SIEMENS

Data sheet

6ES7516-3FP03-0AB0



SIMATIC S7-1500F, CPU 1516F-3 PN/DP, central processing unit with work memory 3 MB for program and 7.5 MB for data 1st interface: PROFINET IRT with 2-port switch, 2nd interface: PROFINET RT, 3rd interface: PROFIBUS, 6 ns bit performance, SIMATIC Memory Card required ****approvals and certificates according to entry 109817466 at support.industry.siemens.com to be considered! -

General information	
Product type designation	CPU 1516F-3 PN/DP
HW functional status	FS01
Firmware version	V3.0
FW update possible	Yes
Product function	
● I&M data	Yes; I&M0 to I&M3
Isochronous mode	Yes; Distributed and central; with minimum OB 6x cycle of 375 μs (distributed) and 1 ms (central)
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V18 (FW V3.0); with older TIA Portal versions configurable as 6ES7516- 3FN02-0AB0
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)	0.87 A
Current consumption, max.	1.08 A
Inrush current, max.	1.15 A; Rated value
l²t	0.6 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.	4 W

Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	
 integrated (for program) 	3 Mbyte
 integrated (for data) 	7.5 Mbyte
Load memory	
Plug-in (SIMATIC Memory Card), max.	32 Gbyte
Backup	
maintenance-free	Yes
CPU processing times	
for bit operations, typ.	6 ns
for word operations, typ.	7 ns
for fixed point arithmetic, typ.	9 ns
for floating point arithmetic, typ.	37 ns
CPU-blocks	57 115
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.	7.5 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
FB	
Number range	0 65 535
Size, max.	1 Mbyte
FC	1 mbyto
Number range	0 65 535
• Size, max.	1 Mbyte
OB	1 mbyto
• Size, max.	1 Mbyte
Number of free cycle OBs	100
Number of time alarm OBs	20
Number of delay alarm OBs	20
Number of cyclic interrupt OBs	20; With minimum OB 3x cycle of 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 technology synchronous alarm OBS Number of startup OBs	100
Number of asynchronous error OBs	4
Number of asynchronous error OBs	2
	1
Number of diagnostic alarm OBs	
Nesting depth	24: Up to 8 possible for E blocks
per priority class	24; Up to 8 possible for F-blocks
Counters, timers and their retentivity	
S7 counter	2.040
Number	2 048
Retentivity	N
— adjustable	Yes
IEC counter	
• Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes
S7 times	
• Number	2 048
Retentivity	
— adjustable	Yes
IEC timer	
Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes
Data areas and their retentivity	

Retentive data area (incl. timers, counters, flags), max.	512 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 472 KB
Extended retentive data area (incl. timers, counters, flags), max.	7.5 Mbyte; When using PS 6 0W 24/48/60 V DC HF
Flag	
• Size, max.	16 kbyte
Number of clock memories	8; 8 clock memory bit, grouped into one clock memory byte
Data blocks	
Retentivity adjustable	Yes
Retentivity preset	No
Local data	10
per priority class, max.	64 kbyte; max. 16 KB per block
Address area	of Royce, max. To the per block
Number of IO modules	8 192; max. number of modules / submodules
I/O address area	o 192, max. humber of modules / submodules
	32 kbyte; All inputs are in the process image
Inputs	
Outputs	32 kbyte; All outputs are in the process image
per integrated IO subsystem	0 kb da
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
per CM/CP	9 libuto
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
Subprocess images	
Number of subprocess images, max.	32
Hardware configuration	
Number of distributed IO systems	64; A distributed I/O system is characterized not only by the integration of distributed I/O via PROFINET or PROFIBUS communication modules, but also by the connection of I/O via AS-i master modules or links (e.g. IE/PB-Link)
Number of DP masters	
integrated	1
● Via CM	8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total
Number of IO Controllers	
 integrated 	2
• Via CM	8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be
	inserted in total
Rack	
Modules per rack, max.	32; CPU + 31 modules
Number of lines, max.	1
PtP CM	
Number of PtP CMs	the number of connectable PtP CMs is only limited by the number of available slots
Time of day	
Clock	
• Туре	Hardware clock
Backup time	6 wk; At 40 °C ambient temperature, typically
Deviation per day, max.	10 s; Typ.: 2 s
Operating hours counter	
• Number	16
Clock synchronization	
supported	Yes
• to DP, master	Yes
• in AS, master	Yes
• in AS, device	Yes
• on Ethernet via NTP	Yes
Interfaces	
Number of PROFINET interfaces	2
Number of PROFIBUS interfaces	1
I. Interface	
RJ 45 (Ethernet)	Yes; X1
Number of ports	2
	-

• integrated switch Yes Protocols • IP protocol • IP protocol Yes; IPv4 • PROFINET IO Controller Yes • PROFINET IO Device Yes • SIMATIC communication Yes; Optionally also encrypted • Open E communication Yes; Optionally also encrypted • Web server Yes • Media redundancy Yes PROFINET IO Controller Yes Services - - Direct data exchange Yes; Requirement: IRT and isochronous mode (MRPD optional) - IRT Yes; Requirement: IRT and isochronous mode (MRPD optional) - RT Yes; ProoFile regy - PROFINET of connectable IO Devices, max. ProOFINET devices - Number of connectable IO Devices, max. 64 - Of which IO devices with IRT, max. 64 - Number of IO Devices for RT, max. 256 - Wumber of IO Devices for RT, max. 8 - Updating times 8 - Updating times 8 - Updating times 8 - for send cycle of 250 µs 250 µs 04 ms; Note: In the case of IRT with isochronous mode, the minipudate time of 375 µs of the isochronous OB is decisive	share
• IP protocol Yes; IPv4 • PROFINET IO Controller Yes • PROFINET IO Device Yes • SIMATIC communication Yes; Optionally also encrypted • Open IE communication Yes; Optionally also encrypted • Web server Yes • Media redundancy Yes PROFINET IO Controller Yes Services - - Isochronous mode Yes - Direct data exchange Yes; Requirement: IRT and isochronous mode (MRPD optional) - IRT Yes - PROFIenergy Yes; per user program - PROFIenergy Yes; Max. 32 PROFINET devices - Number of connectable IO Devices, max. 256; In total, up to 1000 distributed I/O devices can be connected via At PROFIDENT - Of which IO devices with IRT, max. 64 - Number of IO Devices for RT, max. 256 - Number of IO Devices per tool, max. 8; In total across all interfaces - Wide time for IRT 250 us to 4 ms; Note: In the case of IRT with isochronous mode, the mir update time of 375 us of the isochronous OB is decisive - for send cycle of 500 µs 500 µs to 4 ms; Note: In the case of IRT with isochronous oB is decisive - for send cycle of 500 µs 500 µs	share
• PROFINET IO ControllerYes• PROFINET IO DeviceYes• SIMATIC communicationYes• Open IE communicationYes; Optionally also encrypted• Web serverYes• Media redundancyYes• PROFINET IO ControllerYesServices• PG/OP communication• PG/OP communicationYes• Direct data exchangeYes; Requirement: IRT and isochronous mode (MRPD optional)• IRTYes• PROFInergyYes; Instantion• PROFInergyYes; Max. 32 PROFINET devices• Number of connectable IO Devices, max.256• Number of connectable IO Devices, max.256• Number of IO Devices that can be simultaneously activated/decativated, max.8• Number of IO Devices per tool, max.8• Number of IO Devices per tool, max.8• Updating times250 us to 4 ms; Note: In the case of IRT with isochronous mode, the mir update time of 375 us of the isochronous OB is decisive update time of 375 us of the isochronous OB is decisive in update time of 375 us of the isochronous OB is decisive in update time of 375 us of the isochronous OB is decisive in the case of IRT with isochronous of the mir update time of 375 us of the isochronous OB is decisive in the case of IRT with isochronous OB is decisive in update time of 375 us of the isochronous OB is decisive in update time of 375 us of the isochronous OB is decisive in update time of 375 us of the isochronous OB is decisive	share
• PROFINET IO Device Yes • SIMATIC communication Yes • Open IE communication Yes • Web server Yes • Media redundancy Yes • Media redundancy Yes • Rote Yes • Rote Yes • PROFINET IO Controller Yes • PROFINET IO Controller Yes • PROFINET do Communication Yes • Isochronous mode Yes • Direct data exchange Yes • PROFINET do Communication Yes • IRT Yes • PROFINET gover Yes • PROFINET do tate exchange Yes • PROFINET do to connectable IO Devices, max. 256 • Of which IO devices with IRT, max. 64 • Number of Connectable IO Devices for RT, max. 55 • Of which In line, max. 56 • Of which In line, max. 64 • Number of IO Devices that can be simultaneously as for PROFINET dovices • Of which In line, max. 8 • Of which In line, max. 64	share
• SIMATIC communicationYes• Open IE communicationYes; Optionally also encrypted• Web serverYes; Optionally also encrypted• Web serverYes• Media redundancyYes PROFINET IO controller Services- PG/OP communicationYes- Isochronous modeYes- Direct data exchangeYes; Requirement: IRT and isochronous mode (MRPD optional)- IRTYes- PROFIenergyYes; per user program- Prioritized startupYes; In total, up to 1000 distributed I/O devices can be connected via At PROFIBUS or PROFINET- Of which IO devices with IRT, max.64- Number of connectable IO Devices for RT, max.256- of which IIn line, max.256- of which IIn line, max.256- Number of IO Devices that can be simultaneously activated/deactivated, max.8- Updating timesThe minimum value of the update time also depends on communication set for PROFINET IO Devices, and on the quantity configured user dataUpdate time for IRT250 µs to 4 m; Note: In the case of IRT with isochronous mode, the minimum value of also prise of IO Devices, and on the quantity update time of 375 µs to the isochronous OB is decisive update time of 375 µs to the isochronous OB is decisive update time of 375 µs to the isochronous OB is decisive	share
• Open IE communicationYes; Optionally also encrypted• Web serverYes• Media redundancyYesPROFINET IO ControllerServicesImage: ServicesImage: ServicesIma	share
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 - PROFInergy Yes; per user program - PROFinergy Yes; for 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 At PROFIBUS or PROFIBUS or PROFINET - Of which IO devices with IRT, max. 64 - Number of connectable IO Devices for RT, max. 256 - 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 - Number of IO Devices per tool, max. 8 - Updating times Stor FORFINET IO, on the number of IO devices, and on the quantity configured user data Update time for IRT 250 us to 4 ms; Note: In the case of IRT with isochronous mode, the min rupdate time of 375 us 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	share
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— for send cycle of 250 μs250 μs to 4 ms; Note: In the case of IRT with isochronous mode, the min update time of 375 μs of the isochronous OB is decisive— for send cycle of 500 μs500 μs to 8 ms— for send cycle of 1 ms1 ms to 16 ms	
update time of 375 μs of the isochronous OB is decisive— for send cycle of 500 μs500 μs to 8 ms— for send cycle of 1 ms1 ms to 16 ms	imum
- for send cycle of 1 ms 1 ms to 16 ms	inturn
- for send cycle of 2 ms 2 ms to 32 ms	
 for send cycle of 4 ms With IRT and parameterization of "odd" send cycles With IRT and parameterization of "odd" send cycles Update time = set "odd" send clock (any multiple of 125 μs: 375 μs, 625 μs) 	µs 3
875 μs) Update time for RT	
— for send cycle of 250 μs 250 μs to 128 ms — for send cycle of 500 μs 500 μs to 256 ms	
- for send cycle of 1 ms 1 ms to 512 ms	
- for send cycle of 2 ms 2 ms to 512 ms	
- for send cycle of 4 ms 4 ms to 512 ms	
PROFINET IO Device	
Services	
- PG/OP communication Yes	
- Isochronous mode No	
— IRT Yes	
— PROFlenergy Yes; per user program	
— Shared device Yes	
- Number of IO Controllers with shared device, max. 4	
activation/deactivation of I-devices Yes; per user program	
— Asset management record Yes; per user program	
2. Interface	
Interface types	
RJ 45 (Ethernet) Yes; X2	
Number of ports	
integrated switch No	
Protocols	
IP protocol Yes; IPv4	
PROFINET IO Controller Yes	

 SIMATIC communication 	Vec
	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
— 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' her liser brodram
-	Yes; per user program
3. Interface	Yes; per user program
3. Interface Interface types	
3. Interface Interface types • RS 485	Yes; X3
3. Interface Interface types • RS 485 • Number of ports	
3. Interface Interface types • RS 485 • Number of ports Protocols	Yes; X3 1
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master	Yes; X3 1 Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device	Yes; X3 1 Yes No
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication	Yes; X3 1 Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master	Yes; X3 1 Yes No Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max.	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master	Yes; X3 1 Yes No Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max.	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i,
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i,
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services — PG/OP communication	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services — PG/OP communication — Equidistance	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Yes Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services - PG/OP communication - Equidistance - Isochronous mode - activation/deactivation of DP devices	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Yes Yes Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services — PG/OP communication — Equidistance — Isochronous mode — activation/deactivation of DP devices	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Yes Yes Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services - PG/OP communication - Equidistance - Isochronous mode - activation/deactivation of DP devices Interface types RJ 45 (Ethernet)	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Yes Yes Yes Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services - PG/OP communication - Equidistance - Isochronous mode - activation/deactivation of DP devices Interface types RJ 45 (Ethernet) • 100 Mbps	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Yes Yes Yes Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services - PG/OP communication - Equidistance - Isochronous mode - activation/deactivation of DP devices Interface types RJ 45 (Ethernet) • 100 Mbps • Autonegotiation	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Yes Yes Yes Yes Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services - PG/OP communication - Equidistance - Isochronous mode - activation/deactivation of DP devices Interface types RJ 45 (Ethernet) • 100 Mbps • Autonegotiation • Autorcossing	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services - PG/OP communication - Equidistance - Isochronous mode - activation/deactivation of DP devices Interface types RJ 45 (Ethernet) • 100 Mbps • Autonegotiation • Autorossing • Industrial Ethernet status LED	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Yes Yes Yes Yes Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services - PG/OP communication - Equidistance - Isochronous mode - activation/deactivation of DP devices Interface types RJ 45 (Ethernet) • 100 Mbps • Autonegotiation • Autorossing • Industrial Ethernet status LED RS 485	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services - PG/OP communication - Equidistance - Isochronous mode - activation/deactivation of DP devices Interface types RJ 45 (Ethernet) • 100 Mbps • Autonegotiation • Autorossing • Industrial Ethernet status LED RS 485 • Transmission rate, max.	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes
3. Interface Interface types • RS 485 • Number of ports Protocols • PROFIBUS DP master • PROFIBUS DP device • SIMATIC communication PROFIBUS DP master • Number of connections, max. • max. number of DP devices Services - PG/OP communication - Equidistance - Isochronous mode - activation/deactivation of DP devices Interface types RJ 45 (Ethernet) • 100 Mbps • Autonegotiation • Autorossing • Industrial Ethernet status LED RS 485	Yes; X3 1 Yes No Yes 48; for the integrated PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Yes Yes Yes Yes Yes Yes Yes Yes

Number of connections	
Number of connections, max.	256; via integrated interfaces of the CPU and connected CPs / CMs
Number of connections, max.	
Number of connections via integrated interfaces	128
Number of S7 routing paths	16
Redundancy mode	
H-Sync forwarding	Yes
Media redundancy	100
— Media redundancy	only via 1st interface (V1)
— MRP	only via 1st interface (X1) 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
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. 118 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; Data Access (registered Read/Write), Method Call
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 connections, max. Number of nodes of the client interfaces, 	2 000
 Number of houses of the clent interfaces, recommended max. Number of elements for one call of 	300
OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_U max.	
 — Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. 	20
 — Number of elements for one call of OPC_UA_MethodGetHandleList, max. 	100
 Number of simultaneous calls of the client 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 	100

- Number of Inplosition procession 20 - OPE UA Server Yee, Data Access (Read, Wile, Subacribe), Method Call, Alarms & Constition (M&C), Constructions, None, Basic 728/Nat 15, Basic 206 Nat 25 (Nat 25 Nat		
OPC_LIA_Methodozial max. Yes_Data Access (Read, Write, Subscribe), Method Call, Alarma & Condition (AdC), Custom Address Space Application authentication Security policies Security policies None, Basic 128(Read 5, Basic 206(Read 0, Fact 28-206)(Basic 16, Basic 206(Read 0, Fact 28-206)(Basic 26, Basic 206(Read 0, Fact 28-10) Security policies None, Basic 128(Read 0, Fact 28-10) Number of pascessition per server method, max. So 0 Number of provide preserve method, max. Number of framotized basic preserver method, max. Number of framotized basic preserver interfuces. Number of framotized basic preserver interfuces. Number of rations for system diagnostics. Security policies names performation. Security policies names performation. Number of atames for system diagnostics. Number of	OPC_UA_MethodCall, max.	20
 Application authentication Security policies Application authentication Security policies Provide authentication Provide authentinoproversitin thetenoprovesition		20
- Security policies maintails security policies. None. Basis:128Real 6, Basis:226Real 6, Basis:	OPC UA Server	
Here and here interfaces in an angement) Yes - ODS support (collificate management) Yes - Number of accessible variables, max. 100 000 - Number of accessible variables, max. 20 000 - Number of accessible variables, max. 20 000 - Number of aduation; from a per session, max. 50 Sampling interval, min. 100 ms Number of models per server methods, max. 50 Number of models per server method, max. 50 Number of models per server method, max. 50 Number of founders/outper server method, max. 50 Number of models for user-defined server interfaces; "Companion specification" type and 20 of the type and accession. - Number of program alarms 200 - Number of program alarms 200 - Number of program alarms 200 - Number of output solutions for messages functions. 84 Program alarms 200 - Number of adams for rost excert interfaces? 90 of 0000. Number of output solutions for messages in RUM, max. 50 of 0000.	 Application authentication 	Yes
- GDS support (certificate management) - GDS aupport (certificate management) - Number of subscriptions, max. - Number of accessible variables, max. 20 000 - Number of subscriptions per existen, max. 20 000 - Number of subscriptions per existen, max. - Sampling interval, min. - Cubitating interval, min. - Number of monitored litems, recommended max. - Number of alores for user-defined server interfaces, - Number of al	— Security policies	
	— User authentication	"anonymous" or by user name & password
- Number of accessible variables, max. 100.000 - Number of accessible variables, max. 20.000 - Number of accessible variables, max. 50 - Sampling interval, min. 100 ms - Publishing interval, min. 100 ms - Number of inpubliculpub per server method, max. 50 - Number of inpubliculpub per server method, max. 20 - Number of monitore titems, recommended max. 100 deach "Server interfaces." - Number of accessible variables, max. 50 - Number of accessible variables. 30.000 - Number of accessible variables. 30.000 - Number of program alarms 200 - Number of program alarms 200 - Number of program messages functions, max. Program functions - Number of accessible variables, max. Yes Number of accessible variables, max. Yes - Number of accessible variables, max. Yes Number of accessible variables, max. Yes <tr< td=""><td> — GDS support (certificate management) </td><td>Yes</td></tr<>	 — GDS support (certificate management) 	Yes
- Number of subscriptions par session, max. 20 000 - Number of subscriptions par session, max. 50 - Standing in terval, min. 100 ms - Number of server motion, max. 20 - Number of server interfaces, max. 10 of each "Server interfaces" "Companion specification" type and 20 of the hyperbalance of server interfaces, max. - Number of alonge for user defined server interfaces, max. 30 0000 - Number of alonge for user defined server interfaces, max. 30 0000 - Number of alonge for user defined server interfaces, max. 30 0000 - Number of alonge for user defined server interfaces, max. 30 0000 - Number of alonge for user defined server interfaces, max. 30 0000 - Number of alonge for gragm alarme 200 - Number of alonge for gragm alarme 200 - Number of alonge for message functions, max. 64 Number of forging alarnes for gragm alarmes 10 000, Program messages are generated by the "Program_Alarm" block, Program forging or GRAPH Number of forging alarmes 10000, Program messages are generated by the "Program_Alarm" block, Program forging or GRAPH Number of forging alarmes 1000 Number of forging materia 1000	 — Number of sessions, max. 	48
	 — Number of accessible variables, max. 	100 000
- Sampling interval, min. 100 ms - Publishing interval, min. 100 ms - Number of puplisolupuis per server method, max. 20 - Number of nonitode iftems, recommended max. 4000; for 1 s sampling interval and 1 s send interval - Number of nonitode iftems, recommended max. 100 doi: for 1 s sampling interval and 1 s send interval - Number of across functional items, recommended max. 3000; for 1 s sampling interval and 1 s send interval - Number of originan alarms 20 - Number of program naisms 200 - Number of program naisms 200 - Number of program naisms 200 - Number of originarial alarms 200 - Number of configurable program messages, max. Yes; MODBUS TCP Equidistance Yes - Number of configurable program messages, max. Yes Program alarms 10000; Program messages are generated by the "Program_Alarm" block, Problag or GRAPH Number of configurable program messages in RUN, max. 5000 Number of alarms for noystem diagnostics 200 Stota bloch Yes; Vip to 8 simultaneously in tota	 — Number of registerable nodes, max. 	20 000
Publishing interval.min. 100 ms Number of neprisorupuits per server method, max. 20 Number of neprisorupuits per server method, max. 4000; for 1 sampling interval and 1 s send interval Number of neprisorupuits per server interfaces.max. 4000; for 1 sampling interval and 1 s send interval Number of nonoitoed items, recommended max. 4000; for 1 sampling interval and 1 s send interval Number of nonoitoed items, recommended max. 4000; for 1 sampling interval and 1 s send interval Number of nonoitoed items, recommended max. 4000; for 1 sampling interval and 1 s send interval Number of nonoitoed items, recommended max. 4000; for 1 sampling interval and 1 s send interval Number of nogram atams 200 Number of rolgans atams Yes Number of dognatations for system diagnostics 100 Further protocols	 — Number of subscriptions per session, max. 	50
	— Sampling interval, min.	100 ms
- Number of inputs/outputs per server method, max. 20 - Number of monitorical laters, recommended max. 4 000, for 1 s sampling interval and 1 s send interval - Number of monitorical laters, recommended max. 30 000 - Number of nodes for user-defined server interfaces, max. 200 - Number of nodes for user-defined server interfaces. 30 000 - Number of program alarms 200 - Number of alarms for system diagnostics 100 - Number of alarms for system diagnostics 100 - Number of program alarms 200 - Number of alarms for system diagnostics 100 Future prodocods - Equidatance Yes. Somesage functions, max. 64 Program alarms 10 000; Program messages are generated by the "Program_Alarm" block. Number of alarms for notice trading to program messages, max. Problag or GRAPH Number of alarms for notice technology objects 200 • Number of alarms for notice technology objects 100 • Number of alarms for notice technology objects 100 • Number of alarms for notice technology objects 100 • Number of alarms for notice technology objects 100 • Number of alarms for notice technology objects 100 • Number of alarms for notice technology objects 100	— Publishing interval, min.	100 ms
- Number of monitored items, recommended max. 4 000; for 1 s sampling interval and 1 s send interval - Number of noides for user-defined server interfaces, max. 10 of each "Server interfaces, I"Companion specification" type and 20 of the type "Reference annespace" - Number of noides for user-defined server interfaces, max. 30 000 - Number of noides for user-defined server interfaces, max. 30 000 - Number of noides for user-defined server interfaces, max. 30 000 - Number of noigen alarms 200 - Number of noigen for yespending for the server interfaces, max. 100 - Number of login stations for message functions, max. 64 - Program alarms Yes Number of login stations for message functions, max. 64 - Program alarms Yes - Number of noignable program messages, max. 1000 - Nother of configurable program messages in RUM, max. 5000 Number of noidna functions 1000 - Number of alarms for xystem diagnostics 200 - Number of alarms for xystem diagnostics 200 - Number of program alarms 1000 - Number of alarms for xystem diagnostics 200 - Number of program alarms 1000 - Number of program alarms 1000 - Number of variables, max. 200; per job - Status/control <td< td=""><td>- Number of server methods, max.</td><td>50</td></td<>	- Number of server methods, max.	50
- Number of server interfaces, max. 10 of each "Server interfaces" /"Companion specification" type and 20 of the type "Reference namespace". - Number of nodes for user-defined server interfaces, max. 30 000 - Namber of program alarms 200 - Number of login stations for message functions, max. 70 es; MODBUS TCP Equidatance Yes; MODBUS TCP Equidatance Yes; MoDBUS TCP Number of login stations for message functions, max. 64 Program alarms Yes; MoDBUS TCP Number of login stations for messages in RUN, max. 5000 Number of login stations for messages in RUN, max. 5000 Number of login stations for motion technology objects 160 Ver of alarms for yestem diagnostics 200 Number of alarms for motion technology objects 160 Status block Yes; Parallel online access possible for up to 8 engineering systems Status block Yes; Whot fail-safe Number of breakpoints 8 Status block Yes; without fail-safe Number of variables, max. 200 - of which status variables, max. 200; per job	 — Number of inputs/outputs per server method, max. 	20
type "Reference namespace" type "Reference namespace" max. 30 000 • Alarms and Conditions Yes • Alarms and Conditions Yes • MonDer of program atarms 200 • MonDer of program atarms 200 • MODBUS Yes; MODBUS TCP Statuscontrol Yes Statuscontrol Yes Statuscontrol Yes Statuscontrol Yes Statuscontrol variables, max. 64 Program atarms Yes Number of login stations for message functions, max. 64 Program atarms Yes Number of atarms for mostages, max. Program messages are generated by the "Program_Alarm" block, Program messages are generated by the "Program_Alarm" block, Program atarms • Number of atarms for system diagnostics 200 • Statuscontrol variables, max. Yes, Paralel online access possible for up to 8 engineering systems Statuscontrol variables, max. 200, Program diams • Oth which notrol variables, max. 200, Program diams • Other of variables, max. 200, Program diams • Origin variables, max.	 — Number of monitored items, recommended max. 	4 000; for 1 s sampling interval and 1 s send interval
max. max. • Alarms and Conditions Yes • Number of program alarms 200 • Number of alarms for system diagnostics 100 Further protocols 100 • MODBUS Yes; MODBUS TCP isochnorus mode Equidistance S7 message functions 64 Program alarms Yes Number of login stations for messages, max. Problag or GRAPH Prologina alarms Yes Number of login stations for messages, max. Problag or GRAPH Number of loginal alarms 5000 Number of larms for system diagnostics 200 • Number of program alarms 1000 • Number of alarms for system diagnostics 200 • Statustioning functions 1000 • Statustioning functions 200 • Statustioning functions 200 • Statustioning functions 200 • Statustoontrol variables, max. 200, per job • Othich control variables, max. 200, per job • Othich ontrol variables, max.	- Number of server interfaces, max.	
• Alarms and Conditions Yes - Number of program alarms 200 - Number of alarms for system diagnostics 100 Further protocols Yes, MODBUS TCP • MODBUS Yes, MODBUS TCP Schronouss modo Equidistance Forgram alarms Yes Number of longin stations for message functions, max. 64 Program alarms Yes Number of longin stations for messages, max. 10 000, Program messages are generated by the "Program_Alarm" block, Probago or GRAPH Number of longin stations for system diagnostics 200 • Number of longina messages in RUN, max. 5 000 Number of program alarms 1 000 • Number of alarms for system diagnostics 200 • Number of alarms for moton technology objects 160 Test commission (Pam Engineering) Yes; Parallel online access possible for up to 8 engineering systems Status block Yes; Variable access possible for up to 8 engineering systems Status block Yes; Without fail-safe Input soutputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters • Status/control variables, max. 200; per job For	,	30 000
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Further protocols Yes; MODBUS • MODBUS Yes; MODBUS TCP Sochronous mode Equidistance Equidistance Yes Somessage functions 64 Program alarms Yes Number of login stations for message in RUN, max. 5000 gor GRAPH Number of loadable program messages in RUN, max. 5000 Number of fimultaneously active program alarms 1000 • Number of alarms for motion technology objects 100 • Number of alarms for motion technology objects 160 Test commission (Team Engineering) Yes; without fail-safe Joint commission (Team Engineering) Yes; without fail-safe • Number of breakpoints 8 Status/control 8 • Number of variables, max. 200; per job • Of which status variables, max. 200; per job • of which control variables, max. 200; per job • Origing Yes; without fail-safe • Proving, variables, max. 200; per job • of which control variables, max. 200; per job • of which outrol variables, max. 200 • of which status variables, max. 200		
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SY mossage functions 64 Program alarms Yes Number of login stations for 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 alarms 1 000 • Number of alarms for system diagnostics 200 • Number of alarms for motion technology objects 160 Fest commission (Team Engineering) Yes; Verailel 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; without fail-safe • Variables 200; per job • Variables, max. 200; per job • Of which status variables, max. 200; per job • Of which control variables, max. 200; per job • Forcing Yes; without fail-safe • Forcing, variables per job • Number of anables, max. 200; per job • Or which control variables, max. 200; per job • Forcing Yes; without fail-safe • Forcing, variables		
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Forcing • Forcing Yes; without fail-safe • Forcing, variables peripheral inputs/outputs (without fail-safe) • Number of variables, max. 200 Diagnostic buffer • present Yes • Number of entries, max. 3 200 - of which powerfail-proof 500	Number of alarms for system diagnostics Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control Status/control variable Variables	200 160 Yes; Parallel online access possible for up to 8 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times,
• Forcing Yes; without fail-safe • Forcing, variables peripheral inputs/outputs (without fail-safe) • Number of variables, max. 200 Diagnostic buffer 200 • present Yes • Number of entries, max. 3 200 - of which powerfail-proof 500	 Number of alarms for system diagnostics Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. 	200 160 Yes; Parallel online access possible for up to 8 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters
• Forcing, variables peripheral inputs/outputs (without fail-safe) • Number of variables, max. 200 Diagnostic buffer Ves • Present Yes • Number of entries, max. 3 200 - of which powerfail-proof 500	 Number of alarms for system diagnostics Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. – of which status variables, max. 	200 160 Yes; Parallel online access possible for up to 8 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters 200; per job
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- of which powerfail-proof 500 Traces	 Number of alarms for system diagnostics Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. – of which status variables, max. – of which control variables, max. Forcing Forcing Forcing, variables, max. 	200 160 Yes; Parallel online access possible for up to 8 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters 200; per job 200; per job Yes; without fail-safe peripheral inputs/outputs (without fail-safe)
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Number of configurable Traces 4; Up to 512 KB of data per trace are possible	 Number of alarms for system diagnostics Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. 	200 160 Yes; Parallel online access possible for up to 8 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters 200; per job 200; per job Yes; without fail-safe peripheral inputs/outputs (without fail-safe) 200 Yes 3 200
	 Number of alarms for system diagnostics Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. – of which status variables, max. – of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. – of which powerfail-proof 	200 160 Yes; Parallel online access possible for up to 8 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes; without fail-safe inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters 200; per job 200; per job Yes; without fail-safe peripheral inputs/outputs (without fail-safe) 200 Yes 3 200

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
— per probe	40
Positioning axis	
 — Number of positioning axes at motion control cycle of 4 ms (typical value) 	11
 Number of positioning axes at motion control cycle of 8 ms (typical value) 	20
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
Standards, approvals, certificates	
Ecological footprint	Yes
Ecological footprint environmental product declaration 	Yes
Ecological footprint environmental product declaration Global warming potential 	
Ecological footprint environmental product declaration Global warming potential global warming potential, (total) [CO2 eq] 	102 kg
Ecological footprint environmental product declaration Global warming potential 	
Ecological footprint environmental product declaration Global warming potential global warming potential, (total) [CO2 eq] global warming potential, (during production) [CO2 	102 kg
Ecological footprint • environmental product declaration Global warming potential — global warming potential, (total) [CO2 eq] — global warming potential, (during production) [CO2 eq] — global warming potential, (during operation) [CO2	102 kg 26.5 kg
Ecological footprint • environmental product declaration Global warming potential — global warming potential, (total) [CO2 eq] — global warming potential, (during production) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle)	102 kg 26.5 kg 76.7 kg
Ecological footprint • environmental product declaration Global warming potential — global warming potential, (total) [CO2 eq] — global warming potential, (during production) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq]	102 kg 26.5 kg 76.7 kg
Ecological footprint environmental product declaration Global warming potential global warming potential, (total) [CO2 eq] global warming potential, (during production) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode	102 kg 26.5 kg 76.7 kg -0.898 kg
Ecological footprint environmental product declaration Global warming potential global warming potential, (total) [CO2 eq] global warming potential, (during production) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode Performance level according to ISO 13849-1 	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3
Ecological footprint • environmental product declaration Global warming potential — global warming potential, (total) [CO2 eq] — global warming potential, (during production) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode • Performance level according to ISO 13849-1 • SIL acc. to IEC 61508	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3
 Ecological footprint environmental product declaration Global warming potential global warming potential, (total) [CO2 eq] global warming potential, (during production) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode Performance level according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time – Low demand mode: PFDavg in accordance with 	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours)
Ecological footprint • environmental product declaration Global warming potential — global warming potential, (total) [CO2 eq] — global warming potential, (during production) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode • Performance level according to ISO 13849-1 • SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time — Low demand mode: PFDavg in accordance with SIL3 — High demand/continuous mode: PFH in accordance	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours) < 2.00E-05
Ecological footprint • environmental product declaration Global warming potential — global warming potential, (total) [CO2 eq] — global warming potential, (during production) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode • Performance level according to ISO 13849-1 • SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time — Low demand mode: PFDavg in accordance with SIL3 — High demand/continuous mode: PFH in accordance with SIL3	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours) < 2.00E-05
Ecological footprint • environmental product declaration Global warming potential — global warming potential, (total) [CO2 eq] — global warming potential, (during production) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode • Performance level according to ISO 13849-1 • SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time — Low demand mode: PFDavg in accordance with SIL3 — High demand/continuous mode: PFH in accordance with SIL3 Ambient conditions	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours) < 2.00E-05
Ecological footprint • environmental product declaration Global warming potential	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours) < 2.00E-05 < 1.00E-09
Ecological footprint • environmental product declaration Global warming potential	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours) < 2.00E-05 < 1.00E-09 -30 °C; No condensation 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the
 Ecological footprint environmental product declaration Global warming potential global warming potential, (total) [CO2 eq] global warming potential, (during production) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode Performance level according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time Low demand mode: PFDavg in accordance with SIL3 High demand/continuous mode: PFH in accordance with SIL3 Ambient conditions Ambient temperature during operation horizontal installation, min. horizontal installation, max. 	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours) < 2.00E-05 < 1.00E-09 -30 °C; No condensation 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off
 Ecological footprint environmental product declaration Global warming potential global warming potential, (total) [CO2 eq] global warming potential, (during production) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode Performance level according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time — Low demand mode: PFDavg in accordance with SIL3 High demand/continuous mode: PFH in accordance with SIL3 Ambient conditions Ambient temperature during operation horizontal installation, min. horizontal installation, max. vertical installation, min. 	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours) < 2.00E-05 < 1.00E-09 -30 °C; No condensation 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off -30 °C; No condensation 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the
 Ecological footprint environmental product declaration Global warming potential global warming potential, (total) [CO2 eq] global warming potential, (during production) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode Performance level according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time Low demand mode: PFDavg in accordance with SIL3 High demand/continuous mode: PFH in accordance with SIL3 Ambient conditions Ambient temperature during operation horizontal installation, min. vertical installation, max. 	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours) < 2.00E-05 < 1.00E-09 -30 °C; No condensation 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off -30 °C; No condensation 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the
 Ecological footprint environmental product declaration Global warming potential global warming potential, (total) [CO2 eq] global warming potential, (during production) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode Performance level according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time Low demand mode: PFDavg in accordance with SIL3 High demand/continuous mode: PFH in accordance with SIL3 Ambient conditions Ambient temperature during operation horizontal installation, min. vertical installation, max. Ambient temperature during storage/transportation 	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours) < 2.00E-05 < 1.00E-09 -30 °C; No condensation 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off -30 °C; No condensation 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off
 Ecological footprint environmental product declaration Global warming potential global warming potential, (total) [CO2 eq] global warming potential, (during production) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode Performance level according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time Low demand mode: PFDavg in accordance with SIL3 High demand/continuous mode: PFH in accordance with SIL3 Ambient conditions Ambient temperature during operation horizontal installation, min. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. 	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours) < 2.00E-05 < 1.00E-09 -30 °C; No condensation 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off -30 °C; No condensation 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C
Ecological footprint • environmental product declaration Global warming potential	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours) < 2.00E-05 < 1.00E-09 -30 °C; No condensation 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off -30 °C; No condensation 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C
 Ecological footprint environmental product declaration Global warming potential global warming potential, (total) [CO2 eq] global warming potential, (during production) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (during operation) [CO2 eq] global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode Performance level according to ISO 13849-1 SIL acc. to IEC 61508 Probability of failure (for service life of 20 years and repair time Low demand mode: PFDavg in accordance with SIL3 High demand/continuous mode: PFH in accordance with SIL3 Ambient conditions Ambient temperature during operation horizontal installation, min. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. 	102 kg 26.5 kg 76.7 kg -0.898 kg PLe SIL 3 e of 100 hours) < 2.00E-05 < 1.00E-09 -30 °C; No condensation 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off -30 °C; No condensation 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C

configuration / programming / header	
Programming language	
— LAD	Yes; incl. failsafe
— FBD	Yes; incl. failsafe
— STL	Yes
— SCL	Yes
— GRAPH	Yes
Know-how protection	
 User program protection/password protection 	Yes
Copy protection	Yes
Block protection	Yes
Access protection	
 protection of confidential configuration data 	Yes
 Password for display 	Yes
 Protection level: Write protection 	Yes
 Protection level: Read/write protection 	Yes
 Protection level: Write protection for Failsafe 	Yes
Protection level: Complete protection	Yes
programming / cycle time monitoring / header	
lower limit	adjustable minimum cycle time
• upper limit	adjustable maximum cycle time
Dimensions	
Width	70 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	469 g
last modified.	10/0/0001

last modified:

10/9/2024 🖸