When using PS 6 0W 24/48/60 V DC HF
max.	
Flag	
• Size, max.	16 kbyte

Number of Clack intendings Deck Clack intending Optic • I does in the clack intending Optic Yes • Rest-trickly digitable Yes • Rest-trickly preset No • Load data • Rest-trickly preset • I profile data. • Rest-trickly preset • Output (volume) • Rest-trickly preset • I profile (volume) • Rest-trickly preset • Rest-trickly volume) • Rest-trickly preset • Rest-trickly volume) • Rest-trickly volume) • Rest-trickly volume) • Rest-trickly volume) • Rest-trickly volume) • Rest-trickly volume) <th>Number of clock memories</th> <th>8; 8 clock memory bit, grouped into one clock memory byte</th>	Number of clock memories	8; 8 clock memory bit, grouped into one clock memory byte
		o, o clock memory bit, grouped into one clock memory byte
• Returbity preset No • exp priority class, max. Get kytyre, max. 16 KB per block Address area		Yes
Local data - oper priority class. max. 64 ktyse; max. 18 KB per block Address.area 1024: max: number of modules / submodules IbC address.area 22 ktyte; All inputs are in the process image • hiputs 32 ktyte; All inputs are in the process image • Outputs 32 ktyte; All inputs are in the process image • Outputs 92 ktyte - Inputs (volume) 8 ktyte - Outputs (volume) 8 ktyte - Wime of distributed IO systems 22 - Ware of distributed IO systems 24 detistuted IO vale PROFINET or PROFISUS communication modules or links (e.g. LEPE-Link) Number of IO Controllers 1 • Via CM 4. A maximum of 4 CMaxCPs (PROFISUS, PROFINET, Ethernet) can be inserted in total • Monther of IDP masters 1 •		
Audress area Number of IC modules integer Number of IC modules integer IC address area		
Number of IC modules 1 024; max. number of modules / submodules IO address area 2 kbyte; All inputs are in the process image • Inputs 2 kbyte; All inputs are in the process image • Inputs (volume) 8 kbyte • Outputs (volume) 8 kbyte • Unputs (volume) 8 kbyte • Unputs (volume) 8 kbyte • Unote of subprocess images.max. 32 • Mumber of subprocess images.max. 32 • Number of subprocess images.max. 32 • Via CM • A maximum of 4 CMsrCPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total • Number of DP masters • Via CM • A maximum of 4 CMsrCPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total • Winder of ID Controllers 1 • Winder of IDP CMs the number of connectable PIP CMs is only limited by the number of surplication total • Number of PIP CMs •	 per priority class, max. 	64 kbyte; max. 16 KB per block
IVD address area • Inputs 32 kbyte: All inputs are in the process image • Outputs 32 kbyte: All outputs are in the process image per inlegrated IO subsystem 8 kbyte - Inputs (volume) 8 kbyte - Outputs (volume) 8 kbyte - Number of subprocess images	Address area	
• Inputs 32 ktyte; All puts are in the process image • Outputs 32 ktyte; All outputs are in the process image per integrated IO subsystem 8 ktyte - Inputs (volume) 8 ktyte per CMNCP 8 ktyte - Outputs (volume) 8 ktyte - Outputs (volume) 8 ktyte - Outputs (volume) 8 ktyte • Number of subprocess images, max. 32 • Number of of subprocess images, max. 32 • Via CM 4. A maximum of 4 CMs/CPs (PROFIBUS communication or links (e.g. LEP8-Link) Number of IO Controllers 1 • Via CM 4. A maximum of 4 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total Number of IPP CMs 1 • Number of PIP CMs 6 wk, At40 °C ambient temperature, typically <t< td=""><td>Number of IO modules</td><td>1 024; max. number of modules / submodules</td></t<>	Number of IO modules	1 024; max. number of modules / submodules
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Number of ICO controllers integrated 1 • Via CM 1 4; A maximum of 4 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total Rack 32; CPU + 31 modules 1 • Number of lines, max. 1 22; CPU + 31 modules 1 PIP CM 1 1 1 • Number of PIP CMs the number of connectable PIP CMs is only limited by the number of available slots 3vailable slots Time of day 1 1 1 Clock - 4/th "C ambient temperature, typically 1 • Type Hardware clock 6/th wk, X140 "C ambient temperature, typically 1 • Deviation per day, max. 10's; Typ.: 2's 1 1 • Deviation per day, max. 16's 1 1 • Clock synchronization - Yes - - • in AS, slave Yes - - - • Interface types 1 - - - - • Interface types 1 - - - - - -		
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be inserted in total Rack • Modules per rack, max. • Number of lines, max. • Number of PIP CMs • Number of PIP CMs • Number of PIP CMs • Tree of day Clock • Type • Backup time • Deviation per day, max. • Deviation per day, max. • Deviation per day, max. • Number • Clock supported • Number • Number • Number • Number • In AS, master • on Ethernet via NTP Yes • in AS, slave • on Ethernet via NTP Yes • RJ 45 (Ethernet) • RJ 45 (Ethernet) • RJ 45 (Ethernet) • IP protocol • IP protocol • IP protocol • ROFINET IO Controller • ROFINET IO Controller • PROFINET IO Device Yes • SUMATIC communication • Ves server	0	
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available slots Time of day Clock • Type • Backup time • 6 wk; At 40 °C ambient temperature, typically • Deviation per day, max. 10 s; Typ.: 2 s Operating hours counter • Number • Number • 16 Clock synchronization • supported • supported • Stasser • n AS, master • on Ethernet via NTP Yes • on Ethernet via NTP Yes • Interfaces / Interfaces / Interface types • R4 45 (Ethernet) • R4 45 (Ethernet) • Ves; X1 • Number of ports 2 • integrated switch Yes • Protocol / Per protocol / Yes · Interface types • Interface types • Interface types • R4 45 (Ethernet) • Yes; X1 • Number of ports 2 • Sintegrated switch Yes · Protocol / Yes · Interface types • R0 + PROFINET IO Controller · Yes · PROFINET IO Device · Yes · Open IE communication · Yes · Web server · Yes · Web server · Yes · Web server · Yes ·		
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• in AS, slaveYes• on Ethernet via NTPYesInterfacesYesNumber of PROFINET interfaces11. InterfaceYes• RJ 45 (Ethernet)Yes; X1• RJ 45 (Ethernet)Yes; X1• Number of ports2• integrated switchYesProtocolsYes; IPv4• IP protocolYes; IPv4• PROFINET IO ControllerYes• PROFINET IO ControllerYes• SIMATIC communicationYes• Open IE communicationYes; Optionally also encrypted• Web serverYes		
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Number of PROFINET interfaces 1 1. Interface 1 Interface types Interface types • RJ 45 (Ethernet) Yes; X1 • Number of ports 2 • integrated switch Yes Protocols Yes; IPv4 • PROFINET IO Controller Yes • SIMATIC communication Yes; Optionally also encrypted • Web server Yes	on Ethernet via NTP	Yes
1. Interface Interface types • RJ 45 (Ethernet) Yes; X1 • Number of ports 2 • integrated switch Yes Protocols Yes; IPv4 • PROFINET IO Controller Yes • SIMATIC communication Yes • Open IE communication Yes; Optionally also encrypted • Web server Yes	Interfaces	
Interface types • RJ 45 (Ethernet) Yes; X1 • Number of ports 2 • integrated switch Yes Protocols Yes; IPv4 • PROFINET IO Controller Yes • PROFINET IO Device Yes • SIMATIC communication Yes; Optionally also encrypted • Web server Yes	Number of PROFINET interfaces	1
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• integrated switchYesProtocols• IP protocolYes; IPv4• PROFINET IO ControllerYes• PROFINET IO DeviceYes• SIMATIC communicationYes• Open IE communicationYes; Optionally also encrypted• Web serverYes	RJ 45 (Ethernet)	Yes; X1
Protocols Yes; IPv4 • IP protocol Yes • PROFINET IO Controller Yes • PROFINET IO Device Yes • SIMATIC communication Yes • Open IE communication Yes; Optionally also encrypted • Web server Yes		
• IP protocolYes; IPv4• PROFINET IO ControllerYes• PROFINET IO DeviceYes• SIMATIC communicationYes• Open IE communicationYes; Optionally also encrypted• Web serverYes		Yes
• PROFINET IO ControllerYes• PROFINET IO DeviceYes• SIMATIC communicationYes• Open IE communicationYes; Optionally also encrypted• Web serverYes		Ver ID-4
• PROFINET IO DeviceYes• SIMATIC communicationYes• Open IE communicationYes; Optionally also encrypted• Web serverYes		
• SIMATIC communicationYes• Open IE communicationYes; Optionally also encrypted• Web serverYes		
Open IE communication Yes; Optionally also encrypted Ves		
Web server Yes		
	Media redundancy	

PROFINET IO Controller	
Services	Vee
— PG/OP communication	Yes
— Isochronous mode	Yes
— Direct data exchange	Yes; Requirement: IRT and isochronous mode (MRPD optional)
	Yes
— PROFlenergy	Yes; per user program
— Prioritized startup	Yes; Max. 32 PROFINET devices
— Number of connectable IO Devices, max.	128; In total, up to 256 distributed I/O devices can be connected via AS- i, PROFIBUS or PROFINET
— Of which IO devices with IRT, max.	64
 Number of connectable IO Devices for RT, 	128
max.	100
— of which in line, max.	128
 — 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
Update time for IRT	
— for send cycle of 250 μs	250 µs to 4 ms; Note: In the case of IRT with isochronous mode, the
2	minimum update time of $625 \ \mu s$ of the isochronous OB is decisive
— for send cycle of 500 μs	500 μs to 8 ms; Note: In the case of IRT with isochronous mode, the
	minimum update time of 625 μs of the isochronous OB is decisive
— for send cycle of 1 ms	1 ms to 16 ms
— for send cycle of 2 ms	2 ms to 32 ms
— for send cycle of 4 ms	4 ms to 64 ms
- With IRT and parameterization of "odd" send	Update time = set "odd" send clock (any multiple of 125 µs: 375 µs, 625
cycles	μs 3 875 μs)
Update time for RT	
— for send cycle of 250 μs	250 µs to 128 ms
— for send cycle of 500 μs	500 µs to 256 ms
— for send cycle of 1 ms	1 ms to 512 ms
 for send cycle of 2 ms 	2 ms to 512 ms
— for send cycle of 4 ms	4 ms to 512 ms
PROFINET IO Device	
Services	
— PG/OP communication	Yes
— Isochronous mode	No
— IRT	Yes
— PROFlenergy	Yes; per user program
— Shared device	Yes
 — Number of IO Controllers with shared device, 	4
max.	
 activation/deactivation of I-devices 	Yes; per user program
— Asset management record	Yes; per user program
Interface types	
RJ 45 (Ethernet)	
• 100 Mbps	Yes
Autonegotiation	Yes
Autocrossing	Yes
Industrial Ethernet status LED	Yes
Protocols	
PROFIsafe	No
Number of connections	
	96: via integrated interfaces of the CPLL and connected CPs / CMs
 Number of connections, max. Number of connections reserved for ES/HMI/web 	96; via integrated interfaces of the CPU and connected CPs / CMs 10
Number of connections via integrated interfaces	64
Number of S7 routing paths	16
Redundancy mode	Vec
H-Sync forwarding	Yes
Media redundancy	askuuis tetistafaas (V1)
— Media redundancy	only via 1st interface (X1)
— MRP	Yes; MRP Automanager according to IEC 62439-2 Edition 2.0, MRP

 MRP interconnection, supported MRPD 	Manager; MRP Client Yes; as MRP ring node according to IEC 62439-2 Edition 3.0 Yes; Requirement: IRT
— Switchover time on line break, typ.	200 ms; For MRP, bumpless for MRPD
— Number of stations in the ring, max. SIMATIC communication	50
PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
• S7 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)
Open IE communication	
• 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. 5 multicast circuits
• DHCP	Yes
• DNS	Yes
• SNMP	Yes
• DCP	Yes
LLDP	Yes
Encryption Web server	Yes; Optional
• HTTP	Yes; Standard and user pages
• HTTPS	Yes; Standard and user pages
OPC UA	
Runtime license required	Yes; "Small" license required
OPC UA Client	Yes
 Application authentication 	Yes
— Security policies	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
— User authentication	"anonymous" or by user name & password
— Number of connections, max.	4
 number of nodes of the client interfaces, recommended max. 	1 000
 — Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/C 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 instructions for session management, per connection, max. 	1
 number of simultaneous calls of the client instructions for data access, per connection, max. 	5
- Number of registerable nodes, max.	5 000
 — Number of registerable method calls of OPC_UA_MethodCall, max. 	100
 — Number of inputs/outputs when calling OPC_UA_MethodCall, max. 	20
OPC UA Server	Yes; Data access (read, write, subscribe), method call, custom address space
- Application authentication	Yes
— Security policies	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
— User authentication	"anonymous" or by user name & password
— GDS support (certificate management)	Yes
 — Number of sessions, max. — Number of accessible variables, max. 	32 50 000
 — Number of registerable nodes, max. 	10 000

 — Number of subscriptions per session, max. 	20
— Sampling interval, min.	100 ms
— Publishing interval, min.	500 ms
— Number of server methods, max.	20
— Number of inputs/outputs per server method,	20
max.	
 number of monitored items, recommended max. 	1 000; for 1 s sampling interval and 1 s send interval
- Number of server interfaces, max.	10 of each "Server interfaces" / "Companion specification" type and 20 of the type "Reference namespace"
 — Number of nodes for user-defined server interfaces, max. 	1 000
Alarms and Conditions	Yes
— Number of program alarms	100
— Number of alarms for system diagnostics	50
Further protocols	
MODBUS	Yes; MODBUS TCP
Isochronous mode	· ·
Equidistance	Yes
S7 message functions	<u>^</u>
Number of login stations for message functions, max.	32
Program alarms	Yes
Number of configurable program messages, max.	5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH
Number of loadable program messages in RUN, max.	2 500
Number of simultaneously active program alarms	
 Number of program alarms 	600
 Number of alarms for system diagnostics 	100
 Number of alarms for motion technology objects 	80
Test commissioning functions	
Joint commission (Team Engineering)	Yes; Parallel online access possible for up to 5 engineering systems
Status block	Yes; Up to 8 simultaneously (in total across all ES clients)
Single step	No
Number of breakpoints	8
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
Number of variables, max.	200
Diagnostic buffer	
present	Yes
 Number of entries, max. 	1 000
— of which powerfail-proof	500
Traces	
Number of configurable Traces	4; Up to 512 KB of data per trace are possible
Interrupts/diagnostics/status information	
Diagnostics indication LED	
RUN/STOP LED	Yes
• ERROR LED	Yes
MAINT LED	Yes
STOP ACTIVE LED	Yes
 Connection display LINK TX/RX 	Yes
Supported technology objects	
Motion Control	Yes; Note: The number of technology objects affects the cycle time of
	the PLC program; selection guide via the TIA Selection Tool
 Number of available Motion Control resources for 	800
technology objects	
Required Motion Control resources	
 per speed-controlled axis 	40

 per positioning axis 	80
 per synchronous axis 	160
— per external encoder	80
— per output cam	20
— per cam track	160
— per probe	40
Positioning axis	
— Number of positioning axes at motion control	5
cycle of 4 ms (typical value)	3
— Number of positioning axes at motion control	10
cycle of 8 ms (typical value)	10
Controller	
	Ves: Universal PID controller with integrated optimization
PID_Compact	Yes; Universal PID controller with integrated optimization
PID_3Step	Yes; PID controller with integrated optimization for valves
PID-Temp	Yes; PID controller with integrated optimization for temperature
Counting and measuring	
 High-speed counter 	Yes
Ambient conditions	
Ambient temperature during operation	
horizontal installation, min.	-25 °C; No condensation
 horizontal installation, max. 	60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the
	display is switched off
 vertical installation, min. 	-25 °C; No condensation
 vertical installation, max. 	40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the
• venical installation, max.	display is switched off
Ambient temperature during storage/transportation	
min.	-40 °C
	70 °C
• max.	70 C
Altitude during operation relating to sea level	
 Installation altitude above sea level, max. 	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
configuration / header	
configuration / programming / header	
configuration / programming / header Programming language	Yes
configuration / programming / header Programming language — LAD	Yes
configuration / programming / header Programming language — LAD — FBD	Yes
configuration / programming / header Programming language — LAD — FBD — STL	Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL	Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH	Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection	Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection	Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection	Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection	Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection	Yes Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection	Yes Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Block protection • Block protection • protection • protection	Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Block protection • protection • Password for display	Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection	Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Read/write protection	Yes Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Complete protection	Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Complete protection • Protection level: Complete protection • Programming / cycle time monitoring / header	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Complete protection • Protection level: Complete protection • lower limit	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language - LAD - FBD - STL - SCL - GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Complete protection • Programming / cycle time monitoring / header • lower limit • upper limit	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Complete protection • Protection level: Complete protection • lower limit	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language - LAD - FBD - STL - SCL - GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Complete protection • Programming / cycle time monitoring / header • lower limit • upper limit	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language - LAD - FBD - STL - SCL - GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Complete protection • Programming / cycle time monitoring / header • lower limit • upper limit	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language - LAD - FBD - STL - SCL - GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Complete protection • Protection level: Complete protection • Programming / cycle time monitoring / header • lower limit • upper limit	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language - LAD - FBD - STL - SCL - GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Complete protection • Protection level: Complete protection • Dimensions Width Height Depth	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Read/write protection • Protection level: Complete protection • Upper limit • Dimensions Width Height Depth Weights	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Complete protection • Protection level: Complete protection • Dimensions Width Height Depth	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Protection of confidential configuration data • Password for display • Protection level: Write protection • Protection level: Complete protection • Protection level: Complete protection • Inversions Width Height Depth	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes