Data sheet



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

General information	
Product type designation	CPU 1517-3 PN/DP
HW functional status	FS11
Firmware version	V3.1
 FW update possible 	Yes
Product function	
● I&M data	Yes; I&M0 to I&M3
• Isochronous mode	Yes; Distributed and central; with minimum OB 6x cycle of 250 μs (distributed) and 1 ms (central)
SysLog	Yes
Engineering with	
STEP 7 TIA Portal configurable/integrated from version	V19 (FW V3.1); V13 Update 3 (FW V1.6) or higher
Configuration control	
via dataset	Yes
Display	
Screen diagonal [cm]	6.1 cm
Control elements	
Number of keys	6
Mode selector switch	1
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Mains buffering	
 Mains/voltage failure stored energy time 	5 ms
Repeat rate, min.	1/s
Input current	
Current consumption (rated value)	1.55 A
Current consumption, max.	1.9 A
Inrush current, max.	1.9 A; Rated value
l²t	0.4 A ² ·s
Power	
Infeed power to the backplane bus	12 W
Power consumption from the backplane bus (balanced)	30 W
Power loss	
Power loss, typ.	24 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes

Work memory	
integrated (for program)	2 Mbyte
• integrated (for data)	8 Mbyte
Load memory	o ivibyte
Plug-in (SIMATIC Memory Card), max.	32 Gbyte
	32 Gbyle
Backup	Voc
maintenance-free	Yes
CPU processing times	
for bit operations, typ.	2 ns
for word operations, typ.	3 ns
for fixed point arithmetic, typ.	3 ns
for floating point arithmetic, typ.	12 ns
CPU-blocks	
Number of elements (total)	12 000; Blocks (OB, FB, FC, DB) and UDTs
DB	
Number range	1 60 999; subdivided into: number range that can be used by the user: 1 59 999, and number range of DBs created via SFC 86: 60 000 60 999
Size, max.	8 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
FB	,
Number range	0 65 535
• Size, max.	1 Mbyte
FC	
Number range	0 65 535
• Size, max.	1 Mbyte
OB	
• Size, max.	1 Mbyte
Number of free cycle OBs	100
Number of time alarm OBs	20
Number of delay alarm OBs	20
Number of cyclic interrupt OBs	20; with minimum OB 3x cycle of 100 μs
Number of process alarm OBs	50
Number of DPV1 alarm OBs	3
Number of isochronous mode OBs	3
 Number of technology synchronous alarm OBs 	2
 Number of startup OBs 	100
 Number of asynchronous error OBs 	4
 Number of synchronous error OBs 	2
Number of diagnostic alarm OBs	1
Nesting depth	
 per priority class 	24
Counters, timers and their retentivity	
S7 counter	
Number	2 048
Retentivity	
— adjustable	Yes
IEC counter	
Number	Any (only limited by the main memory)
Retentivity	, , , , , , , , , , , , , , , , , ,
— adjustable	Yes
S7 times	
• Number	2 048
Retentivity	
— adjustable	Yes
— aujustable IEC timer	160
	Any (anly limited by the main memory)
Number Potentiality	Any (only limited by the main memory)
Retentivity	V
— adjustable	Yes
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	768 kbyte; In total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 700 KB

Flag	
• Size, max.	16 kbyte
Number of clock memories	8; 8 clock memory bit, grouped into one clock memory byte
Data blocks	e, a man manner, and grouped into another morning offe
Retentivity adjustable	Yes
Retentivity adjustable Retentivity preset	No
Local data	
• per priority class, max.	64 kbyte; max. 16 KB per block
Address area	טד וטאנט, ווומא. זט ועט אָכו טוטטג
Number of IO modules	16 394: may number of modules / submodules
I/O address area	16 384; max. number of modules / submodules
	22 khyte: All inpute are in the process image
• Inputs	32 kbyte; All cutouts are in the process image
Outputs Outputs	32 kbyte; All outputs are in the process image
per integrated IO subsystem	20 khuta May 20 KD via V4, may 0 KD via V2 az V2
— Inputs (volume)	32 kbyte; Max. 32 KB via X1; max. 8 KB via X2 or X3
— Outputs (volume)	32 kbyte; Max. 32 KB via X1; max. 8 KB via X2 or X3
per CM/CP	9 khuto
— Inputs (volume)	8 kbyte
— Outputs (volume)	8 kbyte
Subprocess images	00
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	IIISEREU III (Otal
Modules per rack, max.	32; CPU + 31 modules
Number of lines, max.	1
PtP CM	
Number of PtP CMs	the number of connectable PtP CMs is only limited by the number of available slots
Time of day	
Clock	
• Type	Hardware clock
Backup time	6 wk; At 40 °C ambient temperature, typically
Deviation per day, max.	10 s; Typ.: 2 s
Operating hours counter	
• Number	16
Clock synchronization	
• supported	Yes
• to DP, master	Yes
• on DP, device	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
Interface	1
Interface types	Vac. V4
RJ 45 (Ethernet)	Yes; X1
Number of ports	2
• integrated switch	Yes
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 Yes **PROFINET IO Controller** Services - Isochronous mode Yes Yes; Requirement: IRT and isochronous mode (MRPD optional) Direct data exchange — IRT Yes - PROFlenergy Yes; per user program - Prioritized startup Yes; Max. 32 PROFINET devices 512; In total, up to 1 000 distributed I/O devices can be connected via AS-i, - Number of connectable IO Devices, max. PROFIBUS or PROFINET - Of which IO devices with IRT, max. - Number of connectable IO Devices for RT, max. 512 - of which in line, max. - 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 - PROFINET Security Class Update time for IRT — for send cycle of 250 µs 250 µs to 4 ms — for send cycle of 500 µs 500 μs to 8 ms - for send cycle of 1 ms 1 ms to 16 ms - for send cycle of 2 ms 2 ms to 32 ms - for send cycle of 4 ms 4 ms to 64 ms — With IRT and parameterization of "odd" send cycles Update time = set "odd" send clock (any multiple of 125 $\mu s:375~\mu s,\,625~\mu s \dots 3$ 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 - 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 - 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 - PROFINET Security Class SNMP Configuration and DCP Read Only 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

Services	Media redundancy	No
Services	·	
- Direct data exchange - IRT - PROFileneity - PROFileneity - Profiled status - PROFileneity - Profiled status - Number of connectable IO Devices, max Number of connectable IO Devices for RT, max of which in line, max Number of IO Devices that can be simultaneously activate/discarcivated, max Number of IO Devices per bol, max Number of IO Devices per bol, max Updating times - PROFINET Security Class - PROFINET Security Class - India to the status - India to the s	Services	
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- IRT PROFIberery Yes; per user program - Number of connectable 10 Devices, max. PROFIBER or Whith in line, max. 128 In lotal, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBER or Whith in line, max. 128 — Number of Connectable 10 Devices for RT, max. 128 — Number of I/O Devices that can be simultaneously activated/deadevivere, max. 128 — Number of I/O Devices per tool, max. 128 — Number of I/O Devices per tool, max. 128 — Number of I/O Devices per tool, max. 128 — PROFINET Security Class 11 — From the number of I/O devices, and on the quantity of configuration are for RT — For earl cycle of 1 ms 1 ms to 512 ms - PROFINET Security Class 11 ms to 512 ms - I I I I I I I I I I I I I I I I I I		
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- Asset management record - PROFINET Security Class SNMP Configuration and DCP Read Only 3. Interface types RS 485 Yes; X3 Number of ports 1 Protocols PROFIBUS DP master Yes No SIMATIC communication Yes PROFIBUS DP master Number of connections, max. 48; for the integrated PROFIBUS DP interface max. number of DP devices 125; in total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFIBUS or PROFIBUS or PROFIBUS or PROFINET Services - Equidistance Yes - Isochronous mode Yes - Lativation/deactivation of DP devices Yes Interface types RJ 45 (Ethernet) Autocrossing Yes Autocrossing Yes Industrial Ethernet status LED Yes RS 485 Transmission rate, max. 12 Mbit/s Protocols PROFISES No Number of connections, max. 320; via integrated interfaces of the CPU and connected CPs / CMs Number of connections, max. 320; via integrated interfaces of the CPU and connected CPs / CMs Number of connections, max. 320; via integrated interfaces of the CPU and connected CPs / CMs	 activation/deactivation of I-devices 	Yes; per user program
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PROFIBUS DP master • Number of connections, max. • max. number of DP devices - Equidistance - Isochronous mode - activation/deactivation of DP devices PAS 45 (Ethernet) • Autorossing - Autorossing • Transmission rate, max. Proficiols PROFISafe Number of connections, max. • Number of connections, max. • Number of connections, max. • Number of connections, max. • Number of connections reserved for ES/HMI/web 48; for the integrated PROFIBUS DP interface 48; for the integrated PROFIBUS DP interface 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 PROFIBUS 125; In total, up to 1 000 distributed I/O devices can be connected Via AS-i, PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected Via AS-i, PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected Via AS-i, PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected Via AS-i, PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected Via AS-i, PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected Via AS-i, PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected Via AS-i, PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected Via AS-i, PROFIBUS DP interface via AS	Protocols • PROFIBUS DP master	Yes
Number of connections, max. Max. number of DP devices PROFIBUS or PROFIBUS DP interface 125; In total, up to 1 000 distributed I/O devices can be connected via AS-i, PROFIBUS or PROFINET Services Equidistance Services Equidistance Services Pactivation/deactivation of DP devices Interface types RJ 45 (Ethernet) Autonegotiation Autocrossing Industrial Ethernet status LED PROFIsafe No Number of connections Number of connections, max. Number of connections, max. Number of connections reserved for ES/HMI/web Autocrossing Ago, via integrated interfaces of the CPU and connected CPs / CMs Number of connections reserved for ES/HMI/web Autocrossing Ago, via integrated interfaces of the CPU and connected CPs / CMs	Protocols PROFIBUS DP master PROFIBUS DP device	Yes No
max. number of DP devices	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication	Yes No
- Equidistance Yes - Isochronous mode Yes - activation/deactivation of DP devices Yes Interface types RJ 45 (Ethernet) • 100 Mbps Yes • Autonegotiation Yes • Autocrossing Yes • Industrial Ethernet status LED Yes RS 485 • Transmission rate, max. 12 Mbit/s Protocols PROFIsafe No Number of connections • Number of connections, max. • Number of connections reserved for ES/HMI/web 10	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master	Yes No Yes
- Equidistance Yes - Isochronous mode Yes - activation/deactivation of DP devices Yes Interface types RJ 45 (Ethernet) • 100 Mbps Yes • Autonegotiation Yes • Autocrossing Yes • Industrial Ethernet status LED Yes RS 485 • Transmission rate, max. 12 Mbit/s Protocols PROFIsafe No Number of connections • Number of connections, max. • Number of connections reserved for ES/HMI/web 10	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max.	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,
Isochronous mode activation/deactivation of DP devices Interface types RJ 45 (Ethernet) • 100 Mbps • Autonegotiation • Autocrossing • Industrial Ethernet status LED RS 485 • Transmission rate, max. Protocols PROFIsafe No Number of connections • Number of connections, max. • Number of connections reserved for ES/HMI/web 10 Yes 320; via integrated interfaces of the CPU and connected CPs / CMs • Number of connections reserved for ES/HMI/web	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices	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,
	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services	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
Interface types RJ 45 (Ethernet) • 100 Mbps • Autonegotiation • Autocrossing • Industrial Ethernet status LED RS 485 • Transmission rate, max. Protocols PROFIsafe No Number of connections • Number of connections, max. • Number of connections reserved for ES/HMI/web 10	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance	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
RJ 45 (Ethernet) • 100 Mbps • Autonegotiation • Autocrossing • Industrial Ethernet status LED RS 485 • Transmission rate, max. 12 Mbit/s Protocols PROFIsafe No Number of connections • Number of connections, max. • Number of connections reserved for ES/HMI/web 10	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode	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
 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED Yes RS 485 Transmission rate, max. Protocols PROFIsafe Number of connections Number of connections, max. Number of connections reserved for ES/HMI/web 10 	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode — activation/deactivation of DP devices	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
 Autorossing Industrial Ethernet status LED Yes RS 485 Transmission rate, max. Protocols PROFIsafe Number of connections Number of connections, max. Number of connections reserved for ES/HMI/web Autocrossing Yes Yes Yes Nes No No Number of connections 320; via integrated interfaces of the CPU and connected CPs / CMs Number of connections reserved for ES/HMI/web 10 	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode — activation/deactivation of DP devices Interface types	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
 Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max. Mbit/s Protocols PROFIsafe Number of connections Number of connections, max. Number of connections reserved for ES/HMI/web 10 	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services Equidistance Isochronous mode activation/deactivation of DP devices Interface types RJ 45 (Ethernet)	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
 Industrial Ethernet status LED Yes RS 485 Transmission rate, max. 12 Mbit/s Protocols	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services Equidistance Isochronous mode activation/deactivation of DP devices Interface types RJ 45 (Ethernet) 100 Mbps	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
RS 485 • Transmission rate, max. 12 Mbit/s Protocols PROFIsafe No Number of connections • Number of connections, max. • Number of connections reserved for ES/HMI/web 10	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode — activation/deactivation of DP devices Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation	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
● Transmission rate, max. Protocols PROFIsafe No Number of connections ● Number of connections, max. ● Number of connections reserved for ES/HMI/web 10	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode — activation/deactivation of DP devices Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing	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
Protocols PROFIsafe No Number of connections • Number of connections, max. • Number of connections reserved for ES/HMI/web 10	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode — activation/deactivation of DP devices Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED	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
PROFIsafe No Number of connections Number of connections, max. Number of connections, max. Number of connections reserved for ES/HMI/web Number of connections reserved for ES/HMI/web	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode — activation/deactivation of DP devices Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485	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. • Number of connections reserved for ES/HMI/web 320; via integrated interfaces of the CPU and connected CPs / CMs 10	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode — activation/deactivation of DP devices Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max.	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, max. Number of connections reserved for ES/HMI/web 320; via integrated interfaces of the CPU and connected CPs / CMs 10 	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode — activation/deactivation of DP devices Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max.	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 Yes Ye
Number of connections reserved for ES/HMI/web 10	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode — activation/deactivation of DP devices Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max. Protocols PROFIsafe	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 Yes Ye
	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode — activation/deactivation of DP devices Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max. Protocols PROFIsafe	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 Yes Ye
Number of connections via integrated interfaces 288	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode — activation/deactivation of DP devices Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max. Protocols PROFIsafe Number of connections	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 Yes Ye
	Protocols PROFIBUS DP master PROFIBUS DP device SIMATIC communication PROFIBUS DP master Number of connections, max. max. number of DP devices Services — Equidistance — Isochronous mode — activation/deactivation of DP devices Interface types RJ 45 (Ethernet) 100 Mbps Autonegotiation Autocrossing Industrial Ethernet status LED RS 485 Transmission rate, max. Protocols PROFIsafe Number of connections Number of connections, max.	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 Your Mile Market Mile Mile Mile Mile Mile Mile Mile Mile

	64; in total, only 16 S7-Routing connections are supported via PROFIBUS	
Number of S7 routing paths Redundancy mode	on, in total, only to or reduing connections are supported that recently	
H-Sync forwarding	Yes	
Media redundancy		
— Media redundancy	only via 1st interface (X1)	
— MRP	Yes; MRP Automanager according to IEC 62439-2 Edition 2.0, MRP Manager; MRP Client	
 MRP interconnection, supported 	Yes; as MRP ring node according to IEC 62439-2 Edition 3.0	
— MRPD	Yes; Requirement: IRT	
 Switchover time on line break, typ. 	200 ms; For MRP, bumpless for MRPD	
Number of stations in the ring, max.	50	
SIMATIC communication		
PG/OP communication	Yes; encryption with TLS V1.3 pre-selected	
• S7 routing	Yes	
Data record routing S7 communication as sometimes.	Yes	
S7 communication, as server S7 communication as alleget.	Yes	
S7 communication, as client User data per job, may	Yes See apline help (\$7 communication, user data size)	
User data per job, max. Open IE communication	See online help (S7 communication, user data size)	
TCP/IP	Yes	
— Data length, max.	64 kbyte	
— bata length, max. — several passive connections per port, supported	Yes	
ISO-on-TCP (RFC1006)	Yes	
— Data length, max.	64 kbyte	
• UDP	Yes	
— Data length, max.	2 kbyte; 1 472 bytes for UDP broadcast	
— UDP multicast	Yes; 128 multicast circuits (of which max. 5 via X1)	
• DHCP	Yes	
• DNS	Yes	
• SNMP	Yes	
• DCP	Yes	
• LLDP	Yes	
 Encryption 	Yes; Optional	
Web server		
• HTTP	Yes; Standard and user pages	
• HTTPS	Yes; Standard and user pages	
• web API		
Number of sessions, max.	200	
 number of simultaneous HTTP calls, max. 	4	
— HTTP request body, max.	131 072 byte	
OPC UA		
Runtime license required	Yes; "Large" 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	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password	
User authentication Number of connections, max.	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40	
 User authentication Number of connections, max. Number of nodes of the client interfaces, recommended max. 	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000	
— User authentication— Number of connections, max.— Number of nodes of the client interfaces,	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000	
 User authentication Number of connections, max. Number of nodes of the client interfaces, recommended max. Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_I 	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000	
 User authentication Number of connections, max. Number of nodes of the client interfaces, recommended max. Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_max. Number of elements for one call of 	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300	
 User authentication Number of connections, max. Number of nodes of the client interfaces, recommended max. Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_I max. Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. Number of elements for one call of 	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300	
 User authentication Number of connections, max. Number of nodes of the client interfaces, recommended max. Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_I max. Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. Number of elements for one call of OPC_UA_MethodGetHandleList, max. Number of simultaneous calls of the client instructions for session management, per connection, 	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300 20 100	
 User authentication Number of connections, max. Number of nodes of the client interfaces, recommended max. Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_Max. Number of elements for one call of OPC_UA_NameSpaceGetIndexList, max. Number of elements for one call of OPC_UA_MethodGetHandleList, max. Number of simultaneous calls of the client instructions for session management, per connection, max. Number of simultaneous calls of the client 	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 40 5 000 300 100	

OPC IIA MethodColl may		
OPC_UA_MethodCall, max. — Number of inputs/outputs when calling	20	
Number of inputs/outputs when calling OPC_UA_MethodCall, max.	20	
OPC UA Server	Yes; Data Access (Read, Write, Subscribe), Method Call, Alarms & Condition (A&C), Custom Address Space	
 Application authentication 	Yes	
— Security policies	available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256, Aes128Sha256RsaOaep, Aes256Sha256RsaPss	
 User authentication 	"anonymous" or by user name & password	
 — GDS support (certificate management) 	Yes	
Number of sessions, max.	64	
 Number of accessible variables, max. 	200 000	
 Number of registerable nodes, max. 	50 000	
 Number of subscriptions per session, max. 	50	
— Sampling interval, min.	10 ms	
— Publishing interval, min.	10 ms	
Number of server methods, max.	100	
Number of inputs/outputs per server method, max.	20	
Number of monitored items, recommended max.	10 000; for 1 s sampling interval and 1 s send interval	
— Number of server interfaces, max.	10 of each "Server interfaces" / "Companion specification" type and 20 of the type "Reference namespace"	
 Number of nodes for user-defined server interfaces, max. 	30 000	
Alarms and Conditions	Yes	
Number of program alarms	400	
Number of alarms for system diagnostics	200	
Further protocols		
• MODBUS	Yes; MODBUS TCP	
Isochronous mode		
Equidistance	Yes	
S7 message functions		
Number of login stations for message functions, max.	64	
number of subscriptions, max.	750	
	750 20 000	
number of subscriptions, max.		
number of subscriptions, max. number of tags/attributes for subscriptions, max.	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms	20 000 Yes 10 000; Program messages are generated by the "Program_Alarm" block,	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max.	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics	20 000 Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000 1 000	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects	20 000 Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions	20 000 Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000 1 000 480	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering)	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients)	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step	20 000 Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Profiling	20 000 Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms Number of program alarms Number of alarms for system diagnostics Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Profiling Status/control	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 No	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms Number of program alarms Number of alarms for system diagnostics Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Profiling Status/control Status/control variable	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 No Yes	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Profiling Status/control • Status/control variable • Variables	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 No	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Profiling Status/control • Status/control variable • Variables • Number of variables, max.	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 No Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters	
number of subscriptions, max. number of tags/attributes for subscriptions, max. Program alarms Number of configurable program messages, max. Number of loadable program messages in RUN, max. Number of simultaneously active program alarms • Number of program alarms • Number of alarms for system diagnostics • Number of alarms for motion technology objects Test commissioning functions Joint commission (Team Engineering) Status block Single step Number of breakpoints Profiling Status/control • Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max.	Yes 10 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 10 000 2 000 1 000 480 Yes; Parallel online access possible for up to 10 engineering systems Yes; Up to 16 simultaneously (in total across all ES clients) No 20 No Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 200; per job	
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Traces	
Number of configurable Traces	8
Memory size per trace, max.	512 kbyte
Interrupts/diagnostics/status information	
Diagnostics indication LED	
RUN/STOP LED	Yes
• ERROR LED	Yes
• MAINT LED	Yes
Connection display LINK TX/RX	Yes
Supported technology objects	
Motion Control	Yes; Note: The number of technology objects affects the cycle time of the PLC
	program; selection guide via the TIA Selection Tool
 Number of available Motion Control resources for technology objects 	10 240
 Required Motion Control resources 	
— per speed-controlled axis	40
— 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) 	70
Number of positioning axes at motion control cycle of 8 ms (typical value)	128
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	
environmental product declaration	Yes
environmental product declaration Global warming potential	
environmental product declaration Global warming potential — global warming potential, (total) [CO2 eq]	570 kg
environmental product declaration Global warming potential — global warming potential, (total) [CO2 eq] — global warming potential, (during production) [CO2 eq]	570 kg 96.9 kg
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]	570 kg
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]	570 kg 96.9 kg
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)	570 kg 96.9 kg 483 kg
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] Ambient conditions Ambient temperature during operation	570 kg 96.9 kg 483 kg -9.97 kg
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] Ambient conditions	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the
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] — global warming potential, (after end of life cycle) [CO2 eq] Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max.	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off
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] Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min.	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C
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] Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max.	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off
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] Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off
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] Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min.	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off
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] — global warming potential, (after end of life cycle) [CO2 eq] Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max.	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off
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] — global warming potential, (after end of life cycle) [CO2 eq] Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C
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] — global warming potential, (after end of life cycle) [CO2 eq] Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max.	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off
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] Ambient conditions Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C
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] — global warming potential, (after end of life cycle) [CO2 eq] Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / programming / header	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C
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] — global warming potential, (after end of life cycle) [CO2 eq] Ambient conditions Ambient temperature during operation • horizontal installation, min. • vertical installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / programming / header Programming language	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
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] — global warming potential, (after end of life cycle) [CO2 eq] Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / header configuration / programming / header Programming language — LAD	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
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] — global warming potential, (after end of life cycle) [CO2 eq] Ambient conditions Ambient temperature during operation • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max. Ambient temperature during storage/transportation • min. • max. Altitude during operation relating to sea level • Installation altitude above sea level, max. configuration / programming / header Programming language	570 kg 96.9 kg 483 kg -9.97 kg 0 °C 60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off 0 °C 40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off -40 °C 70 °C 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual

		Version	Classification
Classifications			
Weight, approx.	1 929 g		
Weights			
Depth	129 mm		
Height	147 mm		
Width	175 mm		
Dimensions			
• upper limit	adjustable maximum cycle time	e	
 lower limit 	adjustable minimum cycle time		
programming / cycle time monitoring / header			
User administration	Yes; device-wide		
 Protection level: Complete protection 	Yes		
 Protection level: Write protection for Failsafe 	No		
 Protection level: Read/write protection 	Yes		
 Protection level: Write protection 	Yes		
Password for display	Yes		
 protection of confidential configuration data 	Yes		
Access protection			
Block protection	Yes		
Copy protection	Yes		
User program protection/password protection	Yes		
Know-how protection			
— GRAPH	Yes		
— CFC	Yes		
— SCL	Yes		

	Version	Classification
eClass	14	27-24-22-07
eClass	12	27-24-22-07
eClass	9.1	27-24-22-07
eClass	9	27-24-22-07
eClass	8	27-24-22-07
eClass	7.1	27-24-22-07
eClass	6	27-24-22-07
ETIM	10	EC000236
ETIM	9	EC000236
ETIM	8	EC000236
ETIM	7	EC000236
IDEA	4	3565
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval





Miscellaneous

Manufacturer Declaration



Miscellaneous

General Product Approval

For use in hazardous locations





<u>FM</u>



<u>FM</u>

CCC-Ex

For use in hazardous locations

Maritime application



Type Examination Certificate



Miscellaneous





Maritime application





NK / Nippon Kaiji Ky-okai





CCS (China Classification Society)

Maritime application

Environment

Industrial Communication



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last modified:

4/7/2025

