## SIEMENS

## Data sheet

## 6ES7515-2TM01-0AB0



SIMATIC S7-1500T, CPU 1515T-2 PN, Central processing unit with work memory 750 KB for program and 3 MB for data, 1st interface: PROFINET IRT with 2-port switch, 2nd interface, Ethernet, 30 ns bit performance, SIMATIC Memory Card required

General information	
Product type designation	CPU 1515T-2 PN
HW functional status	FS04
Firmware version	V2.9
Product function	
● I&M data	Yes; I&M0 to I&M3
Isochronous mode	Yes; Distributed and central; with minimum OB 6x cycle of 500 $\mu s$ (distributed) and 1 ms (central)
Engineering with	
<ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V17 (FW V2.9) / V14 (FW V2.0) 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	
<ul> <li>Mains/voltage failure stored energy time</li> </ul>	5 ms
Repeat rate, min.	1/s
Input current	
Current consumption (rated value)	0.8 A
Inrush current, max.	2.4 A; Rated value
l²t	0.02 A <sup>2</sup> ·s
Power	
Infeed power to the backplane bus	12 W
Power consumption from the backplane bus (balanced)	6.2 W
Power loss	
Power loss, typ.	6.3 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	

• integrated (for program)	750 kbyto
<ul> <li>integrated (for program)</li> <li>integrated (for data)</li> </ul>	750 kbyte
integrated (for data)     Load memory	3 Mbyte
Plug-in (SIMATIC Memory Card), max.	22 Chuto
Backup	32 Gbyte
maintenance-free	Yes
CPU processing times	
for bit operations, typ.	30 ns
for word operations, typ.	36 ns
for fixed point arithmetic, typ.	48 ns
for floating point arithmetic, typ.	192 ns
CPU-blocks	
Number of elements (total)	8 000; 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.	3 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
FB	
Number range	0 65 535
• Size, max.	500 kbyte
FC	
Number range	0 65 535
• Size, max.	500 kbyte
OB	
<ul> <li>Size, max.</li> </ul>	500 kbyte
<ul> <li>Number of free cycle OBs</li> </ul>	100
<ul> <li>Number of time alarm OBs</li> </ul>	20
<ul> <li>Number of delay alarm OBs</li> </ul>	20
<ul> <li>Number of cyclic interrupt OBs</li> </ul>	20; With minimum OB 3x cycle of 500 µs
<ul> <li>Number of process alarm OBs</li> </ul>	50
<ul> <li>Number of DPV1 alarm OBs</li> </ul>	3
<ul> <li>Number of isochronous mode OBs</li> </ul>	2
<ul> <li>Number of technology synchronous alarm OBs</li> </ul>	2
<ul> <li>Number of startup OBs</li> </ul>	100
<ul> <li>Number of asynchronous error OBs</li> </ul>	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	2 070
— adjustable	Yes
IEC counter	
	Any (only limited by the main memory)
Number     Petentivity	Any (only limited by the main memory)
Retentivity	Voc
— adjustable	Yes
S7 times	2.049
Number     Detectivity	2 048
Retentivity	Vac
— 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.	512 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 472 KB

max.	
Extended retentive data area (incl. timers, counters, flags),	3 Mbyte; When using PS 6 0W 24/48/60 V DC HF

IIIdX.	
Flag	
• 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	
<ul> <li>per priority class, max.</li> </ul>	64 kbyte; max. 16 KB per block
Address area	
Number of IO modules	8 192; max. number of modules / submodules
I/O address area	
Inputs	32 kbyte; All inputs are in the process image
Outputs	32 kbyte; All outputs are in the process image
per integrated IO subsystem	
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
per CM/CP	
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
Subprocess images	
<ul> <li>Number of subprocess images, max.</li> </ul>	32
Hardware configuration	
Number of distributed IO systems	64; A distributed I/O system is characterized not only by the integration of distributed I/O via PROFINET or PROFIBUS communication modules, but also by the connection of I/O via AS-i master modules or links (e.g. IE/PB-Link)
Number of DP masters	
● 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
<ul> <li>Number of lines, max.</li> </ul>	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
<ul> <li>Deviation per day, max.</li> </ul>	10 s; Typ.: 2 s
Operating hours counter	
Number	16
Clock synchronization	
supported	Yes
• in AS, master	Yes
• in AS, slave	Yes
on Ethernet via NTP	Yes
Interfaces	
Number of PROFINET interfaces	2
1. Interface	-
Interface types	Vari Vd
RJ 45 (Ethernet)	Yes; X1
Number of ports	2
integrated switch	Yes
Protocols	

• IP protocol	Yes; IPv4
IP protocol     PROFINET IO Controller	
	Yes
PROFINET IO Device	Yes
SIMATIC communication	
Open IE communication	Yes; Optionally also encrypted
• Web server	Yes
Media redundancy	Yes
PROFINET IO Controller	
Services	
— PG/OP communication	Yes
— Isochronous mode	Yes
— Direct data exchange	Yes; Requirement: IRT and isochronous mode (MRPD optional)
— IRT	Yes
— PROFlenergy	Yes; per user program
— Prioritized startup	Yes; Max. 32 PROFINET devices
<ul> <li>Number of connectable IO Devices, max.</li> </ul>	256; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
<ul> <li>Of which IO devices with IRT, max.</li> </ul>	64
<ul> <li>— Number of connectable IO Devices for RT, max.</li> </ul>	256
— of which in line, max.	256
<ul> <li>— Number of IO Devices that can be simultaneously activated/deactivated, max.</li> </ul>	8; in total across all interfaces
— Number of IO Devices per tool, max.	8
— Updating times	The minimum value of the update time also depends on communication share set for PROFINET IO, on the number of IO devices, and on the quantity of configured user data
Update time for IRT	
— for send cycle of 250 µs	250 µs to 4 ms; Note: In the case of IRT with isochronous mode, the
	minimum update time of 500 $\mu$ s of the isochronous OB is decisive
— for send cycle of 500 µs	500 µs to 8 ms
— for send cycle of 1 ms	1 ms to 16 ms
— for send cycle of 2 ms	2 ms to 32 ms
— for send cycle of 4 ms	4 ms to 64 ms
— With IRT and parameterization of "odd" send	Update time = set "odd" send clock (any multiple of 125 µs: 375 µs, 625
cycles	μs 3 875 μs)
Update time for RT	
— for send cycle of 250 µs	250 µs to 128 ms
— for send cycle of 500 μs	500 µs to 256 ms
— for send cycle of 1 ms	1 ms to 512 ms
— for send cycle of 2 ms	2 ms to 512 ms
— for send cycle of 4 ms	4 ms to 512 ms
PROFINET IO Device	
Services	
— PG/OP communication	Yes
- Isochronous mode	No
— IRT	Yes
— PROFlenergy	Yes; per user program
— Shared device	Yes
<ul> <li>— Number of IO Controllers with shared device, max.</li> </ul>	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 Controller     PROFINET IO Device	Yes
	100

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
<ul> <li>Direct data exchange</li> </ul>	No
— IRT	No
— PROFlenergy	Yes; per user program
— Prioritized startup	No
<ul> <li>Number of connectable IO Devices, max.</li> </ul>	32; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
<ul> <li>— Number of connectable IO Devices for RT, max.</li> </ul>	32
— of which in line, max.	32
<ul> <li>— Number of IO Devices that can be simultaneously activated/deactivated, max.</li> </ul>	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
<ul> <li>— Isochronous mode</li> </ul>	No
— IRT	No
— PROFlenergy	Yes; per user program
— Prioritized startup	No
— Shared device	Yes
<ul> <li>— Number of IO Controllers with shared device,</li> </ul>	4
max.	
<ul> <li>activation/deactivation of I-devices</li> </ul>	Yes; per user program
<ul> <li>Asset management record</li> </ul>	Yes; per user program
Interface types	
RJ 45 (Ethernet)	
• 100 Mbps	Yes
<ul> <li>Autonegotiation</li> </ul>	Yes
Autocrossing	Yes
<ul> <li>Industrial Ethernet status LED</li> </ul>	Yes
Protocols	
PROFIsafe	No
Number of connections	
<ul> <li>Number of connections, max.</li> </ul>	192; via integrated interfaces of the CPU and connected CPs / CMs
<ul> <li>Number of connections reserved for ES/HMI/web</li> </ul>	10
Number of connections via integrated interfaces	108
Number of S7 routing paths	16
Redundancy mode	
H-Sync forwarding	Yes
Media redundancy	
— Media redundancy	only via 1st interface (X1)
— MRP	Yes; MRP Automanager according to IEC 62439-2 Edition 2.0, MRP Manager; MRP Client
— MRP interconnection, supported	Yes; as MRP ring node according to IEC 62439-2 Edition 3.0
— MRPD	Yes; Requirement: IRT
— Switchover time on line break, typ.	200 ms; For MRP, bumpless for MRPD
— Number of stations in the ring, max.	50
SIMATIC communication	

PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
S7 routing	Yes
<ul> <li>S7 communication, as server</li> </ul>	Yes
S7 communication, as server	Yes
User data per job, max.	See online help (S7 communication, user data size)
Open IE communication	
• TCP/IP	Yes
— Data length, max.	64 kbyte
— several passive connections per port, supported	Yes
• ISO-on-TCP (RFC1006)	Yes
— Data length, max.	64 kbyte
• UDP	Yes
— Data length, max.	2 kbyte; 1 472 bytes for UDP broadcast
— UDP multicast	Yes; Max. 5 multicast circuits
• DHCP	Yes
• DNS	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Encryption	Yes; Optional
Web server	
• HTTP	Yes; Standard and user pages
• HTTPS	Yes; Standard and user pages
OPC UA	
Runtime license required	Yes; "Medium" license required
OPC UA Client	Yes
<ul> <li>Application authentication</li> </ul>	Yes
— Security policies	Available security policies: None, Basic128Rsa15, Basic256Rsa15,
	Basic256Sha256
— User authentication	"anonymous" or by user name & password
— Number of connections, max.	10
Number of nodes of the client interfaces, max.	2 000
<ul> <li>— Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/C max.</li> </ul>	300
<ul> <li>— Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max.</li> </ul>	20
<ul> <li>— Number of elements for one call of OPC_UA_MethodGetHandleList, max.</li> </ul>	100
— Number of simultaneous calls of the client	1
instructions per connection (except OPC_UA_ReadList,OPC_UA_WriteList,OPC_UA_M max.	
- Number of simultaneous calls of the client	5
instructions OPC_UA_ReadList,OPC_UA_WriteList and OPC_UA_MethodCall, max.	
— Number of registerable nodes, max.	5 000
<ul> <li>— Number of registerable method calls of OPC_UA_MethodCall, max.</li> </ul>	100
<ul> <li>— Number of inputs/outputs when calling OPC_UA_MethodCall, max.</li> </ul>	20
OPC UA Server	Yes; Data access (read, write, subscribe), method call, custom address space
<ul> <li>Application authentication</li> </ul>	Yes
— Security policies	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
— User authentication	"anonymous" or by user name & password
<ul> <li>— GDS support (certificate management)</li> </ul>	Yes
— Number of sessions, max.	48
<ul> <li>Number of accessible variables, max.</li> </ul>	100 000
<ul> <li>Number of registerable nodes, max.</li> </ul>	20 000
<ul> <li>Number of subscriptions per session, max.</li> </ul>	20

- Sampling interval, min. 200 ms     - Number of server methods, max. 50     - Number of nontrored larms, max. 50     - Number of nontrored larms for system diagnostics     - Number of nontrored larms for system diagnostics     - Number of nontrored larms for nontrored larms for nontrols max. 500     - Number of nontrored larms for nontrols max. 500     Number of adamts for nontrols max. 500     Number of adamts for nontrol tarbnols program messages are generated by the "Program_Alarm"     book. Finding or GRAPH     Number of adamts for nontrol tarbnols program for system diagnostics     - Number of adamts for nontrol tarbnols program for system diagnostics     - Number of adamts for nontrol tarbnols program for system     - Number of adamts for nontrol tarbnols program for system diagnostics     - Number of adamts for nontrol tarbnols program for system diagnostics     - Number of adamts for nontrol tarbnols program for system     - Number of adamts for nontrols     - Number of adamts for	Compling interval min	100 mg
<ul> <li>Number of server methods, max.</li> <li>Number of inputsoupputs per server method, max.</li> <li>Number of montrovel thems, max.</li> <li>Number of server inbrfaces, max.</li> <li>O of each "Server interfaces", "Companion specification" type and 20 of the type "Reference namespace"</li> <li>Number of nodes for user-defined server interfaces.</li> <li>Number of program alarms</li> <li>200.</li> <li>Number of configurations, max.</li> <li>O death "Server interfaces."</li> <li>Number of alarms for system diagnostics</li> <li>Status incomessage functions, max.</li> <li>O death "Server interfaces."</li> <li>Number of configurations of the server interfaces."</li> <li>Number of configuration program messages.</li> <li>Number of configuration program messages.</li> <li>Number of configuration program messages.</li> <li>Number of alarms for program diagnostics.</li> <li>Number of alarms for program diagnostics.</li> <li>Number of alarms for program messages.</li> <li>Number of alarms for program diagnostics.</li> <li>None to relation technology objects.</li> <li>None of alarms for program.</li> <li>None of variables, max.</li> <li>Status block.</li> <li>No to transponis.</li> <li>St</li></ul>	— Sampling interval, min.	100 ms
	-	
max     2000; for 1 s sampling interval and 1 s cert interval      Number of noncode for user-defined 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     5 000      Number of program alarms     200      Number of login statons for message functions, max     94       Program alarms     94       Program alarms     94       Program alarms     94       Number of login statons for message functions, max     94       Program alarms     94       Number of login statons for message in RUN, max     5000       Number of alarms for system diagnostics     200       • Statustoontol functional </td <td>, -</td> <td></td>	, -	
<ul> <li>Number of nonlored lenis, max.</li> <li>Number of server interfaces. ''Comparison specification" type and 20 of the type "Reference namespace"</li> <li>Number of nonlored issue-defined server interfaces. max.</li> <li>Alams and Conditions</li> <li>Number of program natures</li> <li>Number of program natures</li> <li>Number of anoma for system diagnostics</li> <li>Number of program natures</li> <li>Number of program natures</li> <li>Number of program natures</li> <li>Yes, MODBUS TCP</li> <li>Equidablance</li> <li>Yes, MODBUS TCP</li> <li>Equidablance</li> <li>Yes</li> <li>Program alarms</li> <li>Yes</li> <li>One ordinguised and the second sec</li></ul>		20
Number of server interfaces, max. Number of nodes for user-defined server interfaces, max. Number of nodes for user-defined server interfaces, max. Number of nodes for user-defined server interfaces, max. Number of program alams Number of alams for system diagnostics Number of login stations for message functions, max. Number of login stations for message functions, max. Number of login stations for messages in RUN, max. Number of alams for system diagnostics Number of alams for system diagnostics Status formal functional Number of valables, max. of which status valables, max. of whic		2 000; for 1 s sampling interval and 1 s send interval
interfaces, max. Alarms and Conditions Yes Automation alarms Automation Yes		
Alarms and Candidions     Ves    Number of program alarms     200    Number of alarms for system diagnostics     100 Futther protocols     Ves, MODBUS TCP     Source of the second		5 000
Number of program alarms         200           Number of alarms for system diagnostics         100           • MODBUS         Yes, MODBUS TCP           • MODBUS         Yes, MODBUS TCP           • Equidistance         Yes           • S7 message functions         64           • Program alarms         Yes           • Number of configurable program messages in RUN, max.         64           • Number of configurable program messages in RUN, max.         5000           • Number of adable program messages in RUN, max.         5000           • Number of alarms for system diagnostics         200           • Number of alarms for system         Yes           • Status/control         Yes           • Status/control         Yes           • O which status variables, max.         200           • Number		
Number of alarms for system diagnostics         100           Further protocols		
Further protocols         Yes: MODBUS TCP           Equidistance         Yes           S7 message functions         64           Program atoms         Yes           Number of login stations for messages max.         64           Program atoms         Yes           Number of loginable program messages, max.         64           Number of configurable program messages in RUN, max.         5000           Number of loginable program messages in RUN, max.         5000           Number of atoms for system diagnostics         200           Number of atoms for system diagnostics         200           Number of atoms for system diagnostics         200           Status block         Yes: Up to 8 simultaneously (in tota ecross at ES clients)           Status block         Yes: Up to 8 simultaneously (in tota ecross at ES clients)           Status block         Yes           • Status/control variables, max.         200; per job           • Variables, max.         200; per job           • Variables, max.         200; per job           • Forcing         Yes           • Forcing, variables, max.         200           • Number of variables, max.         200           • Number of entries, max.         200           • Procing         Yes		
• NODBUS         Yes; MODBUS TCP           isochronous mode         Equidistance           Equidistance         Yes           37 message functions         64           Program alarms         Yes           Number of login stations for messages in RUN, max.         5000           Number of login stations for messages in RUN, max.         5000           Number of program messages in RUN, max.         5000           Number of simultaneously active program alarms         800           • Number of alarms for notion technology objects         200           • Number of alarms for notion technology objects         160           Test commissioning functions         745: Up to 8 simultaneously (in total across all ES clients)           Status block         Yes; Up to 8 simultaneously (in total across all ES clients)           Status stock         Yes           • Number of variables, max.         200; per job           • Orariables         1inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters           • Number of variables, max.         200; per job           • Forcing         Yes           • Forcing         Yes           • Number of entries, max.         2000           • Number of entries, max.         3200           • Number of entries, max.         32		100
Isochronous mode         Yes           Equidistance         Yes           S7 message functions         64           Program alarms         Yes           Number of login stations for messages, max.         10000, Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH           Number of loadable program messages in RUN, max.         5000           Number of loadable program messages in RUN, max.         5000           Number of alarms for system diagnostics         200           Number of alarms for system diagnostics         200           Joint commission (Team Engineering)         Yes, Parallel online access possible for up to 8 engineering systems           Status block         Yes, Up to 8 simultaneously (in total across all ES clients)           Single step         No           Number of variables, max.         200; per job           • Status/control variables, max.         200; per job           • O which status variables, max.         200; per job           • Forcing         Yes           • Forcing         Yes           • O which control variables, max.         200           • O which control variables, max.         200           • Forcing         Yes           • Number of entries, max.         200           • Interruptsi/diagnostics/statu		
Equidistance         Yes           S7 nossage functions         64           Program alarms         76           Number of configurable program messages, max.         10 600, Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH           Number of loadable program messages in RUN, max.         5 000           Number of originations for message in RUN, max.         5 000           Number of alarms for system diagnostics         200           Number of alarms for system diagnostics         200           Number of alarms for system diagnostics         200           Status block         Yes; Up to 8 simultaneously diversem diagnostics           Joint commission (Team Engineering)         Yes; Parallel online access possible for up to 8 engineering systems           Status block         Yes; Up to 8 simultaneously (in total across all ES clients)           Single step         No           Number of variables, max.         200; per job           • Variables, max.         200; per job           • Forcing         Yes           • Forcing         Yes           • Or which control variables, max.         200           • Number of variables, max.         200           • Number of variables, max.         200           • Number of variables, max.         200		Yes; MODBUS TCP
S7 message functions       64         Number of login stations for message functions, max.       64         Pregram alams       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 program alarms       800         • Number of alarms for motion technology objects       1600         • Number of alarms for motion technology objects       1600         • Statusfoorthol       Yes; Up to 8 simultaneously (in total across all ES clients)         Statusfoorthol       Yes; Up to 8 simultaneously (in total across all ES clients)         Statusfoorthol variable       Yes; Up to 8 simultaneously (in total across all ES clients)         Statusfoorthol variables, max.       200; per job         • Statusfoorthol variables, max.       200; per job         • Or which control variables, max.       200; per job         • Or which control variables, max.       200; per job         • Or which control variables, max.       200; per job         • Or which control variables, max.       200; per job         • Or which powerfail-proof       500         Diagnostic buffer       Yes         • Interrupts/(alagnostis/status information)       Yes		Vee
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 loadable program messages in RUN, max.         5 000           Number of alarms for system diagnostics         200           - Number of alarms for motion technology objects         160           fest commission (Team Engineering)         Yes; Parallel online access possible for up to 8 engineering systems           Status block         Yes; Up to 8 simultaneously (in total across all ES clients)           Single step         No           Number of breakpoints         8           Status/control         8           Status/control         200; per job           - of which status variables, max.         200; per job           - of which status variables, max.         200; per job           - of which status variables, max.         200; per job           Procring         Peripharal inputs/outputs           Number of entries, max.         3 200           - of which powerfail-proof         500           Traces         4; Up to 512 KB of data per trace are possible		Yes
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 alarms for system diagnostics         200           Number of loadable program alarms         800           Number of alarms for motion technology objects         200           Test commission (Fam Engineering)         Yes; Parallel online access possible for up to 8 engineering systems           Status block         Yes; Ves; Ves; Nes 8 imultaneously (in total across all ES clients)           Single step         No           Number of variables, max.         200; per job           Status block         Yes           Status locit         Yes           Status locit         Yes           Status locit         Yes           Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters           Number of variables, max.         200; per job           Porcing         Yes           Parallel         Peripheral inputs/outputs           Number of onfigurables, max.         200; per job           Diagnostic buffer         Peripheral inputs/outputs           Persent         Yes           Number of configurables Trace		
Number of configurable program messages, max.       10 000: Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH         Number of simultaneously active program alarms       5 000         Number of alarms for system diagnostics       200         Number of alarms for motion technology objects       200         Int commission (Team Engineering)       Yes; Parallel online access possible for up to 8 engineering systems         Status block       Yes; Up to 8 simultaneously (in total across all ES clients)         Single step       No         Number of breakpoints       8         Status/control       Yes         • Orkink status variables, max.       200; per job         - of which catus variables, max.       200; per job         • Forcing       Yes         • Forcing, variables, max.       200; per job         • Peripheral inputs/outputs       200         • Present       Yes         • Interroptifyiding mostles, max.       200         • Present       Yes         • Number of configurable max.       3 200		
block, ProDiag or GRAPH           Number of loadable program messages in RUN, max.         5 000           Number of simultaneously active program alarms         600           Number of alarms for system diagnostics         200           Number of alarms for motion technology objects         160           Test commissioning functions         745: Yes; Yerailel online access possible for up to 8 engineering systems           Status block         Yes; Up to 8 simultaneously (in total across all ES clients)           Single step         No           Number of variables, max.         8           - of which status variables, max.         200; per job           - of which control variables, max.         200; per job           • Forcing         Yes           • Forcing understees, max.         200; per job           • Or which status variables, max.         200; per job           • Or which on control variables, max.         200           • Umber of configurable fraces         4; Up to 512 KB of data per trace are possible           Interrupts/diagnostics/status information         Yes           Diagnostics indication LED         Yes           • RWNNSTOP LED         Yes           • ERROR LED         Yes           • ERROR LED         Yes           • Connoction display LINK TX/FRX		
Number of loadable program messages in RUN, max.       5 000         Number of simultaneously active program alarms       800         • Number of alarms for system diagnostics       200         • Number of alarms for motion technology objects       160 <b>fest commissioning functions</b> 900         Joint commission (Team Engineering)       Yes; Parallel online access possible for up to 8 engineering systems         Status block       Yes; Up to 8 simultaneously (in total across all ES clients)         Single step       No         Number of variables       8         Status/control       8         • Status/control       Yes         • Status/control       Yes         • Variables, max.       200; per job         • of which status variables, max.       200; per job         • of which status variables, max.       200; per job         • Forcing       Yes         • Forcing, variables, max.       200         • Peripheral inputs/outputs       200         • Present       Yes         • Number of configurable Traces       4; Up to 512 KB of data per trace are possible         Interrupts/diagnostics/idiagnostics/status information       500         Diagnostic buffer       Yes         • RNNSTOP LED       Yes <td>Number of configurable program messages, max.</td> <td></td>	Number of configurable program messages, max.	
Number of simultaneously active program alarms     800       Number of alarms for motion technology objects     160       Test commissioning functions     160       Joint commissioning functions     Yes; Parallel online access possible for up to 8 engineering systems       Status block     Yes; Up to 8 simultaneously (in total across all ES clients)       Single step     No       Number of breakpoints     8       Status/control     Yes       • Status/control variables     Yes       • Variables     Yes       • Of which control variables, max.     200; per job       • Of which control variables, max.     200; per job       • Of which control variables, max.     200; per job       • Of which control variables, max.     200; per job       • Of which control variables, max.     200; per job       • Of which control variables, max.     200       • Of which powerfail-proof     200       Diagnostic buffer     Yes       • Number of configurable Traces     4. Up to 512 KB of data per trace are possible       Interrupts/diagnostics/status information     Yes       Diagnostic indication LED     Yes       • RNINSTOP LED     Yes       • REROR LED     Yes       • Connection display LINK TX/RX     Yes       Supported technology objects     Yes: Note: The number of technol	Number of loadable program messages in RUN may	
• Number of program alarms     800       • Number of alarms for system diagnostics     200       • Number of alarms for motion technology objects     160       Test commission (Team Engineering)     Yes; Parallel online access possible for up to 8 engineering systems       Status block     Yes; Up to 8 simultaneously (in total across all ES clients)       Single step     No       Number of breakpoints     8       Status/control     Yes       • Status/control variable     Yes       • Status/control variables, max.     00; per job       • Or which status variables, max.     200; per job       - of which control variables, max.     200; per job       • Forcing     Yes       • Forcing, variables, max.     200; per job       • Forcing, variables, max.     200; per job       • Forcing, variables, max.     200; per job       • Forcing, variables, max.     200       • Peripheral inputs/outputs     200       Diagnostic buffer     Yes       • present     Yes       • Number of configurable Traces     4; Up to 512 KB of data per trace are possible       Intarcepts/diagnostics/status information     10       Diagnostic sidication LED     Yes       • RUNSTOP LED     Yes       • Concicion display LINK TX/RX     Yes       • Concicion display LINK TX/		
• Number of alarms for system diagnostics     200       • Number of alarms for motion technology objects     160       Test commission(Team Engineering)     Yes; Parallel online access possible for up to 8 engineering systems       Status block     Yes; Up to 8 simultaneously (in total across all ES clients)       No     No       Number of breakpoints     8       Status/control     Yes       • Status/control variables     Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters       • Number of variables, max.     200; per job       - of which status variables, max.     200; per job       - of which control variables, max.     200; per job       - of which status variables, max.     200; per job       - of which ontrol variables, max.     200       - of which ontrol variables     Yes       • Number of entries, max.     3 200       - of which opwerfail-proof     500       Traces     4; Up to 512 KB of data per trace are possible    <		800
• Number of alarms for motion technology objects         160           Test commission (Team Engineering)         Yes; Parallel online access possible for up to 8 engineering systems           Status block         Yes; Up to 8 simultaneously (in total across all ES clients)           Single step         No           Number of breakpoints         8           Status/control         •           • Variables         Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters           • Number of variables, max.         - of which status variables, max.           - of which control variables, max.         200; per job           Forcing         Yes           • Forcing, variables, max.         200           • Porcing         Yes           • Forcing, variables, max.         200           • Peripheral inputs/outputs         Peripheral inputs/outputs           • Number of variables, max.         200           Diagnostic buffer         •           • present         Yes           • Number of onfigurable Traces         4: Up to 512 KB of data per trace are possible           Interrupts/diagnostics/status information         Tess           Diagnostics/istatus information         Yes           Diagnostics/status information         Yes           • Connection display LINK TX		
Test commission (Team Engineering)       Yes; Parallel online access possible for up to 8 engineering systems         Status block       Yes; Up to 8 simultaneously (in total across all ES clients)         Single step       No         Number of breakpoints       8         Status/control       *         • Status/control       *         • Variables       Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters         • Number of variables, max.       200; per job         - of which status variables, max.       200; per job         - of which control variables, max.       200; per job         - of which control variables, max.       200; per job         • Forcing       Yes         • Forcing, variables, max.       200         • Or which control variables, max.       200         - of which powerfail-proof       200         Diagnostic buffer       Yes         • present       Yes         • Number of configurable Traces       4; Up to 512 KB of data per trace are possible         Interrupts/dlagnostics/status Information       Takes         • RUN/STOP LED       Yes         • RUN/STOP LED       Yes         • Connection display LINK TX/RX       Yes         Supported technology objects       Yes: Note: The number o		
Joint commission (Team Engineering)         Yes; Parallel online access possible for up to 8 engineering systems           Status block         Yes; Up to 8 simultaneously (in total across all ES clients)           Single step         No           Number of breakpoints         8           Status/control         *           • Variables         Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters           • Variables, max.         200; per job           - of which status variables, max.         200; per job           • Forcing         Yes           • Forcing, variables, max.         200           • Forcing variables, max.         200           • Forcing variables, max.         200           • Forcing variables, max.         200           • Number of variables, max.         200           • Number of variables, max.         200           • Number of ortifies, max.         200           • Number of ortifies, max.         3 200           - of which powerfail-proof         500           Traces         4; Up to 512 KB of data per trace are possible           Interrupts/diagnostics/status information         Diagnostics indication LED           • RUN/STOP LED         Yes           • Connection display LINK TX/RX         Yes		
Status block       Yes; Up to 8 simultaneously (in total across all ES clients)         Single step       No         Number of breakpoints       8         Status/control       ************************************		Vee: Decallel online access needible for up to 9 engineering outered
Single step       No         Number of breakpoints       8         Status/control       *         • Status/control       Yes         • Variables       Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters         • Variables       Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters         • Variables       Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters         • Variables, max.       200; per job         — of which control variables, max.       200; per job         Forcing       Yes         • Forcing, variables       Peripheral inputs/outputs         • Number of variables, max.       200         Diagnostic buffer       *         • present       Yes         • Number of configurable Traces       4; Up to 512 KB of data per trace are possible         Interrupts/diagnostics/status information       *         Diagnostics indication LED       Yes         • RUN/STOP LED       Yes         • Connection display LINK TX/RX       Yes         • Connection display LINK TX/RX       Yes         Supported technology objects       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 technol		
Number of breakpoints     8       Status/control     •       • Status/control variable     Yes       • Variables     Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters       • Number of variables, max.     200; per job       - of which status variables, max.     200; per job       - of which control variables, max.     200; per job       Forcing     Yes       • Forcing, variables, max.     200       • Number of variables, max.     200       • Present     Yes       • Number of entries, max.     3 200       of which powerfail-proof     500       Traces     4; Up to 512 KB of data per trace are possible       Interrupts/diagnostics/status information     10       Diagnostics indication LED     Yes       • RUN/STOP LED     Yes       • Connection display LINK TX/RX     Yes       Supported technology objects     Yes: Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool       2 400     Yes; Note: The number of technology objects		
Status/control       Status/control variable       Yes         • Variables       Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters         • Number of variables, max.       200; per job         — of which status variables, max.       200; per job         Forcing       Yes         • Forcing, variables       Peripheral inputs/outputs         • Number of variables, max.       200         Diagnostic buffer       Yes         • present       Yes         • Number of configurable Traces       4; Up to 512 KB of data per trace are possible         Interrupts/diagnostics/status information       Diagnostics indication LED         • RUN/STOP LED       Yes         • Connection display LINK TX/RX       Yes         • Connection display LINK TX/RX       Yes         • Rubits Control       Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool         2 400       2400		
• Status/control variable     Yes       • Variables     Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters       • Number of variables, max.     200; per job       - of which status variables, max.     200; per job       Forcing     Yes       • Forcing, variables, max.     200; per job       Diagnostic buffer     200       • Number of variables, max.     200       Diagnostic buffer     Yes       • present     Yes       • Number of configurable Traces     3 200       - of which powerfail-proof     500       Traces     -       • Number of configurable Traces     4; Up to 512 KB of data per trace are possible       Interrupts/diagnostics/status information     -       Diagnostic sindication LED     Yes       • RUN/STOP LED     Yes       • Connection display LINK TX/RX     Yes       • Connection display LINK TX/RX     Yes       • Ourber of available Motion Control resources for technology objects     Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool       • Required Motion Control resources     2 400		0
• Variables       Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters         • Number of variables, max.       200; per job         - of which status variables, max.       200; per job         - of which control variables, max.       200; per job         Forcing       Yes         • Forcing, variables       Peripheral inputs/outputs         • Number of variables, max.       200         Diagnostic buffer       200         • Number of entries, max.       200         Diagnostic buffer       Yes         • Number of entries, max.       3 200         - of which powerfail-proof       500         Traces       4; Up to 512 KB of data per trace are possible         Interrupts/diagnostics/status information       100         Diagnostics indication LED       Yes         • RUN/STOP LED       Yes         • Connection display LINK TX/RX       Yes         Supported technology objects       Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool         2 400       2400		Voo
<ul> <li>Number of variables, max.</li> <li>of which status variables, max.</li> <li>200; per job</li> <li>Forcing</li> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> <li>200</li> <li>Peripheral inputs/outputs</li> <li>Number of variables, max.</li> <li>200</li> <li>Diagnostic buffer</li> <li>present</li> <li>Yes</li> <li>Number of entries, max.</li> <li>3 200</li> <li>of which control variables Traces</li> <li>Vumber of configurable Traces</li> <li>Ves</li> <li>ERROR LED</li> <li>Yes</li> <li>Connection display LINK TX/RX</li> <li>Yes</li> <li>Supported technology objects</li> <li>Number of available Motion Control resources for technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool</li> <li>2 400</li> </ul>		
<ul> <li>of which status variables, max.</li> <li>200; per job</li> <li>Forcing</li> <li>Forcing</li> <li>Yes</li> <li>Forcing, variables, max.</li> <li>200</li> <li>Diagnostic buffer</li> <li>of which control variables, max.</li> <li>200</li> <li>Diagnostic buffer</li> <li>opresent</li> <li>Yes</li> <li>Number of entries, max.</li> <li>3 200</li> <li>of which powerfail-proof</li> <li>500</li> <li>Traces</li> <li>Number of configurable Traces</li> <li>Yup to 512 KB of data per trace are possible</li> <li>Interrupts/diagnostics/status information</li> <li>Diagnostic indication LED</li> <li>RRUN/STOP LED</li> <li>KROR LED</li> <li>Yes</li> <li>Connection display LINK TX/RX</li> <li>Supported technology objects</li> <li>Number of available Motion Control resources for technology objects</li> <li>Required Motion Control resources for technology objects</li> <li>Required Motion Control resources</li> </ul>		inputs/outputs, memory bits, DBs, distributed i/Os, timers, counters
of which control variables, max.     200; per job       Forcing     Yes       • Forcing, variables     Peripheral inputs/outputs       • Number of variables, max.     200       Diagnostic buffer	· · · · · · · · · · · · · · · · · · ·	200: por job
Forcing       Yes         • Forcing, variables       Peripheral inputs/outputs         • Number of variables, max.       200         Diagnostic buffer          • present       Yes         • Number of entries, max.       3 200        of which powerfail-proof       500         Traces       4; Up to 512 KB of data per trace are possible         Interrupts/diagnostics/status information       Diagnostics/status information         Diagnostics indication LED       Yes         • RUN/STOP LED       Yes         • ERROR LED       Yes         • Connection display LINK TX/RX       Yes         Supported technology objects       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       2 400		
• Forcing       Yes         • Forcing, variables       Peripheral inputs/outputs         • Number of variables, max.       200         Diagnostic buffer       200         • present       Yes         • Number of entries, max.       3 200         - of which powerfail-proof       500         Traces       4; Up to 512 KB of data per trace are possible         Interrupts/diagnostics/status information       Interrupts/diagnostics/status information         Diagnostics indication LED       Yes         • RUN/STOP LED       Yes         • RUN/STOP LED       Yes         • Connection display LINK TX/RX       Yes         Supported technology objects       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       2 400		
• Forcing, variablesPeripheral inputs/outputs• Number of variables, max.200Diagnostic buffer200• presentYes• Number of entries, max.3 200- of which powerfail-proof500Traces4; Up to 512 KB of data per trace are possibleInterrupts/diagnostics/status informationDiagnostics indication LEDYes• RUN/STOP LEDYes• ERROR LEDYes• MAINT LEDYes• Connection display LINK TX/RXYesSupported technology objectsMotion ControlYes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TLA Selection Tool• Number of available Motion Control resources for technology objects2 400		Yes
Number of variables, max. 200  Diagnostic buffer      present     Yes     Number of entries, max. 3 200	-	
Diagnostic buffer         • present       Yes         • Number of entries, max.       3 200         - of which powerfail-proof       500         Traces       4; Up to 512 KB of data per trace are possible         Interrupts/diagnostics/status information       100         Diagnostics indication LED       Yes         • RUN/STOP LED       Yes         • MAINT LED       Yes         • Connection display LINK TX/RX       Yes         Supported technology objects       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       2 400		
<ul> <li>Number of entries, max.</li> <li>of which powerfail-proof</li> <li>500</li> <li>Traces</li> <li>Number of configurable Traces</li> <li>4; Up to 512 KB of data per trace are possible</li> <li>Interrupts/diagnostics/status information</li> <li>Diagnostics indication LED</li> <li>RUN/STOP LED</li> <li>PROR LED</li> <li>Yes</li> <li>Gonnection display LINK TX/RX</li> <li>Yes</li> <li>Supported technology objects</li> <li>Number of available Motion Control resources for technology objects</li> <li>Required Motion Control resources</li> </ul>	6	Yes
of which powerfail-proof500Traces• Number of configurable Traces4; Up to 512 KB of data per trace are possibleInterrupts/diagnostics/status informationDiagnostics indication LED• RUN/STOP LEDYes• ERROR LEDYes• Connection display LINK TX/RXYesSupported technology objectsMotion ControlYes; 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 objects2 400		
Traces       4; Up to 512 KB of data per trace are possible         Interrupts/diagnostics/status information       Interrupts/diagnostics/status information         Diagnostics indication LED       Yes         • RUN/STOP LED       Yes         • ERROR LED       Yes         • MAINT LED       Yes         • Connection display LINK TX/RX       Yes         Supported technology objects       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       2 400		
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       2 400         • Required Motion Control resources       2 400		
Diagnostics indication LED         • RUN/STOP LED       Yes         • ERROR LED       Yes         • MAINT LED       Yes         • Connection display LINK TX/RX       Yes         Supported technology objects       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       2 400	Number of configurable Traces	4; Up to 512 KB of data per trace are possible
Diagnostics indication LED         • RUN/STOP LED       Yes         • ERROR LED       Yes         • MAINT LED       Yes         • Connection display LINK TX/RX       Yes         Supported technology objects       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       2 400	Interrupts/diagnostics/status information	
• RUN/STOP LED       Yes         • ERROR LED       Yes         • MAINT LED       Yes         • Connection display LINK TX/RX       Yes         Supported technology objects       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       2 400         • Required Motion Control resources       2 400	Diagnostics indication LED	
• MAINT LEDYes• Connection display LINK TX/RXYesSupported technology objectsYes; 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 objects2 400• Required Motion Control resources• Iteration (Iteration (Itera	<u> </u>	Yes
Connection display LINK TX/RX Yes Supported technology objects Motion Control Number of available Motion Control resources for technology objects Required Motion Control resources Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool 2 400	• ERROR LED	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       2 400         • Required Motion Control resources       2 400	MAINT LED	Yes
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       2 400         • Required Motion Control resources       2 400	<ul> <li>Connection display LINK TX/RX</li> </ul>	Yes
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       2 400         • Required Motion Control resources       2 400	Supported technology objects	
<ul> <li>Number of available Motion Control resources for technology objects</li> <li>Required Motion Control resources</li> </ul>		Yes; Note: The number of technology objects affects the cycle time of
technology objects         e Required Motion Control resources		the PLC program; selection guide via the TIA Selection Tool
Required Motion Control resources		2 400
- per speed-controlled axis 40		
	- per speed-controlled axis	40

	00
— per positioning axis	80
— per synchronous axis	160
— per external encoder	80
— per output cam	20
— per cam track	160
— per probe	40
<ul> <li>Number of available Extended Motion Control resources for technology objects</li> </ul>	120
<ul> <li>Required Extended Motion Control resources</li> </ul>	
<ul> <li>per cam (1 000 points and 50 segments)</li> </ul>	2
<ul> <li>per cam (10 000 points and 50 segments)</li> </ul>	20
<ul> <li>for each set of kinematics</li> </ul>	30
<ul> <li>Per leading axis proxy</li> </ul>	3
<ul> <li>Positioning axis</li> </ul>	
<ul> <li>— Number of positioning axes at motion control cycle of 4 ms (typical value)</li> </ul>	7
<ul> <li>— Number of positioning axes at motion control cycle of 8 ms (typical value)</li> </ul>	14
Controller	
PID_Compact	Yes; Universal PID controller with integrated optimization
• PID_3Step	Yes; PID controller with integrated optimization for valves
• PID-Temp	Yes; PID controller with integrated optimization for temperature
Counting and measuring	
High-speed counter	Yes
Ambient conditions	
Ambient temperature during operation	
horizontal installation, min.	0°C
<ul> <li>horizontal installation, max.</li> </ul>	60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the
• Honzontal installation, max.	display is switched off
<ul> <li>vertical installation, min.</li> </ul>	0°0
• vertical installation, max.	40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the
·	display is switched off
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
<ul> <li>Installation altitude above sea level, max.</li> </ul>	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
configuration / header	
configuration / programming / header	
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SIL — SCL	Yes
— SCL	Yes
— SCL — GRAPH	Yes
- SCL - GRAPH Know-how protection	Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> </ul>	Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> <li>Copy protection</li> </ul>	Yes Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> <li>Copy protection</li> <li>Block protection</li> </ul>	Yes Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> <li>Copy protection</li> <li>Block protection</li> <li>Access protection</li> </ul>	Yes Yes Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> <li>Copy protection</li> <li>Block protection</li> <li>Block protection</li> <li>Access protection</li> <li>protection of confidential configuration data</li> </ul>	Yes Yes Yes Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> <li>Copy protection</li> <li>Block protection</li> <li>Block protection</li> <li>Access protection</li> <li>protection of confidential configuration data</li> <li>Password for display</li> </ul>	Yes Yes Yes Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> <li>Copy protection</li> <li>Block protection</li> <li>Block protection</li> <li>Access protection</li> <li>protection of confidential configuration data</li> <li>Password for display</li> <li>Protection level: Write protection</li> <li>Protection level: Read/write protection</li> </ul>	Yes Yes Yes Yes Yes Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> <li>Copy protection</li> <li>Block protection</li> <li>Block protection</li> <li>Access protection</li> <li>protection of confidential configuration data</li> <li>Password for display</li> <li>Protection level: Write protection</li> <li>Protection level: Read/write protection</li> <li>Protection level: Complete protection</li> </ul>	Yes Yes Yes Yes Yes Yes Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> <li>Copy protection</li> <li>Block protection</li> <li>Block protection</li> <li>Access protection</li> <li>protection of confidential configuration data</li> <li>Password for display</li> <li>Protection level: Write protection</li> <li>Protection level: Read/write protection</li> </ul>	Yes Yes Yes Yes Yes Yes Yes Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> <li>Copy protection</li> <li>Block protection</li> <li>Block protection</li> <li>Access protection</li> <li>protection of confidential configuration data</li> <li>Password for display</li> <li>Protection level: Write protection</li> <li>Protection level: Read/write protection</li> <li>Protection level: Complete protection</li> <li>programming / cycle time monitoring / header</li> <li>lower limit</li> </ul>	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> <li>Copy protection</li> <li>Block protection</li> <li>Block protection</li> <li>Access protection</li> <li>protection of confidential configuration data</li> <li>Password for display</li> <li>Protection level: Write protection</li> <li>Protection level: Read/write protection</li> <li>Protection level: Complete protection</li> <li>programming / cycle time monitoring / header</li> <li>lower limit</li> <li>upper limit</li> </ul>	Yes Yes Yes Yes Yes Yes Yes Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> <li>Copy protection</li> <li>Block protection</li> <li>Block protection</li> <li>Access protection</li> <li>protection of confidential configuration data</li> <li>Password for display</li> <li>Protection level: Write protection</li> <li>Protection level: Read/write protection</li> <li>Protection level: Complete protection</li> <li>programming / cycle time monitoring / header</li> <li>lower limit</li> <li>upper limit</li> </ul>	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
<ul> <li>SCL</li> <li>GRAPH</li> <li>Know-how protection</li> <li>User program protection/password protection</li> <li>Copy protection</li> <li>Block protection</li> <li>Block protection</li> <li>Access protection</li> <li>protection of confidential configuration data</li> <li>Password for display</li> <li>Protection level: Write protection</li> <li>Protection level: Read/write protection</li> <li>Protection level: Complete protection</li> <li>programming / cycle time monitoring / header</li> <li>lower limit</li> <li>upper limit</li> </ul>	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes

Depth	129 mm
Weights	
Weight, approx.	830 g
last modified:	4/1/2022 🖸