## **Data sheet**

## 6ES7511-1AL03-0AB0

## Siemens EcoTech



SIMATIC S7-1500, CPU 1511-1 PN, central processing unit with work memory 300 KB for program and 1.5 MB for data, 1st interface: PROFINET IRT with 2-port switch, 25 ns bit performance, SIMATIC Memory Card required - - approvals and certificates according to entry 109815653 at support.industry.siemens.com to be considered! - -

Product type designation HW functional status FS03 Firmware version FV update possible Froduct function FV update possible Froduct function FV update possible Froduct function FV es: I&M0 to I&M3 FVes: I&M0 to I&M3 FVes: Distributed and central; with minimum OB 6x cycle of 500 µs (distributed) and 1 ms (central) FVes: Distributed and central; with minimum OB 6x cycle of 500 µs (distributed) and 1 ms (central) FVes Fignineering with FVes FIEP 7 TIA Portal configurable/integrated from version FVES FIEP 7 TIA PORTAL FIE	General information		
Firmware version  • PV update possible  Product function  • I&M data  • Isochronous mode  • SysLog  Engineering with  • STEP 7 TIA Portal configurable/integrated from version  Vae; I\(\text{SIM}\) 0 to I\(\text{8}\text{M3}\)  • STEP 7 TIA Portal configurable/integrated from version  Vae (FW V4.0) / V18 (FW V3.0) or higher; configurable with older TIA Portal versions as 6ES7511-1AK02-0AB0  Configuration control  via dataset  Ves  Display  Screen diagonal [cm]  3.45 cm  Control elements  Number of keys  8  Mode buttons  2  Supply voltage  Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  permissible range, upper limit (DC)  permissible range, upper limit (DC)  Adins/voltage failure stored energy time  • Acpeat rate, min.  1/s  Input current  Current consumption (rated value)  Current consumption (rated value)  Pt  O.5 A*s  Power  Infeed power to the backplane bus  10 W  Power consumption from the backplane bus  (balance)  5.5 W	Product type designation	CPU 1511-1 PN	
FW update possible Product function  I & M data Schronous mode SysLog Significant or street of the product of t	HW functional status	FS03	
Product function  • i&M data • lsochronous mode • SysLog • SysLog Pressering with • STEP 7 TIA Portal configurable/integrated from version versions as 6ES7511-1AK02-0AB0  Configuration control via dataset Ves  Display Screen diagonal [cm] Control elements Number of keys 8 Mode buttons 2 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Mains buffering • Mains Voltage failure stored energy time • Repeat rate, min.  Input current Current consumption (rated value) Current consumption (rated value) Current consumption (rated value) Current consumption (rated value) Prower  Infeed power to the backplane bus [10 W] Power consumption from the backplane bus (balanced)  10 W Power consumption from the backplane bus (balanced)  7 es  Pass (Mish With minimum OB 6x cycle of 500 µs (distributed) and 1 min (rest) Pes; Distributed and central; with minimum OB 6x cycle of 500 µs (distributed) and 1 min (rest) per (di	Firmware version	V4.0	
• I&M data     • Isochronous mode     • Isochronous mode     • Isochronous mode     • SysLog     Yes  Engineering with     • STEP 7 TIA Portal configurable/integrated from version     STEP 7 TIA Portal configurable/integrated from version     STEP 7 TIA Portal configurable/integrated from version     V20 (FW V4.0) / V18 (FW V3.0) or higher; configurable with older TIA Portal versions as 6ES7511-1AK02-0AB0  Configuration control  via dataset     Yes  Display  Screen diagonal [cm]     3.45 cm  Control elements  Number of keys     8  Mode buttons     2  Supply voltage  Rated value (DC)     permissible range, lower limit (DC)     permissible range, upper limit (DC)     permissible range, upper limit (DC)     28.8 V  Reverse polarity protection     Yes  Mains buffering      • Mains/voltage failure stored energy time     • Repeat rate, min.  Input current  Current consumption (rated value)     0.56 A  Current consumption (rated value)     0.56 A  Current consumption, max.     1.15 A; Rated value  Infeed power to the backplane bus (balanced)  10 W  Power consumption from the backplane bus (balanced)  5.5 W	FW update possible	Yes	
• Isochronous mode SysLog Yes; Distributed and central; with minimum OB 6x cycle of 500 µs (distributed) and 1 ms (central)  • SysLog  Engineering with  • STEP 7 TIA Portal configurable/integrated from version  STEP 7 TIA Portal configurable/integrated from version  vaidataset Yes  Display  Screen diagonal [cm]  Control elements  Number of keys 8 Mode buttons 2  Supply voltage  Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) \$\text{4.8} \text{8.8} \text{V}  Reverse polarity protection  **Nains buffering**  **Mains buffering**  **Mains buffering**  **Mains voltage failure stored energy time **Repeat rate, min.**  Input current  Current consumption (rated value) Current consumption (rated value) Current consumption (rated value)  1.15 A; Rated value Pt  **Dower consumption from the backplane bus (balanced)  5.5 W	Product function		
SysLog SysLog Singlineering with STEP 7 TIA Portal configurable/integrated from version STEP 7 TIA Portal configurable/integrated from version V20 (FW V4.0) / V18 (FW V3.0) or higher; configurable with older TIA Portal versions as 6ES7511-1AK02-0AB0  Configuration control Via dataset Yes  Display Screen diagonal [cm] Screen diagonal [cm] Supply voltage  Rated value (DC) Supply voltage  Rated value (DC) Supermissible range, lower limit (DC) Sas V  Reverse polarity protection Mains buffering Mains/voltage failure stored energy time Repeat rate, min. Small frequency Supply voltage  Current consumption (rated value) Supply voltage	● I&M data	Yes; I&M0 to I&M3	
Engineering with  STEP 7 TIA Portal configurable/integrated from version versions as 6ES7511-1AK02-0AB0  Configuration control  via dataset Yes  Display  Screen diagonal [cm] 3.45 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 Feperators (Page 1) Sms  Repeat rate, min. 1/s  Input current  Current consumption (rated value) 0.56 A  Current consumption, max. 1.15 A; Rated value  Pt 0.5 A <sup>2</sup> s  Power  Infeed power to the backplane bus (balanced) 5.5 W	• Isochronous mode		
STEP 7 TIA Portal configurable/integrated from version V20 (FW V4.0) / V18 (FW V3.0) or higher; configurable with older TIA Portal versions as 6ES7511-1AK02-0AB0  Configuration control  via dataset Yes  Display  Screen diagonal [cm] 3.45 cm  Control elements  Number of keys 8 Mode buttons 2  Supply voltage  Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection  Mains/voltage failure stored energy time Repeat rate, min. 1/s  Input current  Current consumption (rated value)  Current consumption (rated value)  Current, max. 1.15 A; Rated value  Power  Infeed power to the backplane bus (balanced) 5.5 W  Power consumption from the backplane bus (balanced) 5.5 W	SysLog	Yes	
versions as 6ES7511-1AK02-0AB0  Configuration control  via dataset Yes  Display  Screen diagonal [cm] 3.45 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. 11/s  Input current  Current consumption (rated value) 0.56 A  Current consumption, max. 0.9 A  Inrush current, max. 1.15 A; Rated value  Power  Infeed power to the backplane bus (balanced) 5.5 W	Engineering with		
via dataset Yes  Display  Screen diagonal [cm] 3.45 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) 0.56 A  Current consumption, max. 0.9 A  Inrush current, max. 1.15 A; Rated value  It 0.5 A²-s  Power  Infeed power to the backplane bus 10 W Power consumption from the backplane bus (balanced) 5.5 W	STEP 7 TIA Portal configurable/integrated from version		
Screen diagonal [cm] 3.45 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) 0.56 A Current consumption, max. 0.9 A Inrush current, max. 1.15 A; Rated value  Power  Infeed power to the backplane bus 10 W Power consumption from the backplane bus (balanced) 5.5 W	Configuration control		
Screen diagonal [cm] 3.45 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) 0.56 A  Current consumption, max. 0.9 A Inrush current, max. 1.15 A; Rated value  I**  Power  Infeed power to the backplane bus (balanced) 5.5 W	via dataset	Yes	
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) 0.56 A Current consumption, max. 0.9 A Inrush current, max. 1.15 A; Rated value  I** Power  Infeed power to the backplane bus (balanced) 5.5 W	Display		
Number of keys  Mode buttons  2  Supply voltage  Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Yes  Mains buffering  Mains/voltage failure stored energy time Repeat rate, min.  Input current  Current consumption (rated value)  Current consumption, max.  Inrush current, max.  Inrush current, max.  Inrush current, max.  Infed power to the backplane bus  Power Consumption from the backplane bus (balanced)  5.5 W	Screen diagonal [cm]	3.45 cm	
Mode buttons  Supply voltage  Rated value (DC)	Control elements		
Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Mains buffering  Mains/voltage failure stored energy time Repeat rate, min.  Input current  Current consumption (rated value)  Current consumption, max.  Inrush current, max.  Inrush current, max.  Insub	Number of keys	8	
Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Mains buffering  • Mains/voltage failure stored energy time • Repeat rate, min.  Input current  Current consumption (rated value)  Current consumption, max.  Inrush current, max.  Inush current, max.  Interest (1.5 A; Rated value)  Power  Infeed power to the backplane bus  Power consumption from the backplane bus (balanced)  24 V  19.2 V	Mode buttons	2	
permissible range, lower limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Yes  Mains buffering  Mains/voltage failure stored energy time Repeat rate, min.  Input current  Current consumption (rated value)  Current consumption, max.  Inrush current, max.  In	Supply voltage		
permissible range, upper limit (DC)  Reverse polarity protection  Yes  Mains buffering  Mains/voltage failure stored energy time Repeat rate, min.  Input current  Current consumption (rated value)  Current consumption, max.  Inrush current, max.  Inrush current, max.  1.15 A; Rated value  1²t  0.5 A²-s  Power  Infeed power to the backplane bus  10 W  Power consumption from the backplane bus (balanced)  5 ms  5 ms  6	Rated value (DC)	24 V	
Reverse polarity protection  Mains buffering  Mains/voltage failure stored energy time Repeat rate, min.  Input current  Current consumption (rated value)  Current consumption, max.  Inrush current, max.  Inrush current, max.  Interest consumption  In the backplane bus  Power consumption from the backplane bus (balanced)  Yes  Yes  Ness  Description  Some  S	permissible range, lower limit (DC)	19.2 V	
Mains buffering  ● Mains/voltage failure stored energy time  ● Repeat rate, min.  Input current  Current consumption (rated value)  Current consumption, max.  Inrush current, max.  Inrush current, max.  1.15 A; Rated value  I²t  0.5 A²-s  Power  Infeed power to the backplane bus  Power consumption from the backplane bus (balanced)  5 ms  5 ms  6 ms  6 ms  6 ms  7 ms  1/s	permissible range, upper limit (DC)	28.8 V	
Mains/voltage failure stored energy time Repeat rate, min.  Input current  Current consumption (rated value)  Current consumption, max.  Inrush current, max.  Inrush current, max.  1.15 A; Rated value  1²t  0.5 A²·s  Power  Infeed power to the backplane bus Power consumption from the backplane bus (balanced)  5 ms  5 ms  1/s  1/s  1/s	Reverse polarity protection	Yes	
● Repeat rate, min. 1/s  Input current  Current consumption (rated value) 0.56 A  Current consumption, max. 0.9 A  Inrush current, max. 1.15 A; Rated value  I²t 0.5 A²-s  Power  Infeed power to the backplane bus 10 W  Power consumption from the backplane bus (balanced) 5.5 W	Mains buffering		
Input current  Current consumption (rated value)  Current consumption, max.  0.9 A  Inrush current, max.  1.15 A; Rated value  I²t  0.5 A²-s  Power  Infeed power to the backplane bus  10 W  Power consumption from the backplane bus (balanced)  5.5 W	<ul> <li>Mains/voltage failure stored energy time</li> </ul>	5 ms	
Current consumption (rated value)  Current consumption, max.  Inrush current, max.  1.15 A; Rated value  1²t  0.5 A²·s  Power  Infeed power to the backplane bus  10 W  Power consumption from the backplane bus (balanced)  5.5 W	<ul> <li>Repeat rate, min.</li> </ul>	1/s	
Current consumption, max.  Inrush current, max.  1.15 A; Rated value  1²t  0.5 A²-s  Power  Infeed power to the backplane bus  Power consumption from the backplane bus (balanced)  5.5 W	Input current		
Inrush current, max.  1.15 A; Rated value  1²t  0.5 A²-s  Power  Infeed power to the backplane bus  10 W  Power consumption from the backplane bus (balanced)  5.5 W	Current consumption (rated value)	0.56 A	
l²t 0.5 A²·s  Power  Infeed power to the backplane bus 10 W  Power consumption from the backplane bus (balanced) 5.5 W	Current consumption, max.	0.9 A	
Power Infeed power to the backplane bus 10 W Power consumption from the backplane bus (balanced) 5.5 W	Inrush current, max.	1.15 A; Rated value	
Infeed power to the backplane bus  Power consumption from the backplane bus (balanced)  5.5 W	l²t	0.5 A <sup>2</sup> ·s	
Power consumption from the backplane bus (balanced) 5.5 W	Power		
	Infeed power to the backplane bus	10 W	
Power loss	Power consumption from the backplane bus (balanced)	5.5 W	
	Power loss		

Power loss, typ.	3.4 W
Memory	
Number of slots for SIMATIC memory card	1
SIMATIC memory card required	Yes
Work memory	
integrated (for program)	300 kbyte
• integrated (for data)	1.5 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	
Number of elements (total)	4 000; 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
0.	59 999, and number range of DBs created via SFC 86: 60 000 60 999
• Size, max.	1.5 Mbyte; For DBs with absolute addressing, the max. size is 64 KB
FB	0.05.505
Number range     Size may	0 65 535
• Size, max.	300 kbyte
FC Number range	0 65 525
Number range     Size may	0 65 535
Size, max.  OB	300 kbyte
	300 khyta
Size, max.      Number of free cycle ORs.	300 kbyte
Number of free cycle OBs     Number of time clarm OBs	100 20
Number of delay alarm OBs	20
<ul><li>Number of delay alarm OBs</li><li>Number of cyclic interrupt OBs</li></ul>	
Number of cyclic interrupt OBs     Number of process alarm OBs	20; With minimum OB 3x cycle of 250 μs 50
<ul><li>Number of process alarm OBs</li><li>Number of DPV1 alarm OBs</li></ul>	3
Number of DPV1 alarm OBs     Number of isochronous mode OBs	2
Number of isochronous mode OBS     Number of technology synchronous alarm OBs	2
Number of technology synchronous alarm OBs     Number of startup OBs	100
Number of startup OBs     Number of asynchronous error OBs	4
Number of asynchronous error OBs     Number of synchronous error OBs	2
Number of synchronous error OBs     Number of diagnostic alarm OBs	1
Nesting depth	
per priority class	24
Counters, timers and their retentivity	
S7 counter	
Number	2 048
Retentivity	
— adjustable	Yes
IEC counter	
Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes
S7 times	
Number	2 048
Retentivity	
— adjustable	Yes
IEC timer	
• Number	Any (only limited by the main memory)
Retentivity	
— adjustable	Yes

Data areas and their retentivity		
Retentive data area (incl. timers, counters, flags), max.	256 kbyte; in total; available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 216 KB	
Extended retentive data area (incl. timers, counters, flags), max.	1.5 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	CAllbridge group ACMD growblook	
per priority class, max.  Address area	64 kbyte; max. 16 KB per block	
Address area  Number of IO modules	2.040; may rumb as of modulos / authmodulos	
I/O address area	2 048; max. number of modules / submodules	
	32 khyte: All inputs are in the process image	
<ul><li>Inputs</li><li>Outputs</li></ul>	32 kbyte; All inputs are in the process image 32 kbyte; All outputs are in the process image	
per integrated IO subsystem	oz rwyte, All outputs are ill the process illage	
— Inputs (volume)	8 khyte	
— Inputs (volume)      — Outputs (volume)	8 kbyte 8 kbyte	
per CM/CP	O RUYLE	
— Inputs (volume)	8 khyte	
— Inputs (volume)  — Outputs (volume)	8 kbyte 8 kbyte	
	O NUYLE	
Subprocess images     Number of subprocess images, max.	32	
Hardware configuration	02	
Number of distributed IO systems	32; A distributed I/O system is characterized not only by the integration of	
Number of distributed to systems	distributed I/O via PROFINET or PROFIBUS communication modules, but also by the connection of I/O via AS-i master modules or links (e.g. IE/PB-Link)	
Number of DP masters		
• Via CM	4; A maximum of 4 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total	
Number of IO Controllers		
• integrated	1	
• Via CM	4; A maximum of 4 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total	
Rack	Iliserted III total	
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; via PROFIBUS CM / CP	
• on DP, device	Yes; via PROFIBUS CM / CP	
• in AS, master	Yes	
• in AS, device	Yes	
	Yes	
<ul> <li>on Ethernet via NTP</li> </ul>		
Interfaces	1	
nterfaces Number of PROFINET interfaces	1	
Number of PROFINET interfaces  1. Interface	1	
Interfaces	1 Yes; X1	

update time of 500 µs of the isochronous OB is decisive  - for send cycle of 1 ms - for send cycle of 2 ms - for send cycle of 4 ms - with IRT and parameterization of "odd" send cycles  - for send cycle of 250 µs - for send cycle of 250 µs - for send cycle of 250 µs - for send cycle of 500 µs - for send cycle of 500 µs - for send cycle of 500 µs - for send cycle of 1 ms - for send cycle of 1 ms - for send cycle of 1 ms - for send cycle of 2 ms - for send cycle of 4 ms - RRT - PROFINET IO Device  Services - Isochronous mode - IRT - PROFienergy - Shared device - Number of IO Controllers with shared device, max activation/deactivation of I-devices - Asset management record - PROFINET Security Class  RJ 45 (Ethemet)  • 100 Mbps • Authoropositian - Autocrossing • Industrial Ethemet status LED  Protocols	• integrated switch	Yes	
PROFINET IO Controller PROFINET (O Device Profinet (O Device) Profinet (O D	· ·		
PROFINET IC Device SIMATIC communication Open IE communication Yes Optionally also encrypted Yes Web server Yes Nedia redundancy Yes PROFINET IC Controller Services Inachronous mode Direct data exchange IRT PROFINET Gottaler Services IRT PROFINET Gottaler Services IRT PROFINET Gottaler Ves, Requirement: IRT and isochronous mode (MRPD optional) Yes Wes, per user program Yes, Max. 32 PROFINET Gevices 128, In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 128 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 128 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 128 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 129 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 129 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 129 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 129 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 129 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 129 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 129 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 129 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 129 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 129 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 129 In total up to 512 distributed I/O devices can be connected via AS-1, PROFINET Gevices 129 In total up	• IP protocol	Yes; IPv4	
SIMATIC communication Open IE communication Wes server Media returnatory Yes Media returnatory Yes Media returnatory Yes PROFINET IO Controller  Services  Inscriptorious mode Direct data exchange IRT PROFILER TS and isochronous mode (MRPD optional) Yes, Requirement: IRT and isochronous mode (MRPD optional) Yes Yes, Per user program Yes, Max. 32 PROFINET devices Yes, PROFILED To device so an be connected via AS-I, PROFILED To device so an be connected via AS-I, PROFILED To device so an be connected via AS-I, PROFILED To device so an be connected via AS-I, PROFILED To PROFINET  Of which Io Ille, max. In the profile of the profile of the simultaneously achieved device from the simultaneously achieved achieved from the simultaneously achieved achieved from the simultaneously achieved from the simul	PROFINET IO Controller	Yes	
Open IE communication  Vesi berver  Nedia redundancy  PROFINET IO Controllet  Services  - Isochronous mode  Direct data exchange  - Isochronous mode  Direct data exchange  - IRT  - IRT  - PROFilenergy  Prioritized starup  - Number of connectable IO Devices, max.  - Of which IO devices with IRT, max.  - Number of connectable IO Devices for RT, max.  - of which II Gevices that can be simultaneously activated-deviced, rider, and the prioritized starup and the prioritized starup activated-deviced devices of RT with sector of IO Devices per tool, max.  - Number of IO Devices that can be simultaneously activated-deviced-deviated, max.  - Number of IO Devices per tool, max.  - Updating times  - PROFINET Security Class  1  Update time for IRT  - for send cycle of 250 µs  - for send cycle of 500 µs  - for send	PROFINET IO Device	Yes	
Web server  Media redundancy  PROFINET IO Controller  Services  I sochronous mode  Direct data exchange  PROFINET of Controller  PROFilenergy  Promitzed startup  Number of connectable IO Devices, max.  Of which IO devices with IRT, max.  Number of connectable IO Devices for RT, max.  Web Services  Number of Connectable IO Devices for RT, max.  Web Services  Number of Connectable IO Devices for RT, max.  Web Services  Number of IO Devices Int can be simultaneously activated/deactivated, max.  Number of IO Devices per tool, max.  Number of IO Devices per tool, max.  Web Services  Number of IO Devices per tool, max.  PROFINET Security Class  I the minimum value of the update time also depends on communication shis set for PROFINET IO, on the number of IO devices, and on the quantity of configured user data  I Update time for IRT  For send cycle of 250 µs  For send cycle of 270 µs  For send cycle of 270 µs  For send cycle of 300 µs  For send cycle of 4 ms  Web IRT and parameterization of "odd" send cycles  For send cycle of 250 µs  For send cycle of 250 µs  For send cycle of 250 µs  For send cycle of 1 ms  For send cycle of 2 ms  For send cycle of 1 ms  For send cycle of 2 ms  For send cycle of 1 ms  For send cycle of 2 ms  For send cycle of 3 ms  For send cycle of 4 ms  For send cycl	SIMATIC communication	Yes	
• Media redundancy PROFINET IO Controller  Services  - Isochronous mode - Direct date exchange - Direct date exchange - HRT - PROFilenergy - Prioritized startup - Number of connectable IO Devices, max Of which IO devices with IRT, max - Number of connectable IO Devices for RT, max Of which IO devices with IRT, max - Number of IO Devices that can be simultaneously activated of IO Devices that can be simultaneously activated of IO Devices that can be simultaneously activated/deachated, max Number of IO Devices per tool, max Number of IO Devices per tool, max - Updating times - PROFINET Security Class  Update time for IRT - for send cycle of 250 µs - for send cycle of 10 ps - for send cycle of 1 ms - for send cycle of 1 ms - for send cycle of 4 ms - With IRT and parameterization of "odd" send cycles - for send cycle of 4 ms - With IRT and parameterization of "odd" send cycles - for send cycle of 1 ms - for send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 1 ms - for send cycle of 2 ms - for send cycle of 4 ms - With IRT and parameterization of "odd" send cycles - For send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 1 ms - for send cycle of 2 ms - for send cycle of 1 ms - for send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 1 ms - for send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 1 ms - for send cycle of 3 ms - for send cycle of 4 ms - With IRT and parameterization of "odd" send cycles - Services - Isochronous mode - IRT - For send cycle of 3 ms - for send cycle of 4 ms - for send cycle of 4 ms - for send cycle of 5 ms - for	Open IE communication	Yes; Optionally also encrypted	
PROFINET IO Controller  Services	Web server	Yes	
Services	Media redundancy	Yes	
- Isochronous mode - Direct data exchange - Direct data exchange - PROFIenergy - Profitzed startup - PROFIenergy - Profitzed startup - Number of connectable IO Devices, max Of which IO devices with IRT, max Number of connectable IO Devices for RT, max Number of connectable IO Devices for RT, max Number of connectable IO Devices for RT, max Number of IO Devices that can be simultaneously activated/deactivated, max Number of IO Devices per tool, max Updating times - Updating times - PROFINET Security Class  Update time for IRT - for send cycle of 250 µs - for send cycle of 500 µs - for send cycle of 1 ms - for send cycle of 1 ms - for send cycle of 1 ms - with IRT and place for IRT - for send cycle of 10 ps for send cy	PROFINET IO Controller		
- Direct data exchange - IRT - IRT - PROFlenergy - Prioritized startup - Number of connectable IO Devices, max Of which IO devices with IRT, max Of which IO devices with IRT, max Of which IO devices that can be simultaneously activated/deachvated, max Of which Io devices per tool, max Ik with the result of IO Devices per tool, max Ik with the result of IO Devices per tool, max Updating times - PROFINET Security Class - FROFINET Security Class - Frosend cycle of 250 us - For send cycle of 1 ms - For send cycle of 250 us - For send cycle of 1 ms - For send cycle of 2 ms	Services		
- IRT - PROFienergy - Prioritized startup - Number of connectable IO Devices, max Of which In line, max Of which In line, max Of which In line, max It with In Internation of the prioritized discretization of the prioritized discretization of the prioritized startup - Number of IO Devices that can be simultaneously activated/deactivated, max Number of IO Devices per tool, max PROFINET Security Class - PROFINET Security Class - For send cycle of 250 µs - For send cycle of 250 µs - For send cycle of 250 µs - For send cycle of 1 ms - For send cycle of 1 ms - For send cycle of 1 ms - With IRT and parameterization of "odd" send cycles - For send cycle of 250 µs - For send cycle of 1 ms - With IRT and parameterization of "odd" send cycles - For send cycle of 250 µs - For send cycle of 250 µs - For send cycle of 250 µs - For send cycle of 1 ms - For send cycle of 1 ms - For send cycle of 1 ms - For send cycle of 250 µs - For send cycle of 1 ms - For send cycle of 2 ms - For send cycle of 2 ms - For send cycle of 2 ms - For send cycle of 1 ms - For send cycle of 2 ms - For send cycle of 500 µs - For send cycle of 2 ms - For send cycle of 3 ms - For send cycle of 3 ms - For send cycle of 500 µs - For send cycle of 500 µs - For send cycle of 500 µs - For send cycle of 50	<ul> <li>Isochronous mode</li> </ul>	Yes	
PROFIlenergy Prioritzed startup Prioritzed startup Prioritzed startup Promitzed startup Promitzed startup Promote of connectable IO Devices, max. PROFINET I devices PROFINET Gevices PROFINET Severity Class PROFINET Security Class Prof send cycle of 250 µs For send cycle of 4 ms For send cycle of 150 µs For send cycle of 500 µs For send cycle of 150 µs For send cycle of	<ul> <li>Direct data exchange</li> </ul>	Yes; Requirement: IRT and isochronous mode (MRPD optional)	
- Prioritized startup - Number of connectable IO Devices, max. 128; In total, up to 512 distributed I/O devices can be connected via AS-I, PROFINET 64  - Number of connectable IO Devices for RT, max. 128  - of which in line, max. 128  - Number of IO Devices per tool, max. 128  - Which in line, max. 128  - PROFINET Security Class 11  - PROFINET Security Class 11  - For send cycle of 250 µs 250 µs 10 4 ms; Note: in the case of IRT with isochronous mode, the minim update time of 500 µs of the isochronous OB is decisive 1200 µs of the isochronous	— IRT	Yes	
- Number of connectable IO Devices, max Of which IO devices with IRT, max Of which IO devices with IRT, max Of which In line, max Of which In line, max Number of IO Devices that can be simultaneously activated/descrivated/max? - Number of IO Devices that can be simultaneously activated/descrivated/max Number of IO Devices per tool, max Number of IO Devices per tool, max Updating times - Updating times - PROFINET Security Class - PROFINET Security Class - For send cycle of 250 µs - For send cycle of 250 µs - For send cycle of 1 ms - For send cycle of 2 ms - For send cycle of 4 ms - With IRT and parameterization of "odd" send cycles - For send cycle of 250 µs - For send cycle of 4 ms - With IRT and parameterization of "odd" send cycles - For send cycle of 250 µs - For send cycle of 4 ms - For send cycle of 500 µs - For send	— PROFlenergy	Yes; per user program	
PROFIBUS of PROFINET 64  - Of which IO devices with IRT, max Number of connectable IO Devices for RT, max Of which in line, max Number of IO Devices that can be simultaneously activated/deactivated, max Number of IO Devices that can be simultaneously activated/deactivated, max Number of IO Devices per tool, max Updating times - PROFINET Security Class - For send cycle of 250 µs - For send cycle of 250 µs - For send cycle of 1 ms - For send cycle of 2 ms - For send cycle of 250 µs - For send cycle of 1 ms - For send cycle of 250 µs - For send cycle of 1 ms - For send cycle of 250 µs - For send cycle of 1 ms - For send cycle of 250 µs - For send cycle of 1 ms - For send cycle of 2 ms - For send cycle of 1 ms - For send cycle of 1 ms - For send cycle of 2 ms - For send cycle of 1 ms - For send cycle of 1 ms - For send cycle of 2 ms - For send cycle	<ul> <li>Prioritized startup</li> </ul>	Yes; Max. 32 PROFINET devices	
Number of connectable IO Devices for RT, max of which in line, max Number of IO Devices that can be simultaneously activated/deactivated, max Number of IO Devices per tool, max Number of IO Devices per tool, max Number of IO Devices per tool, max Updating times Updating times PROFINET IO, on the number of IO devices, and on the quantity of configurated user data PROFINET Security Class For send cycle of 250 µs for send cycle of 250 µs for send cycle of 1 ms for send cycle of 1 ms for send cycle of 2 ms for send cycle of 2 ms for send cycle of 4 ms With IRT and parameterization of "odd" send cycles for send cycle of 250 µs for send cycle of 500 µs for send cycle of 1 ms for send cycle of 2 ms for send cycle of 4 ms	<ul> <li>Number of connectable IO Devices, max.</li> </ul>		
- of which in line, max Number of IO Devices that can be simultaneously activated/deactivated/max Number of IO Devices per tool, max Updating times - Updating times - PROFINET Security Class - PROFINET Security Class - PROFINET Security Class - For send cycle of 250 µs - For send cycle of 250 µs - For send cycle of 500 µs - For send cycle of 4 ms - With IRT and parameterization of "odd" send cycles - For send cycle of 4 ms - With IRT and parameterization of "odd" send cycles - For send cycle of 250 µs - For send cycle of 250 µs - For send cycle of 250 µs - For send cycle of 4 ms - With IRT and parameterization of "odd" send cycles - For send cycle of 250 µs - For send cycle of 2		64	
- Number of IO Devices that can be simultaneously activate/deactivated, max.  - Number of IO Devices sper tool, max.  - Updating times  - PROFINET Security Class  Update time for IRT  - for send cycle of 250 μs  - for send cycle of 500 μs  - for send cycle of 4 ms  - With IRT and parameterization of "odd" send cycles  - for send cycle of 500 μs  - for send cycle of 4 ms  - with IRT and parameterization of "odd" send cycles  - for send cycle of 500 μs  - for send cycle of 4 ms  - with IRT and parameterization of "odd" send cycles  - for send cycle of 500 μs  - for send cycle of 500 μs  - for send cycle of 500 μs  - for send cycle of 4 ms  - with IRT and parameterization of "odd" send cycles  - for send cycle of 250 μs  - for send cycle of 250 μs  - for send cycle of 500 μs  -	<ul> <li>Number of connectable IO Devices for RT, max.</li> </ul>	128	
activated/deactivated, max.  — Number of IO Devices per tool, max.  — Updating times  — PROFINET Security Class  In eminimum value of the update time also depends on communication shis set for PROFINET IO, on the number of IO devices, and on the quantity of configured user data  In the minimum value of the update time also depends on communication shis set for PROFINET Security Class  In the minimum value of the update time also depends on communication shis set for PROFINET Security Class  In the case of IRT with isochronous mode, the minimup date time of 500 µs of the isochronous OB is decisive  500 µs to 8 ms  For send cycle of 500 µs  For send cycle of 1 ms  For send cycle of 2 ms  For send cycle of 4 ms  With IRT and parameterization of "odd" send cycles  Update time for RT  For send cycle of 500 µs  For send cycle of 1 ms  For send cycle of 1 ms  For send cycle of 2 ms  For send cycle of 4 ms  For send cycle of 4 ms  Frosend cycle of 4	,	128	
The minimum value of the update time also depends on communication share for PROFINET (0, on the number of 10 devices, and on the quantity of configured user data  - PROFINET Security Class  Update time for IRT  - for send cycle of 250 μs  - for send cycle of 500 μs  - for send cycle of 1 ms  - for send cycle of 2 ms  - for send cycle of 2 ms  - for send cycle of 4 ms  - With IRT and parameterization of "odd" send cycles  Update time of RT  - for send cycle of 250 μs  - for send cycle of 250 μs  - for send cycle of 4 ms  - With IRT and parameterization of "odd" send cycles  Update time = set "odd" send clock (any multiple of 125 μs: 375 μs, 625 μs 875 μs)  Update time for RT  - for send cycle of 250 μs  - for send cycle of 1 ms  - for send cycle of 1 ms  - for send cycle of 2 ms  - for send cycle of 4 ms  - for send cycle of 2 ms  - for send cycle of 4 ms  - for send cycle of 2 ms  - for send cycle of 4 ms  - for send cycle of 2 ms  - for send cycle of 4 ms  - for send cycle of 2 ms  - for			
set for PROFINET IO, on the number of IO devices, and on the quantity of configured user data  Update time for IRT  - for send cycle of 250 µs  - for send cycle of 500 µs  - for send cycle of 1 ms  - for send cycle of 2 ms  - for send cycle of 4 ms  - for send cycle of 4 ms  - with IRT and parameterization of "odd" send cycles  - for send cycle of 500 µs  - for send cycle of 500 µs  - for send cycle of 2 ms  - for send cycle of 1 ms  - to send cycle of 2 ms  - for send cycle of 2 ms  - with IRT and parameterization of "odd" send cycles  Update time in the case of IRT with isochronous mode, the minim update time of 500 µs to 8 ms  - to send cycle of 2 ms  - for send cycle of 2 ms  - for send cycle of 500 µs  - for send cycle of 1 ms  - for send cycle of 1 ms  - for send cycle of 2 ms  - for send cycle of 4 ms  PROFINET IO Device  Services  - Isochronous mode  - IRT  - PROFINET IO Controllers with shared device, max.  - activation/deactivation of I-devices  - Asset management record - PROFINET Security Class  NMP Configuration and DCP Read Only  Interface types  RJ 45 (Ethemet)  - 100 Mbps - Autocrossing - Industrial Ethernet status LED  Protocols	·		
Update time for IRT  — for send cycle of 250 µs — for send cycle of 500 µs — for send cycle of 1 ms — for send cycle of 1 ms — for send cycle of 2 ms — for send cycle of 2 ms — for send cycle of 4 ms — with IRT and parameterization of "odd" send cycles  Update time for RT — for send cycle of 2 ms — with IRT and parameterization of "odd" send cycles  Update time = set "odd" send clock (any multiple of 125 µs: 375 µs, 625 µs 875 µs)  Update time for RT — for send cycle of 500 µs — for send cycle of 500 µs — for send cycle of 500 µs — for send cycle of 1 ms — for send cycle of 1 ms — for send cycle of 4 ms — that to 512 ms — for send cycle of 4 ms — RT — PROFINET IO Device  Services — Isochronous mode — IRT — PROF lenergy — Shared device — Number of IO Controllers with shared device, max. — activation/deactivation of I-devices — Asset management record — PROFILET Security Class  PROFILET Security Class  RJ 45 (Ethemet)  • 100 Mbps • Autocrossing • Industrial Ethernet status LED  Protocols	— Updating times	set for PROFINET IO, on the number of IO devices, and on the quantity of	
Update time for IRT  — for send cycle of 250 µs — for send cycle of 500 µs — for send cycle of 1 ms — for send cycle of 1 ms — for send cycle of 1 ms — for send cycle of 4 ms — for send cycle of 4 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 for RT — for send cycle of 250 µs — for send cycle of 500 µs — for send cycle of 1 ms — for send cycle of 1 ms — for send cycle of 4 ms — which is the form of	— PROFINET Security Class	•	
update time of 500 µs of the isochronous OB is decisive  — for send cycle of 1 ms — for send cycle of 2 ms — for send cycle of 4 ms — for send cycle of 4 ms — With IRT and parameterization of "odd" send cycles — With IRT and parameterization of "odd" send cycles — With IRT and parameterization of "odd" send cycles — With IRT and parameterization of "odd" send cycles — For send cycle of 500 µs — for send cycle of 500 µs — for send cycle of 500 µs — for send cycle of 1 ms — for send cycle of 1 ms — for send cycle of 2 ms — for send cycle of 4 ms — prosend cycle of 4 ms — for send cycle of 4 ms — for send cycle of 500 µs — for send cycle of 9 ms — hor send cycle of 9 ms — prosend cycle of 4 ms — yes — lsochronous mode — IRT — PROFINET IO Device  Services — lsochronous mode — IRT — PROFInergy — Shared device — Number of IO Controllers with shared device, max. — activation/deactivation of I-devices — Asset management record — PROFINET Security Class — Asset management record — PROFINET Security Class  NoMP Configuration and DCP Read Only  Interface types  RJ 45 (Ethernet)  • 100 Mbps • Autocrossing • Autocrossing • Autocrossing • Industrial Ethernet status LED  Protocols	Update time for IRT		
- for send cycle of 500 μs - for send cycle of 1 ms - for send cycle of 1 ms - for send cycle of 2 ms - for send cycle of 4 ms - With IRT and parameterization of "odd" send cycles - With IRT and parameterization of "odd" send cycles - With IRT and parameterization of "odd" send cycles - With IRT and parameterization of "odd" send cycles - For send cycle of 250 μs - For send cycle of 250 μs - For send cycle of 250 μs - For send cycle of 2 ms - For send cycle of 1 ms - For send cycle of 2 ms - For send cycle of 4 ms - For send cycle of 500 μs - For send cycle	— for send cycle of 250 μs	250 μs to 4 ms; Note: In the case of IRT with isochronous mode, the minimum	
- for send cycle of 2 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 875 μs)  Update time for RT - for send cycle of 250 μs - for send cycle of 500 μs - for send cycle of 500 μs - for send cycle of 1 ms - for send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 4 ms - FROFINET IO Device  Services - Isochronous mode - IRT - PROFlenergy - Shared device - Number of IO Controllers with shared device, max activation/deactivation of I-devices - Asset management record - PROFINET Security Class - SNMP Configuration and DCP Read Only  Interface types  RJ 45 (Ethernet) - Autocrossing - Industrial Ethernet status LED - Protocols	— for send cycle of 500 μs		
- for send cycle of 4 ms - With IRT and parameterization of "odd" send cycles  Update time for RT - for send cycle of 250 μs - for send cycle of 500 μs - for send cycle of 500 μs - for send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 4 ms - for send cycle of 500 μs - for send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 250 μs - fo			
- for send cycle of 4 ms - With IRT and parameterization of "odd" send cycles  Update time for RT - for send cycle of 250 μs - for send cycle of 500 μs - for send cycle of 500 μs - for send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 4 ms - for send cycle of 500 μs - for send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 250 μs - fo	•	2 ms to 32 ms	
With IRT and parameterization of "odd" send cycles 875 μs)  Update time for RT  — for send cycle of 250 μs — for send cycle of 500 μs — for send cycle of 1 ms — for send cycle of 2 ms — for send cycle of 2 ms — for send cycle of 4 ms — for send cycle of 500 μs — for send cycle of 2 ms — for send cycle of 2 ms — for send cycle of 4 ms — for send cycle of 4 ms — for send cycle of 4 ms — FROFINET IO Device  Services — Isochronous mode — IRT — PROFIenergy — Shared device — Number of IO Controllers with shared device, max. — activation/deactivation of I-devices — Asset management record — PROFINET Security Class  RJ 45 (Ethernet) — 100 Mbps — Autocrossing — Ves — Industrial Ethernet status LED  Protocols	•		
- for send cycle of 250 µs - for send cycle of 500 µs - for send cycle of 500 µs - for send cycle of 1 ms - for send cycle of 2 ms - for send cycle of 2 ms - for send cycle of 4 ms - for send cycle of 2 ms - for send cycle of 8 ms - for send cycle of 2 ms - for send cycle of 4 ms - for send cycle of 5 ms - for send cycle of 4 ms - for send cycle of 5 ms - for send cycl	•	Update time = set "odd" send clock (any multiple of 125 $\mu s: 375~\mu s, 625~\mu s \dots 3~875~\mu s)$	
- for send cycle of 500 µs 500 µs to 256 ms 1 ms to 512 ms 2 ms to 512 ms 2 ms to 512 ms 4 ms to 512 ms 4 ms to 512 ms 5 ms 4 ms to 512 ms 5 ms	Update time for RT		
for send cycle of 1 ms for send cycle of 2 ms for send cycle of 2 ms for send cycle of 4 ms for send cycle of 2 ms for send cycle of 4 ms for send cycle of	— for send cycle of 250 μs	250 μs to 128 ms	
for send cycle of 2 ms	— for send cycle of 500 μs	500 μs to 256 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 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  Interface types  RJ 45 (Ethernet)  • 100 Mbps • Autonegotiation • Autocrossing • Autocrossing • Industrial Ethernet status LED  Protocols	— for send cycle of 1 ms	1 ms to 512 ms	
PROFINET IO Device  Services  - Isochronous mode	— for send cycle of 2 ms	2 ms to 512 ms	
Services  - Isochronous mode	— for send cycle of 4 ms	4 ms to 512 ms	
- Isochronous mode - IRT - PROFlenergy - Shared device - Number of IO Controllers with shared device, max activation/deactivation of I-devices - Asset management record - PROFINET Security Class  RJ 45 (Ethernet)  • 100 Mbps • Autonegotiation • Autocrossing • Industrial Ethernet status LED  Protocols	PROFINET IO Device		
- IRT - PROFlenergy - Shared device - Number of IO Controllers with shared device, max activation/deactivation of I-devices - Asset management record - PROFINET Security Class  RJ 45 (Ethernet)  100 Mbps - Autonegotiation - Autocrossing - Autocrossing - Industrial Ethernet status LED  Protocols			
- PROFlenergy - Shared device - Number of IO Controllers with shared device, max activation/deactivation of I-devices - Asset management record - PROFINET Security Class  Interface types  RJ 45 (Ethernet)  • 100 Mbps • Autonegotiation • Autocrossing • Industrial Ethernet status LED  Protocols			
- Shared device - Number of IO Controllers with shared device, max activation/deactivation of I-devices - Asset management record - PROFINET Security Class  Interface types  RJ 45 (Ethernet)  • 100 Mbps • Autonegotiation • Autocrossing • Industrial Ethernet status LED  Protocols			
<ul> <li>Number of IO Controllers with shared device, max.</li> <li>— activation/deactivation of I-devices</li> <li>— Asset management record</li> <li>— PROFINET Security Class</li> <li>Interface types</li> <li>RJ 45 (Ethernet)</li> <li>• 100 Mbps</li> <li>• Autonegotiation</li> <li>• Autocrossing</li> <li>• Industrial Ethernet status LED</li> <li>Protocols</li> </ul>	0,		
<ul> <li>— activation/deactivation of I-devices</li> <li>— Asset management record</li> <li>— PROFINET Security Class</li> <li>Interface types</li> <li>RJ 45 (Ethernet)</li> <li>• 100 Mbps</li> <li>• Autonegotiation</li> <li>• Autocrossing</li> <li>• Industrial Ethernet status LED</li> <li>Protocols</li> </ul> Yes; per user program Yes; per user program Yes Yes • Autoprogram Yes • Industrial Ethernet status LED Yes Yes			
- Asset management record - PROFINET Security Class  SNMP Configuration and DCP Read Only  Interface types  RJ 45 (Ethernet)  • 100 Mbps • Autonegotiation • Autocrossing • Industrial Ethernet status LED  Protocols			
— PROFINET Security Class  Interface types  RJ 45 (Ethernet)  • 100 Mbps  • Autonegotiation  • Autocrossing  • Industrial Ethernet status LED  Protocols  SNMP Configuration and DCP Read Only  Yes  Yes  Yes  Yes  Yes  Yes			
Interface types  RJ 45 (Ethernet)  • 100 Mbps  • Autonegotiation  • Autocrossing  • Industrial Ethernet status LED  Protocols	-		
RJ 45 (Ethernet)  • 100 Mbps  • Autonegotiation  • Autocrossing  • Industrial Ethernet status LED  Protocols  Protocols	·	SNMP Configuration and DCP Read Only	
• 100 Mbps     • Autonegotiation     • Autocrossing     • Industrial Ethernet status LED  Protocols  Yes  Yes  Yes  Yes  Yes  Yes			
<ul> <li>Autonegotiation</li> <li>Autocrossing</li> <li>Industrial Ethernet status LED</li> <li>Protocols</li> </ul> Yes Yes			
◆ Autocrossing     ◆ Industrial Ethernet status LED     Yes  Protocols	·		
Industrial Ethernet status LED     Yes  Protocols	-		
Protocols	-	Yes	
		Yes	
	PROFIsafe	No	
Number of connections	Number of connections		

<ul> <li>Number of connections, max.</li> </ul>	128; via integrated interfaces of the CPU and connected CPs / CMs	
<ul> <li>Number of connections reserved for ES/HMI/web</li> </ul>	10	
<ul> <li>Number of connections via integrated interfaces</li> </ul>	88	
Number of S7 routing paths	16	
Redundancy mode		
H-Sync forwarding	Yes	
Media redundancy		
— Media redundancy	only via 1st interface (X1)	
— MRP	Yes; MRP Automanager according to IEC 62439-2 Edition 2.0, MRP Manager;	
	MRP Client	
<ul> <li>MRP interconnection, supported</li> </ul>	Yes; as MRP ring node according to IEC 62439-2 Edition 3.0	
— MRPD	Yes; Requirement: IRT	
<ul> <li>Switchover time on line break, typ.</li> </ul>	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. 78 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	
• web API		
Number of sessions, max.	50	
— number of simultaneous HTTP calls, max.	4	
— HTTP request body, max.	131 072 byte	
OPC UA		
Runtime license required	Yes; "Small" license required	
OPC UA Client	Yes; Data Access (registered Read/Write), Method Call	
Application authentication	Yes	
<ul><li>— Security policies</li></ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256	
— User authentication	"anonymous" or by user name & password	
Number of connections, max.	"anonymous" or by user name & password 4	
Number of recimectoris, max.      Number of nodes of the client interfaces, recommended max.	1 000	
— Number of elements for one call of OPC_UA_NodeGetHandleList/OPC_UA_ReadList/OPC_U max.	300 L	
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	

<ul> <li>Number of simultaneous calls of the client instructions for data access, per connection, max.</li> </ul>	5	
Number of registerable nodes, max.	5 000	
Number of registerable method calls of OPC_UA_MethodCall, max.	100	
Number of inputs/outputs when calling OPC UA MethodCall, max.	20	
OPC UA Server	Yes; data access (read, write, subscribe), method call, alarms & condition (A&C), custom address space, role-based access control	
<ul> <li>Application authentication</li> </ul>	Yes	
— Security policies	available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256, Aes128Sha256RsaOaep, Aes256Sha256RsaPss	
— User authentication	"anonymous" or by user name & password	
<ul> <li>— GDS support (certificate management)</li> </ul>	Yes	
— Number of sessions, max.	32	
<ul> <li>Number of accessible variables, max.</li> </ul>	50 000	
<ul> <li>Number of registerable nodes, max.</li> </ul>	10 000	
<ul> <li>Number of subscriptions per session, max.</li> </ul>	50	
— Sampling interval, min.	100 ms	
— Publishing interval, min.	200 ms	
<ul> <li>Number of server methods, max.</li> </ul>	20; max. 20 concurrently running jobs each for asynchronous instructions OPC_UA_ServerMethodPre and OPC_UA_ServerMethodPost	
<ul> <li>Number of inputs/outputs per server method, max.</li> </ul>	20	
<ul> <li>Number of monitored items, recommended max.</li> </ul>	4 000; for 1 s sampling interval and 1 s send interval	
<ul> <li>Number of server interfaces, max.</li> </ul>	10 of each "Server interfaces" / "Companion specification" type and 20 of the type "Reference namespace"	
<ul> <li>Number of nodes for user-defined server interfaces, max.</li> </ul>	15 000	
<ul> <li>Alarms and Conditions</li> </ul>	Yes	
<ul> <li>Number of program alarms</li> </ul>	100	
Number of alarms for system diagnostics	50	
Further protocols		
<ul> <li>MODBUS</li> </ul>	Yes; MODBUS TCP	
67 message functions		
Number of login stations for message functions, max.	32	
Number of login stations for message functions, max. number of subscriptions, max.	250	
Number of login stations for message functions, max.  number of subscriptions, max.  number of tags/attributes for subscriptions, max.	250 2 000	
Number of login stations for message functions, max.  number of subscriptions, max.  number of tags/attributes for subscriptions, max.  Program alarms	250 2 000 Yes	
Number of login stations for message functions, max.  number of subscriptions, max.  number of tags/attributes for subscriptions, max.  Program alarms  Number of configurable program messages, max.	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH	
Number of login stations for message functions, max.  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.	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block,	
Number of login stations for message functions, max.  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	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000	
Number of login stations for message functions, max.  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	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000	
Number of login stations for message functions, max.  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	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 600 100	
Number of login stations for message functions, max.  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	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000	
Number of login stations for message functions, max.  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	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000 600 100 160	
Number of login stations for message functions, max.  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)	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems	
Number of login stations for message functions, max.  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	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients)	
Number of login stations for message functions, max.  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	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No	
Number of login stations for message functions, max.  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  Fest commissioning functions  Joint commission (Team Engineering)  Status block  Single step  Number of breakpoints	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8	
Number of login stations for message functions, max.  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	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No	
Number of login stations for message functions, max.  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  Fest commissioning functions  Joint commission (Team Engineering)  Status block  Single step  Number of breakpoints  Profiling	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8	
Number of login stations for message functions, max.  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	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes	
Number of login stations for message functions, max.  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  Fest commissioning functions  Joint commission (Team Engineering)  Status block  Single step  Number of breakpoints  Profiling  Status/control  Status/control variable	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes	
Number of login stations for message functions, max.  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  Fest commissioning functions  Joint commission (Team Engineering)  Status block  Single step  Number of breakpoints  Profiling  Status/control  Status/control variable  Variables	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes	
Number of login stations for message functions, max.  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  Fest 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.	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes  Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job	
Number of login stations for message functions, max.  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  Fest commissioning functions  Joint commission (Team Engineering)  Status block  Single step  Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes  Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters	
Number of login stations for message functions, max.  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  Number of variables, max.  of which status variables, max.  of which control variables, max.	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes  Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job	
Number of login stations for message functions, max.  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  Fest commissioning functions  Joint commission (Team Engineering)  Status block  Single step  Number of breakpoints  Profiling  Status/control  Status/control variable  Variables  Number of variables, max.  — of which status variables, max.  — of which control variables, max.  Forcing	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes  Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job 200; per job	
Number of login stations for message functions, max.  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  Fest 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.  — of which control variables, max.  Forcing  • Forcing	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes  Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job 200; per job	
Number of login stations for message functions, max.  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  Fest commissioning functions  Joint commission (Team Engineering)  Status block  Single step  Number of breakpoints  Profiling  Status/control  • Status/control variable  • Variables  • Number of variables, max.  — of which status variables, max.  — of which control variables, max.  Forcing  • Forcing  • Forcing, variables	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes  Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job 200; per job Yes Peripheral inputs/outputs	
Number of login stations for message functions, max.  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  Fest commissioning functions  Joint commission (Team Engineering)  Status block  Single step  Number of breakpoints  Profiling  Status/control  • Status/control variable  • Variables  • Number of variables, max.  — of which status variables, max.  — of which control variables, max.  Forcing  • Forcing  • Forcing  • Forcing, variables, max.  • Number of variables, max.	250 2 000 Yes 5 000; Program messages are generated by the "Program_Alarm" block, ProDiag or GRAPH 5 000  600 100 160  Yes; Parallel online access possible for up to 5 engineering systems Yes; Up to 8 simultaneously (in total across all ES clients) No 8 Yes  Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters  200; per job 200; per job Yes Peripheral inputs/outputs	

Number of entries, max.	1 000
of which powerfail-proof	500
Traces	300
Number of configurable Traces	4
Memory size per trace, max.	512 kbyte
Interrupts/diagnostics/status information	o iz koyte
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
Modell Control	program; selection guide via the TIA Selection Tool
<ul> <li>Number of available Motion Control resources for</li> </ul>	1 120
technology objects	
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
<ul> <li>Positioning axis</li> </ul>	
<ul> <li>Number of positioning axes at motion control cycle of 4 ms (typical value)</li> </ul>	11
Number of positioning axes at motion control cycle of 8 ms (typical value)	14
Controller	
<ul><li>PID_Compact</li></ul>	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	0. 5.5.1
Siemens Eco Profile (SEP)	Siemens EcoTech
Ecological footprint	V
environmental product declaration	Yes
Global warming potential	00.4 km
— global warming potential, (total) [CO2 eq]	80.1 kg
— global warming potential, (during production) [CO2 eq]      — global warming potential, (during operation) [CO2	23.8 kg 57.4 kg
eq]  global warming potential, (during operation) [CO2 eq]  global warming potential, (after end of life cycle)	-1.29 kg
[CO2 eq]	
product functions / security / header	
PROFINET Security Class	1
signed firmware update	Yes
Secure Boot	Yes
safely removing data	Yes
Ambient conditions	
Ambient temperature during operation	
horizontal installation, min.	-30 °C; No condensation
• horizontal installation, max.	60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off
• vertical installation, min.	-30 °C; No condensation
vertical installation, max.	40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off
Ambient temperature during storage/transportation	
• min.	-40 °C

• max.	70 °C	
Altitude during operation relating to sea level		
Installation altitude above sea level, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual	
configuration / header		
configuration / programming / header		
Programming language		
— LAD	Yes	
— FBD	Yes	
— STL	Yes	
— SCL	Yes	
— CFC	Yes	
— GRAPH	Yes	
Know-how protection		
<ul> <li>User program protection/password protection</li> </ul>	Yes	
Copy protection	Yes	
Block protection	Yes	
Access protection		
<ul> <li>protection of confidential configuration data</li> </ul>	Yes	
<ul> <li>Password for display</li> </ul>	Yes	
<ul> <li>Protection level: Write protection</li> </ul>	Yes	
<ul> <li>Protection level: Read/write protection</li> </ul>	Yes	
<ul> <li>Protection level: Write protection for Failsafe</li> </ul>	No	
<ul> <li>Protection level: Complete protection</li> </ul>	Yes	
User administration	Yes; device-wide and centralized	
<ul> <li>Number of users</li> </ul>	100	
<ul> <li>Number of groups</li> </ul>	100	
Number of roles	50	
programming / cycle time monitoring / header		
• lower limit	adjustable minimum cycle time	
• upper limit	adjustable maximum cycle time	
Dimensions		
Width	35 mm	
Height	147 mm	
Depth	129 mm	
Weights		
Weight, approx.	336 g	
Classifications		

	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	9	EC000236
ETIM	8	EC000236
ETIM	7	EC000236
IDEA	4	3565
UNSPSC	15	32-15-17-05

## Approvals / Certificates

General Product Approval







Miscellaneous



<u>KC</u>

General Product Approval

For use in hazardous locations



<u>FM</u>



<u>FM</u>



Type Examination Certificate

For use in hazardous locations

**Test Certificates** 

Marine / Shipping

Miscellaneous



Type Test Certificates/Test Report







Marine / Shipping

NK / Nippon Kaiji Kyokai



CCS (China Classification Society)



**PROFINET** 

other

Environment



LRS

last modified:

12/19/2024

