SIEMENS

Data sheet

6ES7517-3FP00-0AB0



SIMATIC S7-1500F, CPU 1517F-3 PN/DP, Central processing unit with Work memory 3 MB for Program and 8 MB for data, 1st interface: PROFINET IRT with 2-port switch, 2nd interface: PROFINET RT, 3rd interface: PROFIBUS, 2 ns bit performance, SIMATIC Memory Card required

General information	
Product type designation	CPU 1517F-3PN/DP
HW functional status	FS10
Firmware version	V3.0
• FW update possible	Yes
Product function	
I&M data	Yes; I&M0 to I&M3
Isochronous mode	Yes; Distributed and central; with minimum OB 6x cycle of 250 μs (distributed) and 1 ms (central)
Engineering with	
 STEP 7 TIA Portal configurable/integrated from version 	V18 (FW V3.0); V13 Update 3 (FW V1.6) or higher
Configuration control	
via dataset	Yes
Display	
Screen diagonal [cm]	6.1 cm
Control elements	
Number of keys	6
Mode selector switch	1
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)	1.55 A
Inrush current, max.	1.9 A; Rated value
l²t	0.02 A ² ·s
Power	
Infeed power to the backplane bus	12 W
Power consumption from the backplane bus (balanced)	30 W
Power loss	
Power loss, typ.	24 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	
 integrated (for program) 	3 Mbyte

 integrated (for data) 	8 Mbyte
Load memory	<u> </u>
Plug-in (SIMATIC Memory Card), max.	32 Gbyte
	52 Obyte
Backup	Vee
maintenance-free	Yes
CPU processing times	
for bit operations, typ.	2 ns
for word operations, typ.	3 ns
for fixed point arithmetic, typ.	3 ns
for floating point arithmetic, typ.	12 ns
CPU-blocks	
Number of elements (total)	12 000; 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.	8 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
FB	
Number range	0 65 535
• Size, max.	1 Mbyte
FC	
Number range	0 65 535
• Size, max.	1 Mbyte
OB	
• 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 100 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
Nesting depth	1
	24; Up to 8 possible for F-blocks
per priority class	24, Up to 8 possible for F-blocks
Counters, timers and their retentivity	
S7 counter	0.040
• 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.	768 kbyte; In total; available retentive memory for bit memories, timers,
	counters, DBs, and technology data (axes): 700 KB
Extended retentive data area (incl. timers, counters, flags), max.	8 Mbyte; When using PS 6 0W 24/48/60 V DC HF
Flag	
• Size, max.	16 kbyte

Number of clock memories	8: 8 clock memory hit grouped into one clock memory byte
	8; 8 clock memory bit, grouped into one clock memory byte
Data blocks	Yes
Retentivity adjustable	
Retentivity preset	No
Local data	64 kbyte; max. 16 KB per block
per priority class, max. Address area	
Number of IO modules	16 384; 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	52 kbyte, All outputs are in the process image
— Inputs (volume)	32 kbyte; Max. 32 KB via X1; max. 8 KB via X2 or X3
— Outputs (volume)	32 kbyte; Max. 32 KB via X1; max. 8 KB via X2 or X3
per CM/CP	
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
Subprocess images	
 Number of subprocess images, max. 	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	
• integrated	1
● Via CM	8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total
Number of IO Controllers	
integrated	2
• Via CM	8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) 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
Clock synchronization	
supported	Yes
• to DP, master	Yes
• in AS, master	Yes
• in AS, slave	Yes
• on Ethernet via NTP	Yes
Interfaces	
Number of PROFINET interfaces	2
Number of PROFIBUS interfaces	1
1. Interface	
Interface types	
• RJ 45 (Ethernet)	Yes; X1
Number of ports	2
integrated switch	Yes
Protocols	
IP protocol	Yes; IPv4
PROFINET IO Controller	Yes
PROFINET IO Device	Yes

SIMATIC communication	Yes
SIMATIC communication	
Open IE communication	Yes; Optionally also encrypted
Web server	Yes
Media redundancy	Yes; MRP Automanager according to IEC 62439-2 Edition 2.0
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. 	512; In total, up to 1 000 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, max. 	512
— of which in line, max.	512
 — 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
— 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 cycles	Update time = set "odd" send clock (any multiple of 125 µs: 375 µs, 625 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, max.	4
- activation/deactivation of I-devices	Yes; per user program
— Asset management record	Yes; per user program
2. Interface	
Interface types	
• RJ 45 (Ethernet)	Yes; X2
Number of ports	1
integrated switch	No
Protocols	
IP protocol	Yes; IPv4
PROFINET IO Controller	Yes
PROFINET IO Device	Yes
SIMATIC communication	Yes
Open IE communication	Yes; Optionally also encrypted
Web server	Yes
Media redundancy	No
PROFINET IO Controller	
Services	

 — PG/OP communication 	Yes
	No
— Isochronous mode	
— Direct data exchange	No
— IRT	No
- PROFlenergy	Yes; per user program
— Prioritized startup	No
 — Number of connectable IO Devices, max. 	128; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
 Number of connectable IO Devices for RT, max. 	128
— 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 RT	
— for send cycle of 1 ms	1 ms to 512 ms
PROFINET IO Device	
Services	
— PG/OP communication	Yes
— Isochronous mode	No
— IRT	No
— PROFlenergy	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
3. Interface	
Interface types	
• RS 485	Yes; X3
Number of ports	1
Protocols	
PROFIBUS DP master	Yes
	No
PROFIBILIS DP slave	
PROFIBUS DP slave SIMATIC communication	
SIMATIC communication	Yes
SIMATIC communication PROFIBUS DP master	Yes
SIMATIC communication	
SIMATIC communication PROFIBUS DP master Number of connections, max.	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via
 SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. 	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via
SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET
SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services — PG/OP communication	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes
SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services — PG/OP communication — Equidistance — Isochronous mode	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes
SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services — PG/OP communication — Equidistance — Isochronous mode — Activation/deactivation of DP slaves	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes
SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services — PG/OP communication — Equidistance — Isochronous mode — Activation/deactivation of DP slaves Interface types	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes
SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services — PG/OP communication — Equidistance — Isochronous mode — Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet)	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes
SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services — PG/OP communication — Equidistance — Isochronous mode — Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) • 100 Mbps	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes
 SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services PG/OP communication Equidistance Isochronous mode Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation 	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes
 SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services PG/OP communication Equidistance Isochronous mode Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autorcossing 	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes Yes
 SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services PG/OP communication Equidistance Isochronous mode Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED 	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes
 SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services PG/OP communication Equidistance Isochronous mode Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
 SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services PG/OP communication Equidistance Isochronous mode Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max. 	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes Yes
SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services — PG/OP communication — Equidistance — Isochronous mode — Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) 4100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max. Protocols	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes 12 Mbit/s 12 Mbit/s
 SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services PG/OP communication Equidistance Isochronous mode Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max. PROFIsafe 	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
 SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services PG/OP communication Equidistance Isochronous mode Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autorcossing Industrial Ethernet status LED RS 485 Transmission rate, max. PROFIsafe Number of connections 	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
 SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services PG/OP communication Equidistance Isochronous mode Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max. PROFIsafe Number of connections, max. 	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
 SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services PG/OP communication Equidistance Isochronous mode Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max. PROFIsafe Number of connections, max. Number of connections, max. Number of connections, max. 	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
 SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services PG/OP communication Equidistance Isochronous mode Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max. PROFIsafe Number of connections, max. Number of connections, max. Number of connections reserved for ES/HMI/web Number of connections via integrated interfaces 	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
 SIMATIC communication PROFIBUS DP master Number of connections, max. Number of DP slaves, max. Services PG/OP communication Equidistance Isochronous mode Activation/deactivation of DP slaves Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max. PROFIsafe Number of connections, max. Number of connections, max. Number of connections, max. 	Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes Yes Yes

H-Sync forwarding	Yes
Media redundancy	
— Media redundancy	only via 1st interface (X1)
	only via 1st interface (X1)
— MRP	Yes; as MRP redundancy manager and/or MRP client
- MRP interconnection, supported	Yes; as ring node according to IEC 62439-2 Edition 2.0
— 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	
• 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)
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; 128 multicast circuits (of which max. 5 via X1)
• DHCP	Yes
• DNS	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Encryption	Yes; Optional
Web server	
• HTTP	Yes; Standard and user pages
• HTTP • HTTPS	Yes; Standard and user pages Yes; Standard and user pages
• HTTPS	
• HTTPS OPC UA	Yes; Standard and user pages
HTTPS OPC UA Runtime license required	Yes; Standard and user pages Yes
HTTPS OPC UA Runtime license required OPC UA Client	Yes; Standard and user pages Yes Yes
HTTPS OPC UA Runtime license required OPC UA Client — Application authentication	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15,
HTTPS OPC UA Runtime license required OPC UA Client Application authentication Security policies	Yes; Standard and user pages Yes Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
HTTPS OPC UA Runtime license required OPC UA Client — Application authentication — Security policies — User authentication — Number of connections, max. — Number of nodes of the client interfaces, recommended max.	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000
HTTPS OPC UA Runtime license required OPC UA Client — Application authentication — Security policies — User authentication — Number of connections, max. — Number of nodes of the client interfaces,	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000
HTTPS OPC UA Runtime license required OPC UA Client — Application authentication — Security policies — User authentication — Number of connections, max. — Number of nodes of the client interfaces, recommended max. — Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_I	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000
HTTPS OPC UA Runtime license required OPC UA Client — Application authentication — Security policies — User authentication — Number of connections, max. — Number of nodes of the client interfaces, recommended max. — Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_U max. — Number of elements for one call of	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300
HTTPS OPC UA Runtime license required OPC UA Client — Application authentication — Security policies — User authentication — Number of connections, max. — Number of nodes of the client interfaces, recommended max. — Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_U max. — Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. — Number of elements for one call of	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300
HTTPS OPC UA Runtime license required OPC UA Client — Application authentication — Security policies — User authentication — Number of connections, max. — Number of nodes of the client interfaces, recommended max. — Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_U max. — Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. — Number of elements for one call of OPC_UA_MethodGetHandleList, max. — Number of simultaneous calls of the client instructions for session management, per connection,	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300
HTTPS OPC UA Runtime license required OPC UA Client — Application authentication — Security policies — User authentication — Number of connections, max. — Number of nodes of the client interfaces, recommended max. — Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_U max. — Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. — Number of simultaneous calls of the client instructions for session management, per connection, max. — Number of simultaneous calls of the client	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300 20 100
 HTTPS OPC UA Runtime license required OPC UA Client Application authentication Security policies User authentication Number of connections, max. Number of nodes of the client interfaces, recommended max. Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_U max. Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. Number of elements for one call of OPC_UA_MethodGetHandleList, max. Number of simultaneous calls of the client instructions for session management, per connection, max. Number of simultaneous calls of the client instructions for data access, per connection, max. 	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300 20 100 1
 HTTPS OPC UA Runtime license required OPC UA Client Application authentication Security policies User authentication Number of connections, max. Number of nodes of the client interfaces, recommended max. Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_U max. Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. Number of simultaneous calls of the client 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 	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300 20 100 1 5 000
 HTTPS OPC UA Runtime license required OPC UA Client Application authentication Security policies User authentication Number of connections, max. Number of nodes of the client interfaces, recommended max. Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_U max. Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. Number of simultaneous calls of the client 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 	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300 20 100 1 5 5 000 100 100
 HTTPS OPC UA Runtime license required OPC UA Client Application authentication Security policies User authentication Number of connections, max. Number of nodes of the client interfaces, recommended max. Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_U max. Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. Number of elements for one call of OPC_UA_MethodGetHandleList, 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. 	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300 20 100 1 5 5 000 100 20
 HTTPS OPC UA Runtime license required OPC UA Client Application authentication Security policies User authentication Number of connections, max. Number of nodes of the client interfaces, recommended max. Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_I max. Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. Number of simultaneous calls of the client 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. OPC_UA_MethodCall, max. OPC_UA_MethodCall, max. OPC UA Server 	Yes; Standard and user pages Yes Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300 20 100 1 5 5 000 100 20 Yes; Data access (read, write, subscribe), method call, custom address space

- Number of sessions, max.	64
- Number of accessible variables, max.	200 000
- Number of registerable nodes, max.	50 000
 Number of subscriptions per session, max. 	20
— Sampling interval, min.	10 ms
— Publishing interval, min.	10 ms
- Number of server methods, max.	100
- Number of inputs/outputs per server method, max.	20
- Number of monitored items, recommended max.	10 000; 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. 	30 000

Further protocols	
MODBUS	Yes; MODBUS TCP
Isochronous mode	
Equidistance	Yes
S7 message functions	
Number of login stations for message functions, max.	64
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.	5 000
Number of simultaneously active program alarms	
 Number of program alarms 	2 000
 Number of alarms for system diagnostics 	1 000
 Number of alarms for motion technology objects 	480
Test commissioning functions	
Joint commission (Team Engineering)	Yes; Parallel online access possible for up to 10 engineering systems
Status block	Yes; Up to 16 simultaneously (in total across all ES clients)
Single step	No
Number of breakpoints	20
Status/control	
Status/control variable	Yes; without fail-safe
Variables	inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters
 Number of variables, max. 	
— of which status variables, max.	200; per job
— of which control variables, max.	200; per job
Forcing	
Forcing	Yes; without fail-safe
 Forcing, variables 	peripheral inputs/outputs (without fail-safe)
 Number of variables, max. 	200
Diagnostic buffer	
• present	Yes
 Number of entries, max. 	3 200
— of which powerfail-proof	1 000
Traces	
 Number of configurable Traces 	8; 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
 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 technology objects 	10 240
Required Motion Control resources	
— per speed-controlled axis	40

Eurthor protocolo

− per position/monus axis 50 − per external encoder 80 − per external encoder 80 − per capit can 100 − were of positioning axis at motion control cypit 70 − Were of positioning axis at motion control cypit 128 Controller *** • PEO_Compact Yes: Unversal PID controller with integrated optimization for valves • PEO_Step Yes: PID controller with integrated optimization for valves • PEO_Step Yes: PID controller with integrated optimization for valves • PEO_Step Yes: PID controller with integrated optimization for valves • PEO_Step Yes: PID controller with integrated optimization for valves • PEO_Step Statistics 100 • PEO_Step Statistics 100 • Peotomand book: PEOpe in accordance with 4200-00 • Autorized installation, min. 0 °C • ortical installation, min. 0 °C • ortical installation, min. </th <th>por positioning axis</th> <th></th>	por positioning axis	
- product alone 80 - per colput clam 20 - per colput clam 80 - per probe 40 - Number of positioning axis at motion control cycle 70 - Market of positioning axis at motion control cycle 70 - Market of positioning axis at motion control cycle 70 - Market of positioning axis at motion control cycle 70 - Market of positioning axis at motion control cycle 70 - Per probe 70 <td>— per positioning axis</td> <td>80</td>	— per positioning axis	80
- per capta tack 20 - per cam tack 40 - per cam tack 40 - Number of positioning axes at motion control cycle 70 - Number of positioning axes at motion control cycle 70 - Number of positioning axes at motion control cycle 128 - Controller Yes: Universal PID controller with integrated optimization for twoles - PID Temp Yes: PID controller with integrated optimization for twoles - PID Temp Yes: PID controller with integrated optimization for twoles - PID Temp Yes: PID controller with integrated optimization for twoles - PID Temp Yes: PID controller with integrated optimization - Protomation clevel according to 150 138/9-1 PLe - References SL 3 Protobation for the Store	— per synchronous axis	160
program back100program back40Number of positioning axes at motion control cycle70Number of positioning axes at motion control cycle70Number of positioning axes at motion control cycle72Number of positioning axes at motion control cycle72	— per external encoder	80
	— per output cam	20
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 Positioning asis Positioning asis If a position is asis at motion control cycle If a motion is assist at motion control cycle If a motion is assist at motion control cycle If a motion is assist at motion control cycle If a motion is assist at motion control cycle If a motion is a motion is assisted cycle motion is a	•	40
- Humber of positioning axes at motion control cycle of 4 m Krychel Value) - Number of positioning axes at motion control cycle of 8 m Krychel Value) - Number of positioning axes at motion control cycle of PD_2Step - P		
of 4 ms (typical value) 128 of 4 ms (typical value) 128 of 8 ms (typical value) Yes: Universal PID controller with integrated optimization of 9 ms (typical value) Yes: Universal PID controller with integrated optimization for temperature of 10 ms starting and measuring Yes: PID controller with integrated optimization for temperature Counting and measuring Yes: PID controller with integrated optimization for temperature Standards, approvals, controllater with integrated optimization for temperature Yes Standards, approvals, controllater with integrated optimization for temperature Yes Standards, approvals, controllater with integrated optimization for temperature Yes of 10 ms Yes Standards, approvals, controllater with integrated optimization for temperature Yes Probability of failure (for seconding to ISO 1840-1 PLe - Low demand model: PFDavg in accordance with site (for seconding to ISO 1840-1 Yes - Mobility of failure (for seconding to ISO 1840-1 Yes - Mobility in subtability of failure (for seconding to ISO 1840-1 Yes - Notizontal installation, min 0 °C - Notizontal installation, min 0 °C - Notizontal installation, max. 0 °C - Notizontal installation, max. 0 °C - Notizontal installation, max. 0 °C <t< td=""><td>0</td><td>70</td></t<>	0	70
- Municar of positioning axes at motion carbol cycle of 8 ms (kypcial value) Centroller • PID_Solp • PID_Solp		10
of 8 ms (typical value) of 8 ms (typical value) orbitolier Yes; Holosenal PID controller with integrated optimization Yes; PID controller with integrated optimization for temperature Yes; PID controller with integrated optimization for temperature Contriling and measuring Yes; PID controller with integrated optimization for temperature Yes; PID controller with integrated optimization for temperature Yes; PID controller with integrated optimization for temperature Standards, approvals, continenties Yes; PID controller with integrated optimization for temperature Probability (dass achievable in safely mode Yes; PID controller with integrated optimization for temperature Probability (dass achievable in safely mode Still, 3 Ambient conditions <100E-09		128
• PDCompact Yes: Universal PID controller with integrated optimization for valves • PDShip Yes: PID controller with integrated optimization for temperature Contring and measuring Yes • High-speed counter Yes Standards, approvals, certificates File Standards, approvals, certificates Still • Performance level according to ISO 1384-1 PLe • Standards, approvals, certificates Still • Probability of failure (for service life of 20 yeas and repartment of 100 hours) - • Low domain mode: PFDarg in accordance with sills < 2.00E-05		
• PD_SSrp Yes: PD controller with integrated optimization for valves • HD_Temp Yes: PID controller with integrated optimization for temperature • Curring and measuring Yes: • High-speed counter Yes • Performance level according to ISO 1384-01 PLe • Sila ac: to IEC 01506 Sila 3. • Performance level according to ISO 1384-01 PLe • Sila ac: to IEC 01506 Sila 3. • Probability of failure (or service life of 20 years and repair time of 100 hours) - - Low demand mode: PFD way in accordance with slass and repair time of 100 hours) - - High demand/continuous mode: PFD way in accordance with slass and repair time of 100 hours) - - High demand/continuous mode: PFD way in accordance with slass and repair time of 100 hours) - - High demand/continuous mode: PFD way in accordance with slass and repair time of 100 hours) - - High demand/continuous mode: PFD way in accordance with slass and repair time of 100 hours) - - Horizontal installation, min. 0 °C • horizontal installation, min. 0 °C • vertical installation, max. 60 °C, Display: 30 °C, at an operating temperature of typically 40 °C, the display is switched off • min. - • min. 40 °C • max. 70 °C Alltude during operation relating to sea level <td>Controller</td> <td></td>	Controller	
• PD_SSrp Yes: PD controller with integrated optimization for valves • HD_Temp Yes: PID controller with integrated optimization for temperature • Curring and measuring Yes: • High-speed counter Yes • Performance level according to ISO 1384-01 PLe • Sila ac: to IEC 01506 Sila 3. • Performance level according to ISO 1384-01 PLe • Sila ac: to IEC 01506 Sila 3. • Probability of failure (or service life of 20 years and repair time of 100 hours) - - Low demand mode: PFD way in accordance with slass and repair time of 100 hours) - - High demand/continuous mode: PFD way in accordance with slass and repair time of 100 hours) - - High demand/continuous mode: PFD way in accordance with slass and repair time of 100 hours) - - High demand/continuous mode: PFD way in accordance with slass and repair time of 100 hours) - - High demand/continuous mode: PFD way in accordance with slass and repair time of 100 hours) - - Horizontal installation, min. 0 °C • horizontal installation, min. 0 °C • vertical installation, max. 60 °C, Display: 30 °C, at an operating temperature of typically 40 °C, the display is switched off • min. - • min. 40 °C • max. 70 °C Alltude during operation relating to sea level <td>PID Compact</td> <td>Yes; Universal PID controller with integrated optimization</td>	PID Compact	Yes; Universal PID controller with integrated optimization
• PID-Temp Yes; PID controller with integrated optimization for temperature Counting and measuring 'Yes High-speed counter Yes Standards, approvals, certificates 'Yes High-speed counter Yes Performance level according to ISO 13849-1 PLe Stl. acc. to IEC 61508 Stl. 3 Probability of failure (for service life of 20 years and repair time of 100 nours) -Low demand mode; PFDavg in accordance with Stl.3 Antibert conditions < 2.00E-05		• · · ·
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High-speed counter Yes Standards, approvals, conflicates Image: Standards, approvals, conflicates Performance level according to ISO 13849-1 Performance level according to ISO 13849-1 Probability of failure (for service life of 20 years and repair time of 100 hours) Low demand mode: PFDavg in accordance with SL3 Anabient temperature during operation Notizontal installation, min. O *C Probability installation, min. O *C Protection installation, min. O *C Protection installation, min. O *C Protection performance investigation operating temperature of typically 50 *C, the display is witched off Protection performance investigation operating temperature of typically 50 *C, the display is witched off Protection performance investigation operating temperature of typically 40 *C, the display is witched off Protection performance investigation activates according to according to		
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Highest safety class achievable in safety mode Performance level according to ISO 13849-1 SLB acc. to IEC 61500 SLB 3 Probability of failure (for service life of 20 years and repair time of 100 hours) 		res
Performance level according to ISO 13849-1 SIL acc. to IEC 61608 SIL acc. to IEC 6160 SIL acc. to IEC 616 SIL acc. to IEC 616 SIL		
• SIL ac. to IEC 61508 SIL 3 Probability of failure (for service life of 20 years and repair time of 100 hours)		
Probability of failure (for service life of 20 years and repair time of 100 hours) Low demand mode: PFDavg in accordance with SL3 < 2.00E-05	 Performance level according to ISO 13849-1 	PLe
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SIL3 < 1.00E-09	Probability of failure (for service life of 20 years and repair time	e of 100 hours)
SIL3 < 1.00E-09	- Low demand mode: PFDavg in accordance with	< 2.00E-05
with \$L3 Amblent conditions Ambient comperture during operation • horizontal installation, min. 0 °C • horizontal installation, max. 60 °C, Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off • vertical installation, max. 0 °C Ambient temperature during storage/transportation 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 / header Programming language - - LAD Yes; incl. failsafe - SRL Yes - GRAPH Yes Ves program protection/password protection Yes Protectio	SIL3	
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• horizontal installation, min. 0 °C • horizontal installation, max. 60 °C: Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off • vertical installation, min. 0 °C • 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 -0 °C • inin. -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 / header - - GRAPH Yes; incl. failsafe - SCL Yes - GRAPH Yes • Soer program protection/password protection Yes • Protection level: Write protection Yes • Protection	Ambient conditions	
• horizontal installation, max. 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off • vertical installation, mix. 0 °C • 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 -40 °C • min. -40 °C • max. 70 °C Altitude during operation relating to sea level -40 °C • Installation altitude above sea level, max. 5 000 m; Restrictions for installation altitudes > 2 000 m; see manual configuration / header - Programming language - - LAD Yes; incl. failsafe - SCL Yes - SCL Yes - SCL Yes - GRAPH Yes • User program protection/password protection Yes • Protection Yes • Protection level: Write protection Yes • Protection level: Write protection Yes • Protection level: Complete protection Yes • Protection level: Complete protection Yes • GRAPH Yes • Sock protection Yes • Protection level: Write protection Yes • Protection level: Read/write protection Yes	Ambient temperature during operation	
display is switched off • vertical installation, min. 0 °C • 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 - 40 °C • min. - 40 °C • max. 70 °C Attitude 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 - Programming language - - LAD Yes; incl. failsafe - SCL Yes - SCL Yes - GRAPH Yes • User program protection/password protection Yes • Orgo protection Yes • Soloc protection Yes • Protection levei: Write protection Yes • Protection levei: Read/write protection Yes • Protection	 horizontal installation, min. 	0 °C
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• 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 - 40 °C • min. -40 °C • max. 70 °C Attitude during operation relating to sea level, max. 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual configuration / header - Programming language - - LAD Yes; incl. failsafe - FBD Yes; incl. failsafe - SCL Yes - SCL Yes - GRAPH Yes Viser program protection/password protection Yes • Block protection Yes • Protection level: Kead/write protection Yes • Protection level: Read/write protection Yes • Protection level: Complete protection Yes • Protection level: Read/write protection Yes • Protection level: Complete protection Yes • Protection level: Read/write protection Yes • FBD gipustable minimum cycle time • Over limit adjustable minimum cycle time • Protection level: Read/write protection </td <td></td> <td>display is switched off</td>		display is switched off
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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 / header • configuration / programming / header • Programming language - - LAD Yes; incl. failsafe - SCL Yes - SCL Yes - GRAPH Yes View program protection/password protection Yes • Block protection Yes • Discr program protection/password protection Yes • Protection level: Write protection Yes • Protection level: Write protection Yes • Protection level: Write protection Yes • Protection level: Complete protection Yes • Protection level: Write protection Yes • Protection level: Complete protection Yes • Protection level: Kead/write protection Yes • Protection level: Complete protection Yes • protection level: Write protection <t< td=""><td> vertical installation, max. </td><td></td></t<>	 vertical installation, max. 	
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• max. 70 °C Altitude during operation relating to sea level 5000 m; Restrictions for installation altitudes > 2 000 m; see manual configuration / header 5000 m; Restrictions for installation altitudes > 2 000 m, see manual configuration / header - configuration / programming / header - - LAD Yes; incl. failsafe - - FBD - STL Yes; incl. failsafe - STL Yes - SCL Yes - Scosp ordection Yes - Password for display Yes - Protection level: Write protection Yes - Protection level: Write protection Yes - Protection level: Complete protection Yes - Protection level: Complete protection <t< td=""><td>Ambient temperature during storage/transportation</td><td></td></t<>	Ambient temperature during storage/transportation	
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configuration / programming / header Programming language - - LAD Yes; incl. failsafe - FBD Yes; incl. failsafe - SCL Yes - SCL Yes - GRAPH Yes Vost Vost Yes - GRAPH Yes - Scopy protection Yes • Disck protection Yes • Disck protection Yes • Protection level: Write protection Yes; Specific write protection both for Standard and for Failsafe • Protection level: Complete protection Yes • Protection level: Complete protection Yes • Protection level: Complete protection Yes • Instemonitoring / header •	configuration / header	
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- LADYes; incl. failsafe- FBDYes; incl. failsafe- STLYes- SCLYes- GRAPHYesKnow-how protectionYes• User program protection/password protectionYes• Copy protectionYes• Block protectionYes• Block protectionYes• Password for displayYes• Protection level: Write protectionYes; Specific write protection both for Standard and for Failsafe• Protection level: Complete protectionYes• Protection level: Complete protectionYes• Drotection level: Complete protectionYes• Drotection level: Complete protectionYes• Dower limitadjustable minimum cycle time• upper limitadjustable maximum cycle time• Width175 mm		
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• User program protection/password protection Yes • Copy protection Yes • Block protection Yes • Access protection Yes • Password for display Yes • Protection level: Write protection Yes; Specific write protection both for Standard and for Failsafe • Protection level: Read/write protection Yes • Protection level: Complete protection Yes • Protection level: Complete protection Yes • programming / cycle time monitoring / header Yes • lower limit adjustable minimum cycle time • upper limit adjustable maximum cycle time Width 175 mm	configuration / programming / header Programming language — LAD — FBD — STL — SCL	Yes; incl. failsafe Yes
• Copy protectionYes• Block protectionYes• Access protectionYes• Password for displayYes• Protection level: Write protectionYes; Specific write protection both for Standard and for Failsafe• Protection level: Read/write protectionYes• Protection level: Complete protectionYes• Protection level: Complete protectionYes• Protection level: Complete protectionYes• Protection level: Complete protectionYes• programming / cycle time monitoring / headeradjustable minimum cycle time• upper limitadjustable maximum cycle time• Upper limit175 mm	configuration / programming / header Programming language — LAD — FBD — STL — SCL	Yes; incl. failsafe Yes Yes
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Access protection Yes • Password for display Yes; Specific write protection both for Standard and for Failsafe • Protection level: Write protection Yes; Specific write protection both for Standard and for Failsafe • Protection level: Read/write protection Yes • Protection level: Complete protection Yes programming / cycle time monitoring / header Yes • lower limit adjustable minimum cycle time • upper limit adjustable maximum cycle time Width 175 mm	configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection	Yes; incl. failsafe Yes Yes Yes
• Password for displayYes• Protection level: Write protectionYes; Specific write protection both for Standard and for Failsafe• Protection level: Read/write protectionYes• Protection level: Complete protectionYes• Protection level: Complete protectionYes• lower limitadjustable minimum cycle time• upper limitadjustable maximum cycle time• Umper limit• Omper limit <td>configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection</td> <td>Yes; incl. failsafe Yes Yes Yes Yes</td>	configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection	Yes; incl. failsafe Yes Yes Yes Yes
• Protection level: Write protection Yes; Specific write protection both for Standard and for Failsafe • Protection level: Read/write protection Yes • Protection level: Complete protection Yes • Protection level: Complete protection Yes • programming / cycle time monitoring / header Yes • lower limit adjustable minimum cycle time • upper limit adjustable maximum cycle time • Upper limit adjustable maximum cycle time • Width 175 mm	configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection	Yes; incl. failsafe Yes Yes Yes Yes
• Protection level: Read/write protection Yes • Protection level: Complete protection Yes programming / cycle time monitoring / header • lower limit adjustable minimum cycle time • upper limit adjustable maximum cycle time • Upper limit adjustable maximum cycle time • Width 175 mm	configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection Access protection	Yes; incl. failsafe Yes Yes Yes Yes Yes
• Protection level: Complete protection programming / cycle time monitoring / header • lower limit • upper limit • upper limit • upper limit • upper limit / Midth / 175 mm Yes	configuration / programming / header Programming language - LAD - FBD - STL - SCL - GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Password for display	Yes; incl. failsafe Yes Yes Yes Yes Yes Yes
programming / cycle time monitoring / header adjustable minimum cycle time • lower limit adjustable maximum cycle time • upper limit adjustable maximum cycle time Dimensions 175 mm	configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Password for display • Protection level: Write protection	Yes; incl. failsafe Yes Yes Yes Yes Yes Yes Yes Yes
• lower limit adjustable minimum cycle time • upper limit adjustable maximum cycle time Dimensions 175 mm	configuration / programming / header Programming language - LAD - FBD - STL - SCL - GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Password for display • Protection level: Write protection • Protection level: Read/write protection	Yes; incl. failsafe Yes Yes Yes Yes Yes Yes Yes Yes
• upper limit adjustable maximum cycle time Dimensions 175 mm	configuration / programming / header Programming language - LAD - FBD - STL - SCL - GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Password for display • Protection level: Write protection • Protection level: Complete protection	Yes; incl. failsafe Yes Yes Yes Yes Yes Yes Yes Yes
Dimensions Width 175 mm	configuration / programming / header Programming language - LAD - FBD - STL - SCL - GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Password for display • Protection level: Write protection • Protection level: Complete protection	Yes; incl. failsafe Yes Yes Yes Yes Yes Yes Yes Yes Yes; Specific write protection both for Standard and for Failsafe Yes Yes
Width 175 mm	configuration / programming / header Programming language — LAD — FBD — STL — SCL — GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Password for display • Protection level: Write protection • Protection level: Complete protection • Protection level: Complete protection • programming / cycle time monitoring / header	Yes; incl. failsafe Yes Yes Yes Yes Yes Yes Yes Yes Specific write protection both for Standard and for Failsafe 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 • Password for display • Protection level: Write protection • Protection level: Complete protection	Yes; incl. failsafe Yes Yes Yes Yes Yes Yes Yes Yes Specific write protection both for Standard and for Failsafe 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 • Password for display • Protection level: Write protection • Protection level: Complete protection • Protection level: Complete protection • Iower limit • upper limit	Yes; incl. failsafe Yes Yes Yes Yes Yes Yes Yes Yes Specific write protection both for Standard and for Failsafe Yes Yes Yes
Height 147 mm	configuration / programming / header Programming language - LAD - FBD - STL - SCL - GRAPH Know-how protection • User program protection/password protection • Copy protection • Block protection • Password for display • Protection level: Write protection • Protection level: Complete protection • Protection level: Complete protection • Display • Protection level: Complete protection • Protection level: Complete protection • Display • Protection level: Complete protection • Display • Protection level: Complete protection • Protection level: Complete protection • Display • Isower limit • upper limit	Yes; incl. failsafe Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye

Depth Weights	129 mm
Weight, approx.	1 978 g
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