SIEMENS

Data sheet

6ES7516-3FN02-0AB0



SIMATIC S7-1500F, CPU 1516F-3 PN/DP, central processing unit with 1.5 MB work memory for program and 5 MB for data, 1st interface: PROFINET IRT with 2-port switch, 2nd interface: PROFINET RT, 3rd interface: PROFIBUS, 10 ns bit performance, SIMATIC Memory Card required

General information	
Product type designation	CPU 1516F-3 PN/DP
HW functional status	FS01
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 375 μs (distributed) and 1 ms (central)
Engineering with	
STEP 7 TIA Portal configurable/integrated from version	V17 (FW V2.9) / V16 (FW V2.8) or higher; with older TIA Portal versions configurable as 6ES7516-3FN01-0AB0
Configuration control	
via dataset	Yes
Display	
Screen diagonal [cm]	6.1 cm
Control elements	
Number of keys	8
Mode buttons	2
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Mains buffering	
 Mains/voltage failure stored energy time 	5 ms
Repeat rate, min.	1/s
Input current	
Current consumption (rated value)	0.85 A
Current consumption, max.	1.1 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)	6.7 W
Power loss	
Power loss, typ.	7 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	

a integrated (for program)	1.5 Mbyto
integrated (for program) integrated (for data)	1.5 Mbyte
• integrated (for data)	5 Mbyte
Load memory	20 Ob. to
Plug-in (SIMATIC Memory Card), max. Packura	32 Gbyte
Backup	V
maintenance-free	Yes
CPU processing times	
for bit operations, typ.	10 ns
for word operations, typ.	12 ns
for fixed point arithmetic, typ.	16 ns
for floating point arithmetic, typ.	64 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.	5 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
♥ 312€, 111ax.	5 Mbyte, For DBs with absolute addressing, the max. Size is 64 KB
	0 65 535
Number rangeSize, max.	
• Size, max.	1 Mbyte
	0 05 525
Number range Size may	0 65 535
• Size, max.	1 Mbyte
OB	4 Mbs do
Size, max. Number of fire a public ORe	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 250 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; Up to 8 possible for F-blocks
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)
	ruly (olly militar by the main months)
Retentivity	, any (only immed by the mean memory)
Retentivity — adjustable	Yes
— adjustable	
·	Yes 512 kbyte; In total; available retentive memory for bit memories, timers,
— adjustable Data areas and their retentivity	Yes

Substitute Number of door memories Signification Tools blocks Tools date		
Date blocks	• Size, max.	16 kbyte
Peterbridy adjustable Peterbridy proped Local data Peterbridy proped Local data Peterbridy proped Local data Peterbridy proped Local data Peterbridy class, max Address area Peterbridy class, max Peterbridge class, m		8; 8 clock memory bit, grouped into one clock memory byte
Retembry preset per priority class, max. Actions as max. ID modules 8 192; max. number of modules / submodules ID address area. - Inputs 00 modules 32 kbyte; All inputs are in the process image - Uniquis (volume) 8 kbyte - Uniquis (volume) 9 kbyte - Volume 9 kbyte - Volume 9 kbyte - Vina 10		
Second cells	·	
Per priority class, max Address area Number of IO modules Number of IO Centrollers Number of Ions, max. Numb		No .
Address area		0.11.4
Number of IC modules 6 192; max. number of modules / submodules		64 kbyte; max. 16 KB per block
Figure F		
Outputs O		8 192; max. number of modules / submodules
• Outputs per integrated IO subsystem Inputs (volume) Outputs (volume) Outpu		
per integrated (J. Subsystem — Inputs (volume) — Outputs (volume) — Inputs (volume) — Outputs (volume) — Outputs (volume) — Sktyte — Inputs (volume) — Outputs (volume) — Sktyte — Outputs (volume) — Sktyte — O	·	
- Inputs (volume) - Cutputs (volume) - Cutputs (volume) - Inputs (volume) - Inputs (volume) - Uniquis (volume) - Uniquis (volume) - Uniquis (volume) - Sk ktyste - Uniquis (volume) - Sk k		32 kbyte; All outputs are in the process image
Per CMICP Inputs (volume) Per CMICP Inputs (volume) St kbyte Subpracess images Number of subprocess images, max. 32 Hardware configuration	· · · · · · · · · · · · · · · · · · ·	A
per CMCP Inputs (volume) 8 kbyte Outputs (volume) 8 kbyte Subprocess mages Number of supprocess images, max. Number of distributed I/O systems integrated integrated integrated integrated integrated integrated 2		
Injusts (volume) Cutputs (volume) Subprocess images • Number of subprocess images, max. Author of subprocess images, max. Author of subprocess images, max. Author of distributed I/O systems is characterized not only by the integration of integration of integration of integration of integration of integration of I/O via AS-I master modules or links (e.g. IE/PB-Link) Number of DP masters Integrated		8 kbyte
Subprocess images Number of subprocess images, max. 132 Hardware configuration Number of DP masters integrated via CM subgraded via CM su		
Subprocess images Number of subprocess images, max. 24 Hardware confidence of subprocess images, max. Number of Dermasters integrated Via CM Samadimum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total Rack Number of IO Controllers integrated Via CM Rack Modules per rack, max. Number of lines, max. Number of IPP CMs Time of day Clock Time of day Clock Speciation per day, max. Operating hours counter Number of IO P. master Rack Time of Agricum of Agri		•
Number of subprocess images, max. Number of distributed I/O systems 84; A distributed I/O system is characterized not only by the integration of distributed I/O via PROFIBUS communication modules, but also distributed I/O via 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 • Via CM **S, A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total Number of I/O Controllers • integrated • Via CM **Number of I/O Controllers • integrated • Via CM **Number of I/O Controllers • Modules per rack, max. • Number of Iines, max. • Number of PIP CMs **Type • Number of PIP CMs **Type • Backup time • Oviviation per day, max. **Deviation per day.		8 kbyte
Number of distributed IO systems 64; A distributed IO system is characterized not only by the integration of distributed IO via PROFIBUS communication modules, but also by the connection of IrO via AS-1 master modules or links (e.g. IE/PB-Link) Number of DP masters • integrated • Via CM 8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total Number of IO Controllers • integrated • Via CM 8 A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total Rack • Modules per rack, max. • Number of lines, max. 1 PEP CM • Number of PIP CMs • Number of PIP CMs • Number of PIP CMs • Type • Backup time • Deviation per day, max. Operating hours counter • Number • Number • Deviation per day, max. Operating hours counter • Number • Number • I6 Clock synchronization • supported • In AS, master • yes • in AS, master • yes • in AS, master • yes • on Ethernet via NTP • Yes • In AS, slave • on Ethernet via NTP • Yes • Interfaces Number of PROFIBUS interfaces 1 Interface In	· · ·	00
Number of distributed IO systems 66:4 distributed IO 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 • Via CM 18: A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total Number of IO Controllers • integrated • Via CM Rack • Modules per rack, max. • Modules per rack, max. • Number of lines, max. • Number of IPP CMs • Number of IPP CMs • Number of PIP CMs • Hardware clock • Backup time • Deviation per day, max. Operating hours counter • Number • Number • Number • Deviation per day, max. Operating hours counter • Number • Number • Number • Number • Operater • Number • Number • Number • Tipp Cick synchronization • Supported • Ves • in AS, slave • on Ethernet via NTP • Yes • in AS, slave • on Ethernet via NTP • Yes • on Ethernet via NTP • Number of PROFIBUS interfaces • Interface Interfac		32
distributed I/O via PRCFINET or PRCFIBUS communication modules, but also by the connection of I/O via AS-i master modules or links (e.g. IE/PB-Link) Number of IP masters integrated integrated via CM lineared in total Number of IO Controllers integrated via CM S, A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total Number of IO Controllers integrated via CM S, A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total Rack Modules per rack, max. Number of Iines, max. 1 PIP CM Number of IPP CMs Number of PIP CMs Number of PIP CMs Hardware clock Spackup time Deviation per day, max. 10 s; Type: 2 s Operating hours counter Number Number of PROFINET interfaces Number of PROFINET i	•	
integrated		distributed I/O via PROFINET or PROFIBUS communication modules, but also
Via CM 8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total inserted in	Number of DP masters	
inserted in total Number of IO Controllers • integrated • Via CM 8: A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total Rack • Modules per rack, max. • Number of lines, max. 1 PIP CM • Number of PIP CMs • Number of PIP CMs • Number of PIP CMs • Sackup time • Deviation per day, max. Operating hours counter • Number • Number • Number • 16 Clock synchronization • supported • to DP, master • in AS, master • in AS, slave • on Ethernet via NTP Number of PROFIBUS interfaces Number of PROFIBUS interfaces 1 Interface Number of PROFIBUS interfaces • RJ 45 (Ethernet) • Number of PROFIBUS interfaces • In Interface Protocols • Integrated switch • Protocols • Integrated switch • Protocols • Integrated switch • IP protocol • IP protocol	-	
integrated		
Standard Management of a CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total inserted in		
Inserted in total Rack • Modules per rack, max. • Number of lines, max. 1 PIP CM • Number of PIP CMs • Number of PIP CMs the number of connectable PIP CMs is only limited by the number of available slots Time of day Clock • Type • Backup time • Deviation per day, max. Operating hours counter • Number • Number • Number • I6 Clock synchronization • supported • to DP, master • in AS, slave • on Elthernet via NTP Interfaces Number of PROFIBUS interfaces 1 Interface • RJ 45 (Ethernet) • RJ 55 (Ethernet) • Interface • RJ 45 (Ethernet) • Interface Ves • integrated switch • IP protocol • IP protocol • IP protocol Yes; IPv4	-	
Modules per rack, max. Number of lines, max. Number of PtP CMs Number of PtP CMs is only limited by the number of available slots Number of day Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of Number of Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of ptP CMs is only limited by the number of available slots Number of ptP CMs is only limited by the number of available slots Number of ptP CMs is only limited by the number of available slots Number of ptP CMs is only	• VIa CIVI	
Number of lines, max. PtP CM Number of PtP CMs Number of PtP CMs Number of PtP CMs Number of PtP CMs Number of PtP CMs is only limited by the number of available slots Number of day Clock Number of each per day, max. Operating hours counter Number 16 Clock synchronization Supported Yes Nash master Yes Nash master Yes Nash As, master Yes Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of available slots Number of PtP CMs is only limited by the number of availa	Rack	
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 Backup time Deviation per day, max. Operating hours counter Number Number Time of Agy Clock Type Backup time Deviation per day, max. Operating hours counter Number Number Time of Clock synchronization Supported Yes To DP, master Nesser Nesser Nesser Number Number The Clock synchronization Pyes The Clock synchronization Pyes The Clock synchronization Supported Yes Nesser Nesser Nesser Yes Nesser Nesser Number of PROFINET interfaces Number of PROFINET interfaces Number of PROFINET interfaces 1 Interface Interface Interface Interface types RJ 45 (Ethernet) Number of ports Number of ports Number of ports Number of Protocol Pyes; IPv4	Modules per rack, max.	32; CPU + 31 modules
Number of PtP CMs the number of connectable PtP CMs is only limited by the number of available slots Time of day Clock Type Backup time Substantian Deviation per day, max. Operating hours counter Number Supported Support	 Number of lines, max. 	1
Slots	PtP CM	
Clock Type Backup time Superition per day, max. Operating hours counter Number Interfaces Number of PROFIBUS interfaces RJ 45 (Ethernet) Number of ports Integrated switch Number of protocol Protocols Protocols I 0 s; Typ.: 2 s Hardware clock Sw, At 40 °C ambient temperature, typically Sw, Typ.: 2 s Heart and Sw, Typ.: 2 s Hardware clock Sw, At 40 °C ambient temperature, typically Sw, Typ.: 2 s Hardware clock Sw, At 40 °C ambient temperature, typically Sw, Typ.: 2 s Hardware clock Sw, At 40 °C ambient temperature, typically Sw, Typ.: 2 s Hardware clock Sw, At 40 °C ambient temperature, typically Sw, Typ.: 2 s Hardware clock Sw, At 40 °C ambient temperature, typically Sw, Typ.: 2 s Hardware clock Sw, At 40 °C ambient temperature, typically Sw, Typ.: 2 s Hardware clock Sw, At 40 °C ambient temperature, typically Sw, Typ.: 2 s Hardware clock Sw, At 40 °C ambient temperature, typically Sw, Typ.: 2 s Hardware clock Sw, At 40 °C ambient temperature, typically Sw, Typ.: 2 s Hardware clock Sw, At 40 °C ambient temperature, typically Sw, Typ.: 2 s Hardware clock Sw, At 40 °C ambient temperature, typically Sw, Typ.: 2 s Hardware clock Sw, Typ.: 2 s Hardwa	Number of PtP CMs	
 Type 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 to DP, master in AS, master on Ethernet via NTP yes on Ethernet via NTP Interfaces Number of PROFIBUS interfaces 1 Interface Interface types RJ 45 (Ethernet) Number of ports integrated switch Yes IP protocol Yes; IPv4 Yes; IPv4	Time of day	
Backup time Deviation per day, max. Operating hours counter Number Number 16 Clock synchronization supported to DP, master in AS, master in AS, slave on Ethernet via NTP Number of PROFINET interfaces Number of PROFIBUS interfaces Interface types RJ 45 (Ethernet) Number of ports integrated switch Protocools Protocools Protocools Ves, Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s At 44 0 °C ambient temperature, typically 10 s; Typ.: 2 s At 44 0 °C ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 s; Typ.: 2 s O ambient temperature, typically 10 statement temperature, temperatur		
	• •	
Operating hours counter 16 Clock synchronization Yes • to DP, master Yes • in AS, master Yes • in AS, slave Yes • on Ethernet via NTP Yes Interfaces 2 Number of PROFIBUS interfaces 1 1. Interface Interface types • RJ 45 (Ethernet) Yes; X1 • Number of ports 2 • integrated switch Yes Protocols Yes; IPv4	·	
		10 s; Typ.: 2 s
Clock synchronization		
• supported Yes • to DP, master Yes • in AS, master Yes • in AS, slave Yes • on Ethernet via NTP Yes Interfaces Number of PROFINET interfaces 2 Number of PROFIBUS interfaces 1 1. Interface Interface types • RJ 45 (Ethernet) Yes; X1 • Number of ports 2 • integrated switch Yes Protocols • IP protocol Yes; IPv4		16
• to DP, master • in AS, master • in AS, slave • on Ethernet via NTP	•	
 in AS, master in AS, slave on Ethernet via NTP Yes Interfaces Number of PROFINET interfaces Number of PROFIBUS interfaces 1. Interface Interface types RJ 45 (Ethernet) Number of ports integrated switch Protocols IP protocol Yes Yes Yes; IPv4 		
 in AS, slave on Ethernet via NTP Yes Interfaces Number of PROFINET interfaces Number of PROFIBUS interfaces 1 1. Interface Interface types RJ 45 (Ethernet) Number of ports Number of ports integrated switch Protocols IP protocol Yes Yes IPv4 		
● on Ethernet via NTP Interfaces Number of PROFINET interfaces Number of PROFIBUS interfaces 1 1. Interface Interface types ● RJ 45 (Ethernet) ● Number of ports ● integrated switch Protocols ● IP protocol Yes; IPv4		
Interfaces Number of PROFINET interfaces 2 Number of PROFIBUS interfaces 1 1. Interface Interface types • RJ 45 (Ethernet) Yes; X1 • Number of ports 2 • integrated switch Yes Protocols • IP protocol Yes; IPv4		
Number of PROFINET interfaces Number of PROFIBUS interfaces 1 1. Interface Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • IP protocol Yes; IPv4		Yes
Number of PROFIBUS interfaces 1. Interface Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • IP protocol 1 1 Yes; X1 Yes; X1 Yes Yes Yes		
1. Interface Interface types • RJ 45 (Ethernet) • Number of ports • Integrated switch • Yes Protocols • IP protocol		
Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • IP protocol Yes; X1 2 Yes; Y1 Yes Yes		1
 RJ 45 (Ethernet) Number of ports integrated switch Protocols IP protocol Yes; X1 Yes IPv4 		
Number of ports integrated switch Yes Protocols IP protocol Yes; IPv4	* *	
• integrated switch Protocols • IP protocol Yes; IPv4	• RJ 45 (Ethernet)	
Protocols ● IP protocol Yes; IPv4	Number of ports	2
• IP protocol Yes; IPv4	integrated switch	Yes
PROFINET IO Controller Yes	IP protocol	Yes; IPv4
	PROFINET IO Controller	Yes

Yes PROFINET IO Device • SIMATIC communication Yes • Open IE communication Yes; Optionally also encrypted Web server Media redundancy Yes; MRP Automanager according to IEC 62439-2 Edition 2.0 **PROFINET IO Controller** Services - PG/OP communication Yes - Isochronous mode Yes Yes; Requirement: IRT and isochronous mode (MRPD optional) - Direct data exchange - IRT - PROFlenergy Yes; per user program - Prioritized startup Yes; Max. 32 PROFINET devices - Number of connectable IO Devices, max. 256; 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. 256 - of which in line max 256 - 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 250 µs $250\;\mu\text{s}$ to 4 ms; Note: In the case of IRT with isochronous mode, the minimum update time of 375 μs of the isochronous OB is decisive — for send cycle of 500 µs 500 µs to 8 ms - for send cycle of 1 ms 1 ms to 16 ms - for send cycle of 2 ms 2 ms to 32 ms - for send cycle of 4 ms 4 ms to 64 ms - With IRT and parameterization of "odd" send cycles Update time = set "odd" send clock (any multiple of 125 μ s: 375 μ s, 625 μ s ... 3 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 1 ms to 512 ms — for send cycle of 1 ms - for send cycle of 2 ms 2 ms to 512 ms - for send cycle of 4 ms 4 ms to 512 ms **PROFINET IO Device** Services — PG/OP communication Yes - Isochronous mode No - IRT Yes - PROFlenergy Yes; per user program - Shared device Yes - Number of IO Controllers with shared device, max. - 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 Yes; IPv4 IP protocol • 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. 	32; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
 Number of connectable IO Devices for RT, max. 	32
— of which in line, max.	32
 Number of IO Devices that can be simultaneously activated/deactivated, max. 	8; in total across all interfaces
 Number of IO Devices per tool, max. 	8
— Updating times	The minimum value of the update time also depends on communication share set for PROFINET IO, on the number of IO devices, and on the quantity of configured user data
Update time for RT	
— for send cycle of 1 ms	1 ms to 512 ms
PROFINET IO Device	
Services	
— PG/OP communication	Yes
— Isochronous mode	No
— ISOCITIONOUS MODE — IRT	
	No
— PROFlenergy	Yes; per user program
— Prioritized startup	No
— Shared device	Yes
 Number of IO Controllers with shared device, max. 	4
 activation/deactivation of I-devices 	Yes; per user program
 Asset management record 	Yes; per user program
3. Interface	
Interface types	
• RS 485	Yes; X3
Number of ports	1
Protocols	
	Vee
PROFIBUS DP master	Yes
PROFIBUS DP slave	No
SIMATIC communication	Yes
nterface types	
RJ 45 (Ethernet)	
• 100 Mbps	Yes
Autonegotiation	Yes
Autocrossing	Yes
Industrial Ethernet status LED	Yes
RS 485	
	12 Mhit/o
Transmission rate, max.	12 Mbit/s
Protocols	
PROFIsafe	Yes; V2.4 / V2.6
Number of connections	
Number of connections Number of connections, max.	256; via integrated interfaces of the CPU and connected CPs / CMs
	256; via integrated interfaces of the CPU and connected CPs / CMs 10
Number of connections, max.Number of connections reserved for ES/HMI/web	
 Number of connections, max. Number of connections reserved for ES/HMI/web Number of connections via integrated interfaces 	10
 Number of connections, max. Number of connections reserved for ES/HMI/web Number of connections via integrated interfaces Number of S7 routing paths 	10 128
 Number of connections, max. Number of connections reserved for ES/HMI/web Number of connections via integrated interfaces Number of S7 routing paths Redundancy mode 	10 128 16
Number of connections, max. Number of connections reserved for ES/HMI/web Number of connections via integrated interfaces Number of S7 routing paths Redundancy mode H-Sync forwarding	10 128
Number of connections, max. Number of connections reserved for ES/HMI/web Number of connections via integrated interfaces Number of S7 routing paths Redundancy mode H-Sync forwarding Media redundancy	10 128 16 Yes
Number of connections, max. Number of connections reserved for ES/HMI/web Number of connections via integrated interfaces Number of S7 routing paths Redundancy mode H-Sync forwarding	10 128 16
Number of connections, max. Number of connections reserved for ES/HMI/web Number of connections via integrated interfaces Number of S7 routing paths Redundancy mode H-Sync forwarding Media redundancy	10 128 16 Yes Yes; only via 1st interface (X1) Yes; MRP Automanager according to IEC 62439-2 Edition 2.0, MRP Manager;
Number of connections, max. Number of connections reserved for ES/HMI/web Number of connections via integrated interfaces Number of S7 routing paths Redundancy mode H-Sync forwarding Media redundancy Media redundancy MRP	10 128 16 Yes Yes; only via 1st interface (X1) Yes; MRP Automanager according to IEC 62439-2 Edition 2.0, MRP Manager; MRP Client
Number of connections, max. Number of connections reserved for ES/HMI/web Number of connections via integrated interfaces Number of S7 routing paths Redundancy mode H-Sync forwarding Media redundancy — Media redundancy	10 128 16 Yes Yes; only via 1st interface (X1) Yes; MRP Automanager according to IEC 62439-2 Edition 2.0, MRP Manager;

 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
 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; 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	res, standard and does pages
Runtime license required	Yes
OPC UA Client	Yes
 Application authentication 	Yes
— Security policies	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
 User authentication 	"anonymous" or by user name & password
 Number of connections, max. 	10
 Number of nodes of the client interfaces, recommended max. 	2 000
 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, max. 	1
 Number of simultaneous calls of the client instructions for data access, per connection, max. 	5
Number of registerable nodes, max.	5 000
 Number of registerable method calls of OPC_UA_MethodCall, max. 	100
 Number of inputs/outputs when calling OPC_UA_MethodCall, max. 	20
OPC UA Server	Yes; Data access (read, write, subscribe), method call, custom address space
 Application authentication 	Yes
— Security policies	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
User authentication	"anonymous" or by user name & password
Number of sessions, max.	48
 Number of accessible variables, max. 	100 000
 Number of registerable nodes, max. 	20 000
 Number of subscriptions per session, max. 	20
— Sampling interval, min.	100 ms

Dublishing interval min	200
— Publishing interval, min.	200 ms
Number of server methods, max.	50
Number of inputs/outputs per server method, max.	20
Number of monitored items, recommended max.	2 000; for 1 s sampling interval and 1 s send interval
Number of server interfaces, max.	10 of each "Server interfaces" / "Companion specification" type and 20 of the type "Reference namespace"
 Number of nodes for user-defined server interfaces, max. 	5 000
Further protocols	
• MODBUS	Yes; MODBUS TCP
Isochronous mode	
Equidistance	Yes
S7 message functions	
Number of login stations for message functions, max.	64
Program alarms	Yes
Number of configurable program messages, max.	10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH
Number of loadable program messages in RUN, max.	5 000
Number of simultaneously active program alarms	
Number of program alarms	1 000
Number of alarms for system diagnostics	200
Number of alarms for motion technology objects	160
Test commissioning functions	100
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	
Status/control variable	Yes; without fail-safe
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Number of variables, max.	inputs/outputs, memory bits, bbs, distributed #05, timers, counters
of which status variables, max.	200; per job
of which control variables, max.	
— of which control variables, max.	200; per job
• Forcing	Yes; without fail-safe
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	
Number of configurable Traces	4; Up to 512 KB of data per trace are possible
Interrupts/diagnostics/status information	
Diagnostics indication LED	
• RUN/STOP LED	Yes
• ERROR LED	Yes
• MAINT LED	Yes
STOP ACTIVE LED	Yes
Connection display LINK TX/RX	Yes
Supported technology objects	
Motion Control	Yes; Note: The number of technology objects affects the cycle time of the PLC program; selection guide via the TIA Selection Tool
 Number of available Motion Control resources for technology objects 	2 400
Required Motion Control resources	
per speed-controlled axis	40
— per positioning axis	80
— per synchronous axis	160
— per external encoder	80
— per output cam	20
— per cam track	160
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Positioning axis Positioning Positioning axis Positioning Positioning axis Positioning axi		
Number of positioning asses at motion control cycle of 4 ms (pixel value) Number of positioning axes at motion control cycle of 8 ms (pixel value) Number of positioning axes at motion control cycle of 8 ms (pixel value) PID_Compact PID_Compact PID_Compact PID_Compact PID_Step PID_	— per probe	40
of 4 ms (typical value) Number of positioning axes at motion control cycle of 8 ms (typical value) Controler PID, Compact PID, Compact PID, Compact PID, Compact PID, Sistep Pich Temp Ves, PID controller with integrated optimization for valves PID, Sistep Pich Temp Per PID, Compact Piph, Sistep P	<u> </u>	
- Number of positioning axes at motion control cycle of 8 ms (typical value) Controler • PID_Compared • PID_Step • PID_Step • PID_Temp • Pid_Step • Pid_Ste		7
of 8 ms (typical value) Orthologous (Controller With integrated optimization (Controller With integrated optimization (Controller With integrated optimization for valves (PID-Temp Yes; PID controller with integrated optimization for valves (PID-Temp Yes; PID controller with integrated optimization for temperature (Countries of Migh-Speed counter Yes; PID controller with integrated optimization for temperature (Countries of Migh-Speed counter Yes; PID controller with integrated optimization for temperature (Countries of Migh-Speed counter Yes; PID-Temp Yes; PID controller with integrated optimization for temperature (Countries of Migh-Speed counter Yes; PID-Temp Yes; PID controller with integrated optimization for temperature (Countries of Migh-Speed counter Yes; PID-Temp Yes	,	14
PID_Compact PID_Compact PID_Compact PID_Compact PID_Compact Piper Processor Proce		17
PIDT-Emp PIDT-Emp PIDT-Emp PIDT-Emp PIDT-Emp Pidip-Speed counter Pi	Controller	
Plear PinD Temp Yes, PID controller with integrated optimization for temperature Counting and measuring ■ *Ingh speed counter **Fighess starks of ass achievable in safety mode ■ Performance level according to ISO 13849-1 ■ *SIL acc. to ISO 1508 ■ Probability of failure for service life of 20 years and repair time of 100 hours) — Low demand mode: PPD ang in accordance with SIL 3 — High demandrooritinuous mode: PPD in accordance with SIL 3 — High demandrooritinuous mode: PPD in accordance with SIL 3 — High demandrooritinuous mode: PPD in accordance with SIL 3 — High demandrooritinuous mode: PPD in accordance with SIL 3 — High demandrooritinuous mode: PPD in accordance with SIL 3 — High demandrooritinuous mode: PPD in accordance with SIL 3 — High demandrooritinuous mode: PPD in accordance with SIL 3 — High demandrooritinuous mode: PPD in accordance with SIL 3 — High demandrooritinuous mode: PPD in accordance with SIL 3 — High demandrooritinuous mode: PPD in accordance with SIL 3 — High demandrooritinuous mode: PPD in accordance with SIL 3 — High demandrooritinuous mode: PPD in accordance with SIL 3 — Vertical installation, min. ■ *25 °C; No condensation ■ *0°C; Display; 50 °C; at an operating temperature of typically 50 °C; the display is whichreed off ■ *25 °C; No condensation ■ *25 °C; No con	PID_Compact	Yes; Universal PID controller with integrated optimization
Counting and measuring Interest safety class achievable in safety mode Performance level according to ISO 13494-1 SIL acc. to IEC 61508 Probability of failure for severable in safety mode Probability of failure for severable if it is safety mode Interest of failure for severable in safety mode Probability of failure for severable life of 20 years and repair time of 100 hours) Low demand mode: PFDavg in accordance with SIL 3 Ambient temperature during operation Interest of the int	PID_3Step	Yes; PID controller with integrated optimization for valves
High-spend counter Itighest sartey class achievable in safety mode Performance level according to ISO 1394-1 State of LISC 1508 Probability of failure for service life of 20 years and repair time of 100 hours) Level demand mode: PFDarg in accordance with SL3 Ambient conditions Ambient conditions Ambient emperature during operation • horizontal installation, min. • horizontal installation, min. • vertical installation, min. • fin. •	PID-Temp	Yes; PID controller with integrated optimization for temperature
Standards, approvals, contificates Ingress safely class active value in safety mode Performance level according to ISO 13849-1 Sit. acc. to IEC 61508 Probability of failure for service life of 20 years and repair time of 100 hours) Low demand mode: PFDavy in accordance with Sit. 3 High demand/continuous mode: PFH in accordance with Sit. 3 Ambient conditions Ambient conditions Ambient installation, max. Porticular install	Counting and measuring	
### Highest safety class achievable in safety mode Performance levil according to ISO 13849-1 Sit. a Floor bill to of laifure (for service life of 20 years and repair time of 100 hours) — Low demand mode: PFDay in accordance with Sit. 3 — High demand/continuous mode: PFH in accordance with Sit. 3 — High demand/continuous mode: PFH in accordance with Sit. 3 — High demand/continuous mode: PFH in accordance with Sit. 3 — High demand/continuous mode: PFH in accordance with Sit. 3 — High demand/continuous mode: PFH in accordance with Sit. 3 — High demand/continuous mode: PFH in accordance with Sit. 3 — High demand/continuous mode: PFH in accordance with Sit. 3 — High demand/continuous mode: PFH in accordance with Sit. 3 — High demand/continuous mode: PFH in accordance with Sit. 3 — High demand/continuous mode: PFH in accordance with Sit. 3 — High demand/continuous mode: PFH in accordance with Sit. 3 — High demand/continuous mode: PFH in accordance with Sit. 3 — Vertical installation, min. 425 °C; No condensation • horizontal installation, max. 60 °C; Display: 50 °C; at an operating temperature of typically 50 °C; the display is switched off Ambient temperature during storage/transportation • writical installation, max. 40 °C; Display: 30 °C; at an operating temperature of typically 40 °C; the display is switched off Ambient temperature during storage/transportation • min. 40 °C No °C No condensation • No °C Ambient temperature during storage/transportation • min. 40 °C * No °C	High-speed counter	Yes
Performance level according to ISO 13849-1 Sitt. 3 Sitt. acc. to IEC 61508 Sitt. 3 Probability of failure (for service life of 20 years and repair time of 100 hours) Low demand mode: PFDavg in accordance with Sitt. 3 High demand/continuous mode: PFH in accordance with Sitt. 3 Ambient conditions Ambient conditions Ambient conditions Ambient conditions Ambient standardon, min. • horizontal installation, min. • horizontal installation, min. • vertical installation win. • vertical installa	Standards, approvals, certificates	
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, min. • horizontal installation, min. • vertical installation max. do °C, Display, 50 °C, at an operating temperature of typically 50 °C, the display is switched off Ambient temperature during storage/transportation • min. • vertical installation and the device with temperature of typically 40 °C, the display is switched off Ambient temperature during storage/transportation • min. • vertical installation and temperature of typically 40 °C, the display is switched off Ambient temperature during storage/transportation • min. • vertical installation and temperature of typically 40 °C, the display is switched off Ambient temperature during storage/transportation • min. • vertical installation min. • 40 °C • C, Display, 40 °C, at an operating temperature of typically 40 °C, the display is switched off C C, Display, 40 °C, at an operating temperature of typically 40 °C, the display is switched off Pass installation min. • 40 °C • Possional nature above sea level, max. • 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual configuration / Programming Jeaser Programming language - LAD - FBD - STL - SCL - SRAPH - Yes Know-how protection • Password for display • Protection level: New Yes Protection level: New Yes Protectio	Highest safety class achievable in safety mode	
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 - High demand/continuous mode: PFH in accordance with SIL3 - Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, min. • vertical installation and vertical installation installation and vertical ins	 Performance level according to ISO 13849-1 	PLe
- Low demand mode: PFDayg 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 - Ambient conditions Ambient temperature during operation - horizontal installation, min horizontal installation, max do "C: Display: 50 "C, at an operating temperature of typically 50 "C, the display is switched off - vertical installation, max do "C: Display: 50 "C, at an operating temperature of typically 40 "C, the display is switched off - vertical installation, max do "C: Display: 40 "C, at an operating temperature of typically 40 "C, the display is switched off - vertical installation, max do "C: Display: 40 "C, at an operating temperature of typically 40 "C, the display is switched off - vertical installation, max do "C: Display: 40 "C, at an operating temperature of typically 40 "C, the display is switched off - vertical installation and instal	SIL acc. to IEC 61508	SIL 3
Sit.3 — High demand/continuous mode: PFH in accordance with Sit.3 Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • horizontal installation, max. • vertical installation enterior of typically 40 °C, the display is witched off * vertical installation enterior of typically 40 °C. * vertical installation enterior of typically 40 °C, the display is witched off * vertical installation enterior of typically 40 °C. * vertical installation enterior of typically 40 °C. * vertical installation enterior of typically 40 °C. * vertica	Probability of failure (for service life of 20 years and repair time	e of 100 hours)
High demandicontinuous mode: PFH in accordance with StL3 Ambient conditions Ambient temperature during operation horizontal installation, min horizontal installation, max horizontal installation and		< 2.00E-05
with Sit.3 Ambient conditions Ambient temperature during operation • horizontal installation, min. • vertical installation		< 1.00E.00
Ambient temperature during operation • horizontal installation, min. • horizontal installation, min. • horizontal installation, min. • horizontal installation, min. • vertical installation, min. • vertical installation, max. • vertical installation, min. • vertical installation, max. • vertical installation max. • vertical installation instal		\ 1.00E-09
horizontal installation, min.	Ambient conditions	
horizontal installation, min.	Ambient temperature during operation	
display is switched off • vertical installation, min. • vertical installation, min. • vertical installation, max. 40 °C; No condensation • min. • min. • max. Altitude during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual configuration / header configuration / programming / header Programming language — LAD — FBD — Yes; incl. failsafe — FBD — Yes; incl. failsafe — FBC — STL — SCL — GRAPH Yes Know-how protection • User program protection/password protection • User program protection/password protection • Block protection • Block protection • Protection level: Write protection • Protection level: Write protection • Protection level: Write protection • Protection level: Write protection • Protection level: Write protection • Protection level: Complete protection • Yes • Protection level: Write protection • Yes • Protection level: Complete protection • Yes • Protection level: Mrite protection • Yes • Protection level: Horite monitoring / header • lower limit • upper limit • upper limit • upper limit • dijustable maximum cycle time • Dimensions Width • 70 mm Height Height Harm Depth Weights Weight, approx.	horizontal installation, min.	-25 °C; No condensation
vertical installation, min. vertical installation, max. vertical installation, max. vertical installation, max. vertical installation, max. vertical installation, max. All "C; Display: 40 "C, at an operating temperature of typically 40 "C, the display is switched off Ambient emperature during storage/transportation min. vmax. vmax. vmax. vmax. All titude during operation relating to sea level Installation attitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD Ves; incl. failsafe ves; incl. failsafe ves SCL Ves SCL Ves SCL Ves SCL Ves Ves (sincl. failsafe) **Ves (sincl. fa	 horizontal installation, max. 	
vertical installation, max. db "C; Display: 40 "C, at an operating temperature of typically 40 "C, the display is switched off Ambient temperature during storage/transportation min.		
display is switched off Ambient temperature during storage/transportation • min. • max. 70 °C Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / heador configuration / honogramming / header Programming language — LAD — FBD — Yes; incl. failsafe — STL — SCL — GRAPH — Yes Know-how protection • User program protection/password protection • User program protection/password protection • Block protection • Password for display • Protection level: Write protection • Programming / yele time monitoring / header • lower limit • upper limit • upper limit Dimensions Width 70 mm Height 147 mm Depth Weight, approx. 845 g		
Ambient temperature during storage/transportation • min. • max. 70 °C Altitude during operation relating to sea level • installation altitude above sea level, max. 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual configuration / programming / header Programming language — LAD — PRD — STL — SCL — STL — SCL — GRAPH Yes Know-how protection • User program protection/password protection • User program protection/password protection • User program protection • Protection level: Write protection • Protection level: Complete protection • Programming / cycle time monitoring / header • lower limit • lower limit • ouper l	 vertical installation, max. 	
min. max. max. Altitude during operation relating to sea level installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD — FBD — Yes, incl. failsafe — FBD — Yes, incl. failsafe — FBD — STL — SCL — GRAPH — Yes Know-how protection • User program protection/password protection • User program protection/password protection • Block protection • Password for display • Protection level: Write protection • Protection level: Complete protection • Protection level: Write protection • Protection level: Complete protection • Protection level: Write protection • Protection level: Complete protection • Protection level: Write protection •	Ambient temperature during storage/transportation	display is switched on
Maix Altitude during operation relating to sea level Installation altitude above sea level, max. Configuration / header Configuration / programming / header Programming language — LAD — FBD — Yes; incl. failsafe — STL — SCL — GRAPH — Yes Know-how protection • User program protection/password protection • Block protection • Password for display • Protection level: Write protection • Protection level: Write protection • Protection level: Complete protection • Protection level: Mine protection •		-40 °C
Altitude during operation relating to sea level Installation altitude above sea level, max. Installation altitudes > 2 000 m, see manual of the sea manual		
Installation altitude above sea level, max. Installation altitude above sea level, max. Installation altitudes > 2 000 m, see manual Installation altitudes		
configuration / header Configuration / programming / header Programming language — LAD — Yes; incl. failsafe — FBD — Yes, incl. failsafe — STL — SCL — GRAPH — Yes Know-how protection • User program protection/password protection • Copy protection • Block protection • Password for display • Protection level: Write protection • Protection level: Write protection • Protection level: Complete protection • Protection level: Complete protection • Protection level: Complete protection • Protection level: Omplete protectio	ž i	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
configuration / programming / header Programming language — LAD — FBD Yes; incl. failsafe — STL Yes — SCL — SCL — GRAPH Yes Know-how protection • User program protection/password protection • Discopport of tisplay • Protection level: Write protection • Protection level: Write protection • Protection level: Write protection • Protection level: Complete protection • Protection level: Mrite protection • Protection level: Write protection •		, ,
Programming language	configuration / programming / header	
- FBD Yes; incl. failsafe - STL Yes - SCL Yes - GRAPH Yes Know-how protection • User program protection/password protection Yes • Block protection Yes • Block protection • Password for display Yes; Specific write protection both for Standard and for Failsafe • Protection level: Write protection Yes; Specific write protection both for Standard and for Failsafe • Protection level: Write protection Yes • Protection level: Write protection Yes • Protection level: Complete protection 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 70 mm Height 147 mm Depth 129 mm Weights Weight, approx. 845 g		
STL SCL GRAPH Yes Know-how protection • User program protection/password protection • User program protection • Stock protection • Block protection • Password for display • Protection level: Write protection • Protection level: Complete protection • Protection level: Complete protection • Protection level: Tomplete protection • Inwite adjustable minimum cycle time • Upper limit	· · · · · · · · · · · · · · · · · · ·	Yes; incl. failsafe
SCL GRAPH Yes Know-how protection • User program protection/password protection • Copy protection • Block protection • Password for display • Protection level: Write protection • Protection level: Complete protection • Programming / cycle time monitoring / header • lower limit • upper limit • upper limit • upper limit Dimensions Width 70 mm Height 147 mm Depth Weights Weight, approx. 845 g	— FBD	
Hower-lower protection - GRAPH Know-how protection - User program protection/password protection - Copy protection - Copy protection - Block protection - Password for display - Protection level: Write protection - Protection level: Read/write protection - Protection level: Write protection - Protection level: Complete protection - Protection level: Complete protection - Protection level: Complete protection - Protection level: Mrite protection - Protection level: Write protection - Protection level: Mrite protection - Protection level: Complete protection - Protection level: Mrite protection - Protection level: Write protection -	— STL	Yes
Know-how protection • User program protection/password protection • Copy protection • Copy protection • Block protection • Password for display • Protection level: Write protection • Protection level: Read/write protection • Protection level: Write protection for Failsafe • Protection level: Write protection for Failsafe • Protection level: Write protection • Protection level: Write protection • Protection level: Write protection • Ower limit • upper limit • upper limit • upper limit Dimensions Width 70 mm Height 147 mm Depth 129 mm Weights Weight, approx. 845 g	— SCL	Yes
User program protection/password protection Copy protection Password for display Protection level: Write protection Protection level: Complete protection Programming / cycle time monitoring / header Indicate the protection of the pro	— GRAPH	Yes
Copy protection Block protection Yes Access protection Password for display Protection level: Write protection Protection level: Write protection Protection level: Read/write protection Protection level: Write protection Protection level: Write protection for Failsafe Protection level: Write protection for Failsafe Protection level: Complete protection Programming / cycle time monitoring / header I lower limit Dimensions Width To mm Height Depth De	Know-how protection	
Block protection Password for display Protection level: Write protection Protection level: Write protection Protection level: Read/write protection Protection level: Write protection Protection level: Read/write protection Protection level: Write protection for Failsafe Protection level: Write protection for Failsafe Protection level: Complete protection Yes programming / cycle time monitoring / header lower limit upper limit upper limit Dimensions Width 70 mm Height 147 mm Depth 129 mm Weights Weight, approx. 845 g	User program protection/password protection	Yes
Access protection Password for display Protection level: Write protection Protection level: Read/write protection Protection level: Read/write protection Protection level: Write protection for Failsafe Protection level: Write protection for Failsafe Protection level: Complete protection Yes Protection level: Complete protection Yes programming / cycle time monitoring / header lower limit upper limit adjustable minimum cycle time plimensions Width 70 mm Height 147 mm Depth 129 mm Weights Weight, approx. 845 g	Copy protection	Yes
Password for display Protection level: Write protection Protection level: Read/write protection Protection level: Read/write protection Protection level: Write protection for Failsafe Protection level: Write protection for Failsafe Protection level: Complete protection Yes Protection level: Complete protection Programming / cycle time monitoring / header Iower limit Upper limit Dimensions Width Tomm Height Depth 129 mm Weights Weight, approx. 845 g	Block protection	Yes
Protection level: Write protection Protection level: Read/write protection Protection level: Read/write protection Protection level: Write protection for Failsafe Protection level: Write protection for Failsafe Protection level: Complete protection Programming / cycle time monitoring / header I lower limit Promper limit Adjustable minimum cycle time Adjustable maximum cycle time Dimensions Width Promm Height Depth Protection level: Write protection Yes Adjustable minimum cycle time Adjustable maximum cycle time Dimensions Width Promm Pro	Access protection	
Protection level: Read/write protection Protection level: Write protection for Failsafe Protection level: Complete protection Programming / cycle time monitoring / header I lower limit Upper limit	 Password for display 	Yes
Protection level: Write protection for Failsafe Protection level: Complete protection Yes programming / cycle time monitoring / header I ower limit Upper limit I adjustable minimum cycle time Upper limit I adjustable maximum cycle time Dimensions Width I omm Height I deght	Protection level: Write protection	Yes; Specific write protection both for Standard and for Failsafe
Protection level: Complete protection programming / cycle time monitoring / header lower limit upper limit upper limit dijustable minimum cycle time jumensions Width 70 mm Height 147 mm Depth 129 mm Weights Weight, approx. 845 g	 Protection level: Read/write protection 	Yes
programming / cycle time monitoring / header ● lower limit adjustable minimum cycle time ● upper limit adjustable maximum cycle time Dimensions Width 70 mm Height 147 mm Depth 129 mm Weights Weight, approx. 845 g	 Protection level: Write protection for Failsafe 	Yes
● lower limit adjustable minimum cycle time ● upper limit adjustable maximum cycle time Dimensions Width 70 mm Height 147 mm Depth 129 mm Weights Weight, approx. 845 g	Protection level: Complete protection	Yes
● upper limit adjustable maximum cycle time Dimensions Width 70 mm Height 147 mm Depth 129 mm Weights Weight, approx. 845 g	programming / cycle time monitoring / header	
Dimensions Width 70 mm Height 147 mm Depth 129 mm Weights Weight, approx.		
Width 70 mm Height 147 mm Depth 129 mm Weights Weight, approx.		adjustable maximum cycle time
Height 147 mm Depth 129 mm Weights Weight, approx.	Dimensions	
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Weights Weight, approx. 845 g	Width	70 mm
Weight, approx. 845 g		
	Height Depth	147 mm
last modified: 8/8/2023 🖸	Height Depth Weights	147 mm
	Height Depth Weights	147 mm 129 mm 845 g

