SIEMENS

Data sheet

6ES7513-1AL02-0AB0



SIMATIC S7-1500, CPU 1513-1 PN, central processing unit with working memory 300 KB for program and 1.5 MB for data, 1. interface: PROFINET IRT with 2 port switch, 40 NS bit-performance, SIMATIC memory card necessary

General information	
Product type designation	CPU 1513-1 PN
HW functional status	FS03
Firmware version	V2.9
Product function	
 I&M data 	Yes; I&M0 to I&M3
Isochronous mode	Yes; Distributed and central; with minimum OB 6x cycle of 500 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 6ES7513-1AL01-0AB0
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	

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IEC timer Any (only limited by the main memory) • Number Any (only limited by the main memory) Retentivity Yes Data areas and their retentivity Yes 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), max. 1.5 Mbyte; When using PS 6 0W 24/48/60 V DC HF Flag Flag		N .
• Number Any (only limited by the main memory) Retentivity — adjustable — adjustable Yes Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. 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), max. 1.5 Mbyte; When using PS 6 0W 24/48/60 V DC HF Flag Flag		Yes
Retentivity Yes Data areas and their retentivity Yes 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), max. 1.5 Mbyte; When using PS 6 0W 24/48/60 V DC HF Flag Flag		Any (only limited by the main memory)
— adjustable Yes Data areas and their retentivity Petentive 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), max. 1.5 Mbyte; When using PS 6 0W 24/48/60 V DC HF Flag Flag		Any (only limited by the main memory)
Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Extended retentive data area (incl. timers, counters, flags), max. Extended retentive data area (incl. timers, counters, flags), max. Flag	-	Voo
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), max. 1.5 Mbyte; When using PS 6 0W 24/48/60 V DC HF Flag Flag	-	
Extended retentive data area (incl. timers, counters, flags), max. Flag		
max. Flag		counters, DBs, and technology data (axes): 88 KB
Flag		1.5 IVIDYTE; When using PS 6 UW 24/48/60 V DC HF
		16 kbyte

 Number of clock memories 	8; 8 clock memory bit, grouped into one clock memory byte
Data blocks	o, o clock memory bit, grouped into one clock memory byte
Retentivity adjustable	Yes
Retentivity preset	No
Local data	
 per priority class, max. 	64 kbyte; max. 16 KB per block
Address area	
Number of IO modules	2 048; max. number of modules / submodules
I/O address area	
Inputs	32 kbyte; All inputs are in the process image
• Outputs	32 kbyte; All outputs are in the process image
per integrated IO subsystem	016.4
— Inputs (volume) — Outputs (volume)	8 kbyte 8 kbyte
per CM/CP	0 KDyte
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
Subprocess images	
 Number of subprocess images, max. 	32
Hardware configuration	
Number of distributed IO systems	32; 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	
• Via CM	6; A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in total
Number of IO Controllers	
integrated	1
• Via CM	6; A maximum of 6 CMs (PROFINET + PROFIBUS) can be inserted in
	total
Rack Modules per rack, max.	32; CPU + 31 modules
Number of lines, max.	1
PtP CM	
Number of PtP CMs	the number of connectable PtP CMs is only limited by the number of available slots
Time of day	
Clock	
• Туре	Hardware clock
Backup time	6 wk; At 40 °C ambient temperature, typically
• Deviation per day, max.	10 s; Typ.: 2 s
Operating hours counter • Number	16
Number Clock synchronization	10
supported	Yes
• in AS, master	Yes
• in AS, slave	Yes
• on Ethernet via NTP	Yes
Interfaces	
Number of PROFINET interfaces	1
1. Interface	
Interface types	
• RJ 45 (Ethernet)	Yes; X1
Number of ports	2
 integrated switch 	Yes
Protocols	
IP protocol DEOEINET IO Controller	Yes; IPv4
PROFINET IO Controller PROFINET IO Device	Yes
SIMATIC communication	Yes
Open IE communication	Yes; Optionally also encrypted
Web server	Yes
Media redundancy	Yes
• • • • • • • • • • • • • • • • • • •	

PROFINET IO Controller	
Services	
— PG/OP communication	Yes
— Isochronous mode	Yes
Direct data exchange	Yes; Requirement: IRT and isochronous mode (MRPD optional)
— IRT	Yes
— PROFlenergy	Yes; per user program
— Prioritized startup	Yes; Max. 32 PROFINET devices
 — Number of connectable IO Devices, max. 	128; In total, up to 512 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
	minimum update time of 500 μs of the isochronous OB is decisive
— for send cycle of 500 µs	500 µs to 8 ms
— 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	
Number of connections, max.	128; via integrated interfaces of the CPU and connected CPs / CMs
Number of connections, max. Number of connections reserved for ES/HMI/web	10
	88
 Number of connections via integrated interfaces Number of SZ routing paths 	88
Number of S7 routing paths	88 16
Number of S7 routing paths Redundancy mode	16
Number of S7 routing paths Redundancy mode H-Sync forwarding	
Number of S7 routing paths Redundancy mode H-Sync forwarding Media redundancy	16 Yes
Number of S7 routing paths Redundancy mode H-Sync forwarding Media redundancy — Media redundancy	16 Yes only via 1st interface (X1)
Number of S7 routing paths Redundancy mode H-Sync forwarding Media redundancy	16 Yes

 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
SIMATIC communication	
 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, 	Yes
supported	
 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	Yes; Optional
Web server	
• 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	300
OPC_UA_NodeGetHandleList/OPC_UA_ReadList/C max.	
 — 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. 	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. 	32
 Number of sessible, max. Number of accessible variables, max. 	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
Number of nodes for user-defined server	of the type "Reference namespace" 1 000
interfaces, max.	
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	
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	
	Ves: Parellel enline access possible for up to 5 engineering eveters
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	Ver
Status/control variable	Yes
 Variables 	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Number of variables, max.	
 Number of variables, max. — of which status variables, max. 	200; per job
 Number of variables, max. — of which status variables, max. — of which control variables, max. 	200; per job 200; per job
 Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing	200; per job
 Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing 	200; per job Yes
 Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing Forcing, variables 	200; per job Yes Peripheral inputs/outputs
 Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing, variables Number of variables, max. 	200; per job Yes
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer	200; per job Yes Peripheral inputs/outputs 200
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present 	200; per job Yes Peripheral inputs/outputs 200 Yes
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof 	200; per job Yes Peripheral inputs/outputs 200 Yes
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500 4; Up to 512 KB of data per trace are possible
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500 4; Up to 512 KB of data per trace are possible Yes
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500 4; Up to 512 KB of data per trace are possible Yes Yes
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED ERROR LED MAINT LED STOP ACTIVE LED 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500 4; Up to 512 KB of data per trace are possible Yes Yes Yes
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED STOP ACTIVE LED Connection display LINK TX/RX 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500 4; Up to 512 KB of data per trace are possible Yes Yes Yes Yes
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED STOP ACTIVE LED Connection display LINK TX/RX 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500 4; Up to 512 KB of data per trace are possible Yes Yes Yes Yes Yes Yes Yes
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED STOP ACTIVE LED Connection display LINK TX/RX 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500 4; Up to 512 KB of data per trace are possible Yes Yes Yes Yes Yes Yes Yes Ye
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED STOP ACTIVE LED Connection display LINK TX/RX Supported technology objects Motion Control	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500 4; Up to 512 KB of data per trace are possible Yes Yes Yes Yes Yes Yes Yes Ye
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED STOP ACTIVE LED Connection display LINK TX/RX 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500 4; Up to 512 KB of data per trace are possible Yes Yes Yes Yes Yes Yes Yes Ye
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED STOP ACTIVE LED Connection display LINK TX/RX Supported technology objects Motion Control Number of available Motion Control resources for 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500 4; Up to 512 KB of data per trace are possible Yes Yes Yes Yes Yes Yes Yes Ye
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED STOP ACTIVE LED Connection display LINK TX/RX Supported technology objects Number of available Motion Control resources for technology objects Required Motion Control resources 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500 4; Up to 512 KB of data per trace are possible Yes Yes Yes Yes Yes Yes Yes Ye
 Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. of which powerfail-proof Traces Number of configurable Traces Interrupts/diagnostics/status information Diagnostics indication LED RUN/STOP LED ERROR LED MAINT LED STOP ACTIVE LED Connection display LINK TX/RX Supported technology objects Motion Control Number of available Motion Control resources for technology objects 	200; per job Yes Peripheral inputs/outputs 200 Yes 1 000 500 4; Up to 512 KB of data per trace are possible Yes Yes Yes Yes Yes Yes Yes Ye

— 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 cycle of 4 ms (typical value) 	5
 Number of positioning axes at motion control cycle of 8 ms (typical value) 	10
Controller	
 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	res, rib controller with integrated optimization for temperature
High-speed counter	Yes
	165
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 display is switched off
Ambient temperature during storage/transportation	
• min.	-40 °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 / booder	
configuration / header	
configuration / programming / header	
configuration / programming / header Programming language	Vee
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 • Block protection • Block protection • protection • 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 Access 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 • 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 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 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 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	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 • Protection level: Complete protection	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	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 • Diver 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	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 • 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 • 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 • Dimensions Width Height Depth	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes