SIEMENS

Data sheet



SIPLUS S7-1500 CPU 1518F-4 PN/DP based on 6ES7518-4FP00-0AB0 with conformal coating, 0...+60 °C, central processing unit with work memory 4.5 MB for program and 10 MB for data, 1st interface: PROFINET IRT with 2-port switch, 2nd interface, Ethernet, 3rd interface, Ethernet, 4th interface, PROFIBUS, 1 ns bit performance, SIMATIC Memory Card required

General information	
Product type designation	CPU 1518F-4PN/DP
Product function	
● I&M data	Yes; I&M0 to I&M3
• Isochronous mode	Yes; Distributed and central; with minimum OB 6x cycle of 125 μs (distributed) and 1 ms (central)
Engineering with	
 STEP 7 TIA Portal configurable/integrated from version 	see entry ID: 109746275
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.	2.4 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)	9 Mbyte
integrated (for data)	60 Mbyte
Load memory	
 Plug-in (SIMATIC Memory Card), max. 	32 Gbyte

Backup	
maintenance-free	Yes
CPU processing times	
for bit operations, typ.	1 ns
for word operations, typ.	2 ns
for fixed point arithmetic, typ.	2 ns
for floating point arithmetic, typ.	6 ns
CPU-blocks	0115
Number of elements (total)	20 000: Plocks (OP EP EC DP) and UDTs
DB	20 000; Blocks (OB, FB, FC, DB) and UDTs
Number range	1 60 999; subdivided into: number range that can be used by the user: 1
• Number range	59 999, and number range of DBs created via SFC 86: 60 000 60 999
• Size, max.	16 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
ОВ	
• 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	
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.	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.	20 Mbyte; When using PS 6 0W 24/48/60 V DC HF
Flag	4011.1
• Size, max.	16 kbyte
Number of clock memories	8; 8 clock memory bit, grouped into one clock memory byte
Data blocks	
Retentivity adjustable	Yes

Retentivity preset	No
Local data	INU
per priority class, max.	64 kbyte; max. 16 KB per block
Address area	o mayte, man to the per block
Number of IO modules	16 384; max. number of modules / submodules
I/O address area	To be i, main manual of intended of outstitude of
• Inputs	32 kbyte; All inputs are in the process image
Outputs	32 kbyte; All outputs are in the process image
per integrated IO subsystem	32 myles, i iii calpate are iii are processe iii age
— Inputs (volume)	32 kbyte; max. 32 KB via X1; max. 8 KB via X2 or X4
— Outputs (volume)	32 kbyte; max. 32 KB via X1; max. 8 KB via X2 or X4
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
Newsham of IO Or of II	inserted in total
Number of IO Controllers	2
• 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	
 Type 	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, device	Yes
on Ethernet via NTP	Yes
Interfaces	
Number of PROFINET interfaces	3
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
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 	8; in total across all interfaces
activated/deactivated, max.	
 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 125 μs	125 µs
— for send cycle of 187.5 μs	187.5 µs
— 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 $\mu s:375~\mu s,625~\mu s3$ 875 $\mu s)$
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; Minimum send cycle of 250 μs
— 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

— Isochronous mode	No
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,
 Number of connectable IO Devices for RT, max. 	PROFIBUS or PROFINET 128
of which in line, max.	128
Number of IO Devices that can be simultaneously	8; in total across all interfaces
activated/deactivated, max.	o, in total across an 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	Corniguica doci data
— 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	
RJ 45 (Ethernet)	Yes; X3
 Number of ports 	1
integrated switch	No
Protocols	
IP protocol	Yes; IPv4
 PROFINET IO Controller 	No
 PROFINET IO Device 	No
 SIMATIC communication 	Yes
Open IE communication	Yes
Web server	Yes
4. Interface	
Interface types	
• RS 485	Yes; X4
Number of ports	1
Protocols	
PROFIBUS DP master	Yes
PROFIBUS DP device	No
SIMATIC communication	Yes
PROFIBUS DP master	
 Number of connections, max. 	48; for the integrated PROFIBUS DP interface
max. number of DP devices	125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
Services	
— PG/OP communication	Yes
— Equidistance	Yes
— Isochronous mode	Yes
— activation/deactivation of DP devices	Yes
Interface types	
RJ 45 (Ethernet)	V.
• 100 Mbps	Yes
• 1000 Mbps	Yes; Only possible at the X3 interface of the CPU 1518
 Autonegotiation 	Yes

Autocrossing	Yes
Industrial Ethernet status LED	Yes
RS 485	
Transmission rate, max.	12 Mbit/s
Protocols	
PROFIsafe	Yes; V2.4 / V2.6
Number of connections	100, 12.17 12.0
Number of connections, max.	384; via integrated interfaces of the CPU and connected CPs / CMs
Number of connections reserved for ES/HMI/web	10
 Number of connections via integrated interfaces 	320
Number of S7 routing paths	64; in total, only 16 S7-Routing connections are supported via PROFIBUS
Redundancy mode	
H-Sync forwarding	Yes
Media redundancy	
— Media redundancy	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	V 0 1 1 1 1
• HTTP	Yes; Standard and user pages
• HTTPS	Yes; Standard and user pages
OPC UA	Von
Runtime license required OPC HA Client	Yes
OPC UA Client Application authoritication	Yes
— Application authentication— Security policies	Yes Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
— User authentication	"anonymous" or by user name & password
 Number of connections, max. 	40
 Number of nodes of the client interfaces, recommended max. 	5 000
 Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_I 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, 	1

may	
max. — Number of simultaneous calls of the client	5
instructions for data access, per connection, max.	
 Number of registerable nodes, max. 	5 000
 Number of registerable method calls of 	100
OPC_UA_MethodCall, max. — Number of inputs/outputs when calling	20
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
— 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,	30 000
max.	
 Alarms and Conditions 	
 Number of program alarms 	400
 Number of alarms for system diagnostics 	200
Further protocols	
• MODBUS	Yes; MODBUS TCP
sochronous mode	
	V
Equidistance	Yes
·	Yes
·	64
Number of login stations for message functions, max. Program alarms	64 Yes
S7 message functions Number of login stations for message functions, max.	64
Number of login stations for message functions, max. Program alarms	64 Yes 10 000; Program messages are generated by the "Program_Alarm" block,
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max.	64 Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max.	64 Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering)	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms Number of program alarms Number of alarms for system diagnostics Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients)
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times,
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Fest commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable • Variables	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times,
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Fest commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max.	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Fest commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max.	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters 200; per job
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms Number of program alarms Number of alarms for system diagnostics Number of alarms for motion technology objects Fest commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control Status/control Status/control variable Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters 200; per job 200; per job
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Fest commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing • Forcing	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters 200; per job 200; per job
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms Number of program alarms Number of alarms for system diagnostics Number of alarms for motion technology objects Fest commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control Status/control Status/control variable Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing Forcing Forcing, variables	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters 200; per job 200; per job Yes; without fail-safe peripheral inputs/outputs (without fail-safe)
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Fest commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max.	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters 200; per job 200; per job
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing • Forcing • Forcing • Forcing, variables • Number of variables, max. Diagnostic buffer	64 Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters 200; per job 200; per job Yes; without fail-safe peripheral inputs/outputs (without fail-safe) 200
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Fest commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing • Forcing • Forcing • Forcing, variables • Number of variables, max. Diagnostic buffer • present	94 Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 4 800 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters 200; per job 200; per job Yes; without fail-safe peripheral inputs/outputs (without fail-safe) 200 Yes; without fail-safe peripheral inputs/outputs (without fail-safe) 200
Number of login stations for message functions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing • Forcing • Forcing • Forcing, variables • Number of variables, max. Diagnostic buffer	64 Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 4 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters 200; per job 200; per job Yes; without fail-safe peripheral inputs/outputs (without fail-safe) 200

Authors of configurate Traces Trace	Traces	
Dispraction (Incident (I		8: Up to 512 KB of data per trace are possible
Biogenoids indication LED RUNSTOP LED RONSTOP LED RONS		-, -, -, -, -, -, -, -, -, -, -, -, -, -
• ENROR LED • ERROR LED • Commention diapley LINK TXRX **Commention diapley LINK TXRX **Supported technology objects • Number of available Motion Control resources for 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 • Percursed Motion Control resources for technology objects • Percursed Motion Control resources - per prosef-controlled axis - per positioning axis - per positioning axis - per positioning axis - per positioning axis - per protec - per order and encoder per order and encoder and encoder and encoder per order and encoder and encoder and encoder and encoder per order and encoder per order and encoder and encoder per order and encoder per o		
• Connection display LINK TX/RX Supported reclinationly objects **Number of available Motion Control resources for technology objects affects the cycle time of the PLC projects reclinationly objects affects the cycle time of the PLC projects reclination of the PLC projects reclinati		Yes
• Connection display LINK TX/RX Supported reclinationly objects **Number of available Motion Control resources for technology objects affects the cycle time of the PLC projects reclinationly objects affects the cycle time of the PLC projects reclination of the PLC projects reclinati		
Motion Cortrol	MAINT LED	Yes
Vest, Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool technology objects		Yes
*Number of available Motion Control resources for technology objects *Required Motion Control resources for technology objects *Required Motion Control resources - per speed-controlled axis - per positioning axis - per positioning axis - per positioning axis - per potioning axis - per podu cam - per probe *Positioning axis - Number of positioning axes at motion control cycle of 4 ms (kypical value) - Number of positioning axes at motion control cycle of 3 ms (kypical value) - Number of positioning axes at motion control cycle of 4 ms (kypical value) - Number of positioning axes at motion control cycle of 3 ms (kypical value) - Number of positioning axes at motion control cycle of 3 ms (kypical value) - Number of positioning axes at motion control cycle of 4 ms (kypical value) - Number of positioning axes at motion control cycle of 8 ms (kypical value) - Number of positioning axes at motion control cycle of 8 ms (kypical value) - Positioning axes - PiciD_Compact - PiciD_Single - PiciD_Compact - PiciD_Single - PiciD_Compact - PiciD_Compact - PiciD_Compact - PiciD_Compact - PiciD_Compact - PiciD_Single - PiciD_Compact -	Supported technology objects	
Number of available Motion Control resources for technology objects Required Motion Control resources	Motion Control	Yes; Note: The number of technology objects affects the cycle time of the PLC
Required Moino Control resources		program; selection guide via the TIA Selection Tool
Required Motion Control resources — per speed-controlled axis — per speed-controlled axis — per synchronous axis — per synchronous axis — per synchronous axis — per output cam — per ceat track — per probe 40 — per output cam — per ceam track — per probe • Postitoring axis — Number of positioning axes at motion control cycle of 4 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Yes, PID controller with integrated optimization — Yes, PID controller with integrated optimization for valves — Yes, PID controller with integrated optimization for valves — Yes, PID controller with integrated optimization for valves — Yes, PID controller with integrated optimization for valves — Yes, PID controller with integrated optimization for valves — Yes, PID controller with integrated optimization for valves — Yes, PID controller with integrated optimization for valves — Yes, PID controller with integrated optimization for valves — Yes, PID controller with integrated optimization for valves — Yes, PID controller with integrated optimization for valves — Yes, PID controller with integrated optimization for valves — Yes, PID controller with integrated optimization for valves — Yes, PID controller with integrated optimi		15 360
- per speet-controlled axis 80 - per synchronous axids 160 - per pexternal encoder 80 - per cam track 160 - per probe 40 - per probe 40 - Postitioning axis 160 - per probe 40 - Postitioning axis 160 - per probe 40 - Postitioning axis 160 - per probe 40 - Number of postitioning axis 160 - Number of postitioning 160 - PID_Compact 160 - PID_Compact 160 - PID_Compact 170 - Number of postitioning 160 - Number of postitioning 1		
- per positioning axis - per synchronous axis - per synchronous axis - per external encoder - per output cam - per coutput cam - per probe - Positioning axis - per probe - Positioning axis - Positioning axis - Number of positioning axes at motion control cycle of 4 ms (typical value) - Number of positioning axes at motion control cycle of 8 ms (typical value) - Number of positioning axes at motion control cycle of 8 ms (typical value) - Number of positioning axes at motion control cycle of 8 ms (typical value) - Positioning axis - PriD_Compact - PriD_Comp		40
— per synchronous axis — per external encoder — per output cam — per cam track — per probe 40 - Postitoring axis — Number of positioning axes at motion control cycle of 4 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) — Number of positioning axes at motion control cycle of 8 ms (typical value) Controller ● IPID_Compact ● PID_Compact ● PID_Compact ● PID_Compact ● PID_Temp Yes, Viniversal PID controller with integrated optimization for valves ● PID-Temp Counting and measuring ● High-spead counter Yes Standards, approvals, certificates Highest safety class achievable in safety mode ● Performance level according to ISO 13849-1 ● SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time of 100 hours) — Loy demand mode: PFDavg in accordance with SIL3 — High demand/continuous mode: PFH in accordance with SIL3 Ambient conditions Ambient temperature during operation ● horizontal installation, min. ● vertical installation are lating to sea level. ■ Ambient air temperature during storage/transportation ■ min. ■ vertical installation are lating to sea level. ■ max. 70 ° C Altitude during operation relating to sea level. ■ max. A minute temperature during storage/transportation ■ min. ■ vertical installation are lating to sea level. ■ max. A minute temperature		
- per external encoder 980 - per output cam 20 - per cant track 160 - per probe 40 • Positioning axis - Number of positioning axes at motion control cycle of 4 ms (typical value) 192 - Number of positioning axes at motion control cycle of 8 ms (typical value) 192 - Number of positioning axes at motion control cycle of 8 ms (typical value) 192 - Number of positioning axes at motion control cycle of 8 ms (typical value) 192 - Number of positioning axes at motion control cycle of 8 ms (typical value) 192 - Number of positioning axes at motion control cycle of 8 ms (typical value) 192 - Number of positioning axes at motion control cycle of 8 ms (typical value) 192 - Number of positioning axes at motion control cycle of 8 ms (typical value) 192 - Number of positioning axes at motion control cycle of 8 ms (typical value) 192 - Number of positioning axes at motion control cycle of 8 ms (typical value) 192 - Number of positioning axes at motion control cycle of 8 ms (typical value) 192 - PiD_Compact		
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- per cam track - per probe 40 - Per probe 40 - Post probe 40 - Number of positioning axes at motion control cycle of 4 ms (typical value) -	•	
- per probe Positioning axis - Number of positioning axes at motion control cycle of 4 ms (typical value) - Number of positioning axes at motion control cycle of 8 ms (typical value) - Number of positioning axes at motion control cycle of 8 ms (typical value) PID_Compact PID_Compact PID_Compact PID_Sitep PID_Compact PID_Sitep PID_Temp Person PID_Temp Person Pigh-speed counter Personate value according to ISO 13849-1 PIGHs as achievable in safety mode Performance level according to ISO 13849-1 PISL acc. Lot IEC 61508 Probability of failure (for service life of 20 years and repair time of 100 hours) - Low demand mode: PFDary in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - Ambient temperature during operation Phorizontal installation, min. Phorizontal installation, max. Personation installation, max. 40 °C, Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off Pinch and Conditions - Ambient temperature during storage/transportation - min. Personation relating to see level Installation altitude above sea level, max. Personation installation, tested in accordance with IEC 60068-2-38, max. PResistance Coclants and lubricants Pessitante commercially available coolants and lubricants Pessitante commercially available coolants and lubricants Pessitante commercially available coolants and lubricants Pessitante to commercially available coolants and lubricants		
Positioning axis Number of positioning axes at motion control cycle of 4 ms (typical value) Number of positioning axes at motion control cycle of 8 ms (typical value) Number of positioning axes at motion control cycle of 8 ms (typical value) PID_Compact PID_Compact PID_Sistep PID-Temp Yes; PID controller with integrated optimization for valves PID-Temp Counting and measuring High-speed counter Performance level according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time of 100 hours) — Low demand mode: PFDavg in accordance with SIL3 — High demand/continuous mode: PFH in accordance with SIL3 — High demand/continuous mode: PFH in accordance with SIL3 Ambient conditions Ambient conditions Ambient stallation, min. Norizontal installation, min. Norizont		
- Number of positioning axes at motion control cycle of 4 ms (typical value) - Number of positioning axes at motion control cycle of 8 ms (typical value) Controller • PID_Compact • PID_Compact • PID_Sistep • PID_Temp Counting and measuring • High-speed counter * Ves; PID controller with integrated optimization for valves Yes; PID controller with integrated optimization for temperature Counting and measuring • High-speed counter * Ves * Standards, approvals, certificates Highest safety class achievable in safety mode • Performance level according to ISO 13849-1 • SIL acc. to IEC 61508 • Probability of failure (for service life of 20 years and repair time of 100 hours) - Low demand mode: PFDavg in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - Ambient temperature during operation • horizontal installation, min. • horizontal installation, min. • vertical installation, min. • vertical installation, min. • vertical installation, max. 40 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off • wertical installation, max. 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off • min. • vertical installation, max. 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off • min. • vertical installation relating to sea level • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude *Resistance Coolants and lubricants * Yes; PID controller with integrated optimization of the pressure and repair time of 100 hours) * Yes; PID controller with integrated optimization for installation altitudes > 2 000 m, see entry ID: 109763260 * Yes; PID controller with integrated optimization of 100 did roplets in the air lubricants * Yes; PID controller with integrated optimization of 100 did roplets in the air lubricants		
Controller PID_Compact PID_Compact PID_Satep Yes; PID controller with integrated optimization PID_Temp Yes; PID controller with integrated optimization for valves Yes; PID controller with integrated optimization for valves Yes; PID controller with integrated optimization for temperature Counting and measuring PID_Temp Yes; PID controller with integrated optimization for temperature Ves; PID controller with integrated optimization for temperature Ves; PID controller with integrated optimization for temperature Ves; PID controller with integrated optimization for temperature Yes; PID controller with integrated optimization for temperature Yes; PID controller with integrated optimization for temperature Yes; PID controller with integrated optimization for valves Yes; PID controller with integrated optimization for valves Yes; PID controller with integrated optimization for temperature Yes; PID controller with integrated optimization for valves Yes; PID controller with integrated optimization for temperature PID SET	Number of positioning axes at motion control cycle	140
PID_Compact PID_Step PID_Step PID_Temp Yes; PID controller with integrated optimization for valves PID_Temp Yes; PID controller with integrated optimization for valves Yes; PID controller with integrated optimization for temperature Counting and measuring High-speed counter **Yes** **Standards, approvals, certificates** **Highest safety class achievable in safety mode Performance level according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time of 100 hours) Low demand mode: PFDavg in accordance with SIL3 High demand/continuous mode: PFH in accordance with SIL3 High demand/continuous mode: PFH in accordance with SIL3 Horizontal installation, min. + horizontal installation, min. + horizontal installation, min. + vertical installation, min. + vertical installation, max. **Ambient temperature during storage/transportation* win. vertical installation, max. **Aublent temperature during storage/transportation* win. vertical installation attitude above sea level, max. Aur C Altitude during operation relating to sea level. Installation altitude above sea level, max. Ambient temperature-barometric pressure-altitude Resitute humidity With condensation, tested in accordance with IEC 60068-2-38, max. Resistant to commercially available coolants and lubricants Resistant to commercially available coolants and lubricants Resistant to commercially available coolants and lubricants Ves; Incl. diesel and oil droplets in the air lubricants		192
PID_SStep PID-Temp Yes; PID controller with integrated optimization for valves PID-Temp Yes; PID controller with integrated optimization for temperature Pighs-speed counter Performance level according to ISO 13849-1 PLE SIL 3 Probability of failure (for service life of 20 years and repair time of 100 hours) - Low demand mode: PFDavg in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - Ambient temperature during operation Porizontal installation, min. Portical installation, min. Portical installation, min. Perficial installation,	Controller	
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e High-speed counter Standards, approvals, certificates Highest safety class achievable in safety mode • Performance level according to ISO 13849-1 • SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time of 100 hours) — Low demand mode: PFDavg in accordance with SIL3 — High demand/continuous mode: PFH in accordance with SIL3 — High demand/continuous mode: PFH in accordance with SIL3 Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, max. • ver	PID_3Step	Yes; PID controller with integrated optimization for valves
High-speed counter Fighage safety class achievable in safety mode Performance level according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time of 100 hours) Low demand mode: PFDavg in accordance with SIL3 High demand/continuous mode: PFH in accordance with SIL3 High demand/continuous mode: PFH in accordance with SIL3 Horizontal installation, min. horizontal installation, min. horizontal installation, min. vertical installation, max. Vertical installation, max. Vertical installation, max. Ambient temperature during storage/transportation Vertical installation, max. Vertical installation altitude above sea level, max. Vertical installation altitude above sea level, max. Vertical installation altitude above sea level, max. Vertical installation altitudes above sea level, ma	PID-Temp	Yes; PID controller with integrated optimization for temperature
Highest safety class achievable in safety mode Performance level according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time of 100 hours) Low demand mode: PFDavg in accordance with SIL3 High demand/continuous mode: PFH i	Counting and measuring	
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Performance level according to ISO 13849-1 SIL acc. to IEC 61508 SIL 3 Probability of failure (for service life of 20 years and repair time of 100 hours) - Low demand mode: PFDavg in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with SIL3 - High demand/continuous mode: PFH in accordance with IEC 60068- 2-38, max Resistance - Resistance - Resistance - Resistance - Resistance - Resistance SIL3 - Low demand mode: PFDavg in accordance with IEC 60068- 2 Relative humidity - With condensation, tested in accordance with IEC 60068- 2 Resistance - Resistance - Resistance SIL3 - Re	Standards, approvals, certificates	
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Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • horizontal installation, max. • vertical installation, min. • vertical installation, max. • vertical installation preature of typically 50 °C, the display is switched off • vertical installation off vertically available coolants and lubricants • vertical installation preature of typically 50 °C, the display is switched off • vertical installation off vertically available coolants and lubricants • vertical installation operation preature of typically 50 °C, the display is switched off • vertical installation operation preature of typically 50 °C, the display is switched off • vertical installation operation preature of typically 50 °C, the display is switched off • vertical installation operation operation preature of typically 50 °C, the display is switched off • vertical installation operation preature of typically 50 °C, the display is switched off • vertical installation operation preature of typically 50 °C, at an operating temperature of typically 50 °C, the display is switched off • vertical installation operation represented off • vertical installation operation preature of typically 50 °C, at an operating temperature of typically 50 °C, at an operation preature of typically 50 °C, at an	SIL3	
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 horizontal installation, min. horizontal installation, max. 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off vertical installation, min. 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. Altitude during operation relating to sea level Installation altitude above sea level, max. Ambient air temperature-barometric pressure-altitude Restrictions for installation altitudes > 2 000 m, see entry ID: 109763260 Relative humidity With condensation, tested in accordance with IEC 60068-2-38, max. Resistance Coolants and lubricants Resistant to commercially available coolants and lubricants Yes; Incl. diesel and oil droplets in the air 		
 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 min. -40 °C max. Altitude during operation relating to sea level Installation altitude above sea level, max. Ambient air temperature-barometric pressure-altitude Restrictions for installation altitudes > 2 000 m, see entry ID: 109763260 Relative humidity With condensation, tested in accordance with IEC 60068-2-38, max. Resistance Coolants and lubricants Resistant to commercially available coolants and lubricants Yes; Incl. diesel and oil droplets in the air 		0.00
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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 min.	 vertical installation, min. 	
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 Installation altitude above sea level, max. Ambient air temperature-barometric pressure-altitude Relative humidity With condensation, tested in accordance with IEC 60068-2-38, max. Resistance Coolants and lubricants Resistant to commercially available coolants and lubricants Yes; Incl. diesel and oil droplets in the air 	• max.	70 °C
Ambient air temperature-barometric pressure-altitude Relative humidity With condensation, tested in accordance with IEC 60068-2-38, max. Resistance Coolants and lubricants Resistant to commercially available coolants and lubricants Restrictions for installation altitudes > 2 000 m, see entry ID: 109763260 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) Yes; Incl. diesel and oil droplets in the air	Altitude during operation relating to sea level	
Relative humidity • With condensation, tested in accordance with IEC 60068- 2-38, max. Resistance Coolants and lubricants — Resistant to commercially available coolants and lubricants Yes; Incl. diesel and oil droplets in the air	 Installation altitude above sea level, max. 	5 000 m
With condensation, tested in accordance with IEC 60068- 2-38, max. Resistance Coolants and lubricants — Resistant to commercially available coolants and lubricants Yes; Incl. diesel and oil droplets in the air	 Ambient air temperature-barometric pressure-altitude 	Restrictions for installation altitudes > 2 000 m, see entry ID: 109763260
2-38, max. conditions) Resistance Coolants and lubricants — Resistant to commercially available coolants and lubricants Yes; Incl. diesel and oil droplets in the air	Relative humidity	
Coolants and lubricants — Resistant to commercially available coolants and lubricants Yes; Incl. diesel and oil droplets in the air		
 Resistant to commercially available coolants and lubricants Yes; Incl. diesel and oil droplets in the air 	Resistance	
lubricants	Coolants and lubricants	
Use in stationary industrial systems		Yes; Incl. diesel and oil droplets in the air
	Use in stationary industrial systems	

Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); - to biologically active substances according to EN 60721-3-3 Class 3B3 on request - to chemically active substances according to EN Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); — to mechanically active substances according to EN Yes; Class 3S4 incl. sand, dust, * 60721-3-3 Use on ships/at sea to biologically active substances according to EN Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on 60721-3-6 - to chemically active substances according to EN Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity 60721-3-6 degree 3); - to mechanically active substances according to EN Yes; Class 6S3 incl. sand, dust; * 60721-3-6 Usage in industrial process technology - Against chemically active substances acc. to EN Yes; Class 3 (excluding trichlorethylene) 60654-4 - Environmental conditions for process, measuring Yes; Level GX group A/B (excluding trichlorethylene; harmful gas and control systems acc. to ANSI/ISA-71.04 concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil) Remark - Note regarding classification of environmental The supplied plug covers must remain in place over the unused interfaces conditions acc. to EN 60721, EN 60654-4 and during operation! ANSI/ISA-71.04 Conformal coating Yes; Class 2 for high reliability . Coatings for printed circuit board assemblies acc. to EN • Protection against fouling acc. to EN 60664-3 Yes; Type 1 protection • Military testing according to MIL-I-46058C, Amendment 7 Yes; Discoloration of coating possible during service life Qualification and Performance of Electrical Insulating Yes; Conformal coating, Class A Compound for Printed Board Assemblies according to IPC-CC-830A configuration / header configuration / programming / header Programming language - LAD Yes; incl. failsafe — FBD Yes: incl. failsafe — STL Yes - SCI Yes - GRAPH Yes Know-how protection • User program protection/password protection Yes Copy protection Yes Block protection Yes Access protection • 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: Write protection for Failsafe Yes • Protection level: Complete protection Yes programming / cycle time monitoring / header • lower limit adjustable minimum cycle time • upper limit adjustable maximum cycle time Dimensions Width 175 mm Height 147 mm Depth 129 mm **Veights** 1 988 g Weight, approx.

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