6AG1317-2FK14-2AB0

Data sheet



SIPLUS S7-300 CPU 317F-2PN/DP based on 6ES7317-2FK14-0AB0 with conformal coating, -25...+60 °C, central processing unit with 1.5 MB work memory, 1st interface MPI/DP 12 Mbps, 2nd interface Ethernet PROFINET, with 2-port switch, Micro Memory Card required

General information	
Product type designation	CPU 317F-2 PN/DP
based on	6ES7317-2FK14-0AB0
Product function	
Isochronous mode	Yes; Via PROFIBUS DP or PROFINET interface
Engineering with	
Programming package	STEP 7 V5.5 or higher, Distributed Safety V5.4 SP4
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	2 A min.
Mains buffering	
Mains/voltage failure stored energy time	5 ms
Repeat rate, min.	1 s
Input current	
Current consumption (rated value)	750 mA
Current consumption (in no-load operation), typ.	150 mA
Inrush current, typ.	4 A
I²t	1 A².s
Power loss	
Power loss, typ.	4.65 W
Memory	
Work memory	
• integrated	1 536 kbyte
expandable	No
Load memory	
• Plug-in (MMC)	Yes
Plug-in (MMC), max.	8 Mbyte
 Data management on MMC (after last programming), min. 	10 a
Backup	
• present	Yes; Guaranteed by MMC (maintenance-free)
 without battery 	Yes; Program and data
CPU processing times	
for bit operations, typ.	0.025 µs
for word operations, typ.	0.03 µs
for fixed point arithmetic, typ.	0.04 µs
for floating point arithmetic, typ.	0.16 µs
CPU-blocks	

Number of blocks (total)	2.049: (DDa ECa EDa); the maximum number of leadable blocks can be
Number of blocks (total)	2 048; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.
DB	
Number, max.	2 048; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
Number, max.	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
Number, max.	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
• Size, max.	64 kbyte
 Number of free cycle OBs 	1; OB 1
 Number of time alarm OBs 	1; OB 10
 Number of delay alarm OBs 	2; OB 20, 21
 Number of cyclic interrupt OBs 	4; OB 32, 33, 34, 35
 Number of process alarm OBs 	1; OB 40
 Number of DPV1 alarm OBs 	3; OB 55, 56, 57
 Number of isochronous mode OBs 	1; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not
	simultaneously)
Number of startup OBs	1; OB 100
 Number of asynchronous error OBs 	6; OB 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	
 per priority class 	16
additional within an error OB	4
Counters, timers and their retentivity	
S7 counter	
Number	512
Retentivity	
— adjustable	Yes
— preset	Z 0 to Z 7
Counting range	
— adjustable	Yes
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	
• Number	512
Retentivity	v
— adjustable	Yes
— preset	No retentivity
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	V
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	256 kbyte
Flag	
• Size, max.	4 096 byte
Retentivity available	Yes; From MB 0 to MB 4 095
Retentivity preset	MB 0 to MB 15
Number of clock memories	8; 1 memory byte
Data blocks	

Retentivity adjustable	Yes; via non-retain property on DB
Retentivity preset	Yes
Local data	
per priority class, max.	32 768 byte; Max. 2048 bytes per block
Address area	од гос су.с., до гос рос дост
I/O address area	
• Inputs	8 192 byte
• Outputs	8 192 byte
of which distributed	·
— Inputs	8 192 byte
— Outputs	8 192 byte
Process image	
Inputs	8 192 byte
 Outputs 	8 192 byte
 Inputs, adjustable 	8 192 byte
 Outputs, adjustable 	8 192 byte
 Inputs, default 	256 byte
Outputs, default	256 byte
Subprocess images	
Number of subprocess images, max.	1; With PROFINET IO, the length of the user data is limited to 1600 bytes
Digital channels	
• Inputs	65 536
— of which central	1 024
• Outputs	65 536
— of which central	1 024
Analog channels	4.000
• Inputs	4 096
— of which central	256
Outputs of which control	4 096
— of which central	256
Hardware configuration	
Number of expansion units, max. Number of DP masters	3
• integrated	1
via CP	4
Number of operable FMs and CPs (recommended)	*
FM	8
• CP, PtP	8
• CP, LAN	10
Rack	
• Racks, max.	4
Modules per rack, max.	8
Time of day	
Clock	
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
Backup time	6 wk; At 40 °C ambient temperature
Deviation per day, max.	10 s; Typ.: 2 s
Behavior of the clock following POWER-ON	Clock continues running after POWER OFF
Behavior of the clock following expiry of backup period	the clock continues at the time of day it had when power was switched off
Operating hours counter	
Number	4
Number/Number range	0 to 3
Range of values	0 to 2^31 hours (when using SFC 101)
Granularity	1 h
	1 h
• retentive	Yes; Must be restarted at each restart
•	
• retentive	
retentive Clock synchronization	Yes; Must be restarted at each restart

e to DP master	Vac: With DD clave only clave clack
to DP, masteron DP, device	Yes; With DP slave only slave clock Yes
	Yes
• in AS, master	
• in AS, device	Yes
on Ethernet via NTP	Yes; As client
Digital inputs	
Number of digital inputs	0
Digital outputs	
Number of digital outputs	0
Analog inputs	
Number of analog inputs	0
Interfaces	
Number of PROFINET interfaces	1
Number of RS 485 interfaces	1
Number of RS 422 interfaces	0
1. Interface	
Interface type	Integrated RS 485 interface
Isolated	Yes
Interface types	
• RS 485	Yes
Output current of the interface, max.	200 mA
Protocols	
• MPI	Yes
 PROFIBUS DP master 	Yes
PROFIBUS DP device	Yes
Point-to-point connection	No
MPI	
Transmission rate, max.	12 Mbit/s
Services	
— PG/OP communication	Yes
— Routing	Yes
 Global data communication 	Yes
 S7 basic communication 	Yes
— S7 communication	Yes
 S7 communication, as client 	No; but via CP and loadable FB
— S7 communication, as server	Yes
PROFIBUS DP master	
 Transmission rate, max. 	12 Mbit/s
 max. number of DP devices 	124
Services	
— PG/OP communication	Yes
— Routing	Yes
 Global data communication 	No
 S7 basic communication 	Yes; I blocks only
— S7 communication	Yes
 S7 communication, as client 	No
 S7 communication, as server 	Yes
— Equidistance	Yes
— Isochronous mode	Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO
— SYNC/FREEZE	Yes
 activation/deactivation of DP devices 	Yes
 max. number of DP devices that can be activated/deactivated at the same time 	8
 Direct data exchange (slave-to-slave communication) 	Yes; as subscriber
— DPV1	Yes
Address area	
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
1st interface / DP master / payload data per DP Device / head	er

	244
— Inputs, max.	244 byte
— Outputs, max.	244 byte
1st interface / PROFIBUS DP device / header	12 Mbit/s
Transmission rate, max.automatic baud rate search	Yes; only with passive interface
	32
Address area, max.User data per address area, max.	32 byte
Services	32 byte
— PG/OP communication	Yes
— Routing	Yes; Only with active interface
Global data communication	No
S7 basic communication	No
— S7 communication	Yes
S7 communication, as client	No
— S7 communication, as server	Yes; Connection configured on one side only
Direct data exchange (slave-to-slave)	Yes
communication)	165
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
2. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes; 10/100 Mbit/s
Autonegotiation	Yes
Autocrossing	Yes
Change of IP address at runtime, supported	Yes
Interface types	
RJ 45 (Ethernet)	Yes
 Number of ports 	2
integrated switch	Yes
Protocols	
• MPI	No
PROFINET IO Controller	Yes; Also simultaneously with IO-Device functionality
PROFINET IO Device	Yes; Also simultaneously with IO Controller functionality
PROFINET CBA	Yes
PROFIBUS DP master	No
PROFIBUS DP device	No
Open IE communication	Yes; Via TCP/IP, ISO on TCP, and UDP
Web server	Yes
Media redundancy	Yes
PROFINET IO Controller	400 Mb:Ha
Transmission rate, max. Son/ince	100 Mbit/s
Services — PG/OP communication	Vec
	Yes Yes
— Routing— S7 communication	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32
— Isochronous mode	Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO
— IRT	Yes
— Shared device	Yes
Prioritized startup	Yes
Number of IO devices with prioritized startup, max.	32
Number of connectable IO Devices, max.	128
Of which IO devices with IRT, max.	64
— of which in line, max.	64
Number of IO Devices with IRT and the option "high flexibility"	128
— of which in line, max.	61
Number of connectable IO Devices for RT, max.	128

- Critical mark, max Activation/deachvision of 10 Devices - Number of 10 Devices hat can be similarineously software decided by the control of 10 periods	of which in the course	400
- Number of IO Devices that can be simultaneously advisited/decideated, max IO Devices changing during operation (partner portis), supported - Number of IO Devices per tool, max Device replacement without away medium - Send cycles - Updating time - Send cycles - Updating time - Send cycles - Updating time - Upd	— of which in line, max.	128
activated/decidental, max. — IO Devices dranging during geranton (partner ports), supported Ports), supported Ports), supported Ports, suppor		
Ports), supported - Number of IO Devices per tool, max. - Device replacement without swap medium - Send cycles - Updating time - Send cycles - Updating time - PGIOP communication - Routing - PGIOP communication - Routing - PROFIlent IO Device - PGIOP communication - Incohronous mode - Incohron	·	8
- Number of 10 Devices per fool, max Device reglacement without awap medium - Send cycles - Outputing time - 250 us 50 1/2 ms (depending on the operating mode, see Manual "57-300 CPU 31x Cand CPU 31x Lechnical Bata" for more details) - Imputs, max Outputs, max User data consistency, max PSICP communication - PSICP communication - PSICP communication - PSICP communication - IRT - PROFINET 10 Device - PSICP communication - IRT - PROFInerary - Shared device - Number of 10 Controllers with shared device, max - Transfer memory - Imputs, max Outputs, max Outputs, max Outputs, max Outputs, max Outputs, max Interface and loadable PROFINET interface and loadable PBs - PSICP communication - Number of 00 Controllers, max Outputs, max.		Yes
- Device reglacement without swap medium - Send cycles - Send cycles - Updating time - 200 us, 500 µs.1 ms; 2 ms, 4 ms; not in the case of IRT with "high flexibility" option) - 200 us to 512 ms (depending on the operating mode, see Manual "S7-300 CPU stxC and CPU 31x, technical Data" for more details) Address area - Inputs, max Outputs, max Outputs, max PROFINET IC Device - Services - PGOP communication - Yes - PGOP communication - Yes - PGOP communication - Yes, with loadable FBs, max. configurable connections: 16, max. number of instances: 32 - Isochronous mode - IRT - PROFILENT - PROFIL		
- Send cycles - Updating time - 250 us to 512 ms (depending on the operating mode, see Manual "57-300 CPU 31x Cand CPU 31x Lechnical Index for more details) Address area - Iniquis, max User data consistency, max User data consistency, max PROFINET ID Dewice - PROFOP Communication - Routing - S7 communication - PROFOP Communication - PROFINET ID SEA CONTROLLED With SFB 73 / 74 prepared for loadable PROFinergy standard FB for ID Device - Number of IO Controllers with shared device, max User data per submodule, max Outputs, max User data per submodule, max User data per submodule, max Outputs, max User data per submodule, max Outputs, max User data per submodule, max User data per submodule, max Oyer is transmission - Ves Number max Oyer is transmission - Ves Number of each or in the fing, max Oyer is transmission - Ves Number of each or in the fing, max Oyer is transmission - Ves Number of each or in the fing, max Open is Communication - Number of connections, max Outputs, max Oyer is transmission - Ves Number of each or in the fing, max Oyer is transmission - Ves Number of each or in the fing, max Oo may PROFINET MRP - Number of each or in the fing, max Oo may PROFINET MRP - Number of connections, max User data per submodules - Number of connections, max Oo may PROFINET interface and loadable FBs - Oo may PROFINET interface and loadable FBs - Oo may PROFINET interface and loadable FBs - Oo may profine the fing of connections per port, supported - Ves, via integrated PROFINET interface and loadable FBs - Oo may profine the fing of connections per port, supported - Ves, via integrated PROFINET interface and loadable FBs - Oo may profine the fing of connections per port, supported - Ves, via integrated PROFINET interface and loadable FBs - Oo may profine the fing of connections per port, supported - Ves, via integrated PROFINET int	•	
- Updating time 250 js to 512 ms (depending on the operating mode, see Manual *\$7.300 CPU 31x0 and CPU 31x, technical Data *for more details) Address area - Inputs, max. 8 kbyte	·	
Address area	— Send cycles	
- Inputs, max	— Updating time	
- Outputs, max - User data consistency, max. 1 024 byte PROFINET ID Device Services - PGIOP communication Yes - Routing Yes - St communication Yes - Routing Yes - St communication Yes, with loadable FBs, max. configurable connections: 16, max. number of instances: 32 - Isochronous mode No - IRT Yes - PROFienergy Yes, With SFB 73 / 74 prepared for loadable PROFienergy standard FB for I-Device Yes - Shared device - Shared device Yes - Shared device Number of IO Controllers with shared device, max. 2 Transfer memory - Inputs, max. 1 440 byte; Per IO Controller with shared device - Number, max. 64 - Outputs, max. 1 440 byte; Per IO Controller with shared device - Number, max. 64 - Outputs, max. 1 1 024 byte - Number of connections, max. 1 1 024 byte - PROFINET CBA - apyclic transmission Yes - Output numbers used at the system end 0, 20, 21, 25, 80, 102, 135, 161, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 - Keep-allive function, supported Yes - Number of connections, max. 50 - Number of connection type 01H, max. 50 - Deat length for connection per port, supported - Self-tower time on line break, typ. 200 ms; PROFINET interface and loadable FBs - Number of connections, max. 1460 byte - Self-tower device, max. 1472 byte	Address area	
PROFINET IO Decise Services - PG/OP communication - Routing - S7 communication - IRT - RoCFlenergy - Ves; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 - Isochronous mode - IRT - RoCFlenergy - Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device - Shared device - Number of IO Controllers with shared device, max Standard memory - Inputs, max Unputs, max	— Inputs, max.	8 kbyte
Services - PG/OP communication - Routing - Strommunication - Routing - Strommunication - Routing - Strommunication - Yes - Strommunication - Yes - Strommunication - Yes - Strommunication - Yes - IRT - ROFFlenergy - Strommunication - IRT - PROFinergy - Sharred device - Sharred device - Number of IO Controllers with shared device, max Transfer memory - Inputs, max - Uputs, max - Uputs, max - 1440 byte; Per IO Controller with shared device - Number, max - 1440 byte; Per IO Controller with shared device - Number, max - Uper data per submodule, max - 1024 byte - PROFINET GBA - apqicit transmission - expilic transmission - vyeilic transmission - Ves - Open IE communication - Number of connections, max - Local port numbers used at the system end - Keep-alive function, supported - Weddar advandancy - Switchover time on line break, tye, - Number of stations in the ring, max - Data length for connection type 11H, max - Several passive connections per port, supported - Number of connections, max - Data length for connections, max - Data length, max - Supported - Ves	— Outputs, max.	8 kbyte
Services - PG/OP communication - Routing - S7 communication - Routing - Roof-Incompage - Isochronous mode - No - IRT - PROFlenergy - Shared device - Number of ID Controllers with shared device, max Stared device - Number of ID Controllers with shared device, max Cupuls, max Outpuls, max Outpuls, max Outpuls, max Outpuls, max User data per submodule, max Ves - PRODINET CBA - expelic transmission - Yes - PROFINET one of connections, max Local port numbers used at the system end - Ves - Redundancy - Switchover time on line break, typ Switchover time on line break, typ Switchover time on line break, typ Number of connections, max Data length for connection type 01H, max Data length for connection type 01H, max Several passive connections per port, supported - Ves - Ves - Ves - Ves, via integrated PROFINET interface and loadable FBs - Ves - Ves, via integrated PROFINET interface and loadable FBs - Ves, via integrated PROFINET interface and loadable FBs - Ves, via integrated PROFINET interface and loadable FBs - Ves, via integrated PROFINET interface and loadable FBs - Ves, via integrated PROFINET interface and loadable FBs - Ves, via integrated PROFINET interface and loadable FBs - Ves, via integrated PROFINET interface and loadable FBs - Ves, via integrated PROFINET interface and loadable FBs -	 User data consistency, max. 	1 024 byte
PGIOP communication Routing S7 communication Yes S8, with loadable F8s, max. configurable connections: 16, max, number of instances: 32 Isochronous mode No IRT PROFlenergy Yes System device Number of 10 Controllers with shared device, max. Transfer memory Injust, max. Outputs, max. Submodules No Ves Nother, max. Submodules No Ves Nother C8A Outputs, max. 1440 byte; Per IO Controller with shared device Number of to Controllers with shared device. Number, max. Submodules Nother C8A Outputs, max. 164 1024 byte PROFINET C8A Output transmission Ves Output transmission Ves Output transmission Open IE communication Number of connections, max. Local port numbers used at the system end O5345, 6533 Keep-alive function, supported Yes Redundancy mode Media redundancy Switchover time on line break, typ. Number of connections, max. Data length for connection type 11H, max. Submodule F8s, max. configurable connections; 16, max, number of Instances; 32 Yes Outputs, max. Open IE communication Yes Outputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 164 0, 20, 21, 25, 80, 102, 135, 161, 8080, 34962, 34963, 34964, 85532, 65533, 65536 Yes Outputs Protocols Protocol	PROFINET IO Device	
Routing Yes with loadable FBs, max. configurable connections: 16, max. number of instances. 32 - Isochronous mode No - IRT Yes - PROFlenergy Period Proflemency Period Proflemency Standard FB for I-Device - Shared device Yes - Number of ID Controllers with shared device, max Shared memory - Inputs, max Outputs, max Outputs, max Outputs, max User data per submodute, max User data per submodute, max User data per submodute, max Ves - explicit transmission Yes - cyclic transmission Yes - Colar port numbers used at the system end - output numbers used at the system end - Outputs max sed at the system end - Proflectors - Number of connections, max Local port numbers used at the system end - Output numbers of connections, max Output numbers used at the system end - Output	Services	
Routing Yes with loadable FBs, max. configurable connections: 16, max. number of instances. 32 - Isochronous mode No - IRT Yes - PROFlenergy Period Proflemency Period Proflemency Standard FB for I-Device - Shared device Yes - Number of ID Controllers with shared device, max Shared memory - Inputs, max Outputs, max Outputs, max Outputs, max User data per submodute, max User data per submodute, max User data per submodute, max Ves - explicit transmission Yes - cyclic transmission Yes - Colar port numbers used at the system end - output numbers used at the system end - Outputs max sed at the system end - Proflectors - Number of connections, max Local port numbers used at the system end - Output numbers of connections, max Output numbers used at the system end - Output	— PG/OP communication	Yes
- S7 communication		Yes
Instances: 32 Instances: 32 IRT PROFlenergy PROFlenergy Pres: With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I Device — Shared device — Number of IO Controllers with shared device, max. 2 Transfer memory — Inputs, max. — Inputs, max. — Outputs, max. — User data per submodule, max. 1 440 byte; Per IO Controller with shared device — Number, max. Submodules — Number, max. — User data per submodule, max. PROFINET CBA • acyclic transmission • ves - cyclic transmission • Ves - cyclic transmission • Number of connections, max. - Local port numbers used at the system end 0, 20, 21, 25, 80, 102, 135, 161, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65533 • Keep-alive function, supported PROFisate Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. Open IE communication • TCP/IP — Number of connections, max. — Data length for connection bye 01H, max. — Data length for connection bye 11H, max. — Several passive connections per port, supported • ISO-cn-TCP (RFC1006) — Number of connections, max. — Data length, more connections, per port, supported • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable FBs • Ves; via integrated PROFINET interface and loadable F	Ü	
	C. Communication	
- PROFlenergy - Shared device - Shared device - Number of IO Controllers with shared device, max. 1 440 byte; Per IO Controller with shared device - Number, max Outputs, max User data per submodule, max User data per submodule, max User data per submodule, max Cyclic transmission - eyclic transmission - ves - Number of connections, max Local port numbers used at the system end - Keep-alive function, supported - Yes Redundancy mode - Media redundancy - Number of stations in the ring, max Data length for connections, max Data length for connections, pax Data length, max	— Isochronous mode	No
— Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. — Outputs, max. — Outputs, max. — User data per submodule, max. — User data per submodule, max. — User data per submodule, max. — Output samsission — expelic transmission — expelic transmission — oxplic transmissio	— IRT	Yes
- Shared device	— PROFlenergy	
Transfer memory - Inputs, max Outputs, max	— Shared device	
Transfer memory Inputs, max. In 1440 byte; Per IO Controller with shared device Outputs, max. In 1440 byte; Per IO Controller with shared device Submodules In Number, max. In 1024 byte PROFINET CBA acyclic transmission ves cyclic transmission Number of connections, max. In 1024 byte Protocols Protocols Protocols Protocols PROFINET max In 1024 byte In 1024 byte In 1024 byte PROFINET max In 1024 byte In 124 byte		
- Inputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Submodules - Number, max. 64 1024 byte PROFINET CBA 1024 byte PROFINET Interface and loadable FBS 1024 byte PROFINET CBA 1024 b		-
Submodules - Number, max User data per submodule, max Open IE communication - Oycilic transmission	·	1.440 byte: Per IO Controller with shared device
Submodules - Number, max User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission • cyclic transmission • Number of connections, max. • Local port numbers used at the system end • Local port numbers used at the system end • Keep-alive function, supported • Keep-alive function, supported PROFISER Redundancy mode Media redundancy - Switchover time on line break, typ Number of stations in the ring, max. Open IE communication • TCP/IP Number of connections, max Data length for connection type 01H, max Data length for connection type 11H, max several passive connections per port, supported • ISO-on-TCP (RFC1006) - Number of connections, max Data length, max. UDP - Number of connections, max Data length, max.	•	•
- Number, max User data per submodule, max. - User data per submodule, max. 1 024 byte PROFINET CBA • acyclic transmission • Cyclic transmission • Cyclic transmission • Number of connections, max. • Local port numbers used at the system end • Cyclic transmission • Number of connections, max. • Local port numbers used at the system end • Cyclic transmission • Number of connections, max. • Local port numbers used at the system end • Cyclic transmission • Number of stations supported • Yes Protocols PROFIsafe • Yes Redundancy mode Media redundancy - Switchover time on line break, typ Number of stations in the ring, max. Open IE communication • TCP/IP - Number of connections, max Data length for connection type 01H, max Data length for connection type 11H, max several passive connections per port, supported • ISO-on-TCP (RFC1006) - Number of connections, max Data length, max. • UDP - Number of connections, max Data length, max.		1 440 byte, Fel 10 Contitoller with Shared device
- User data per submodule, max. 1 024 byte PROFINET CBA • acyclic transmission Yes Open IE communication • Number of connections, max. 16 • Local port numbers used at the system end 65534, 65535 • Keep-alive function, supported Yes Protocols PROFIsafe Redundancy — Switchover time on line break, typ. 200 ms; PROFINET MRP — Number of connections, max. 16 • TCP/IP — Number of connection type 01H, max. 16 — Data length for connection type 11H, max. 22 768 byte • ISO-on-TCP (RFC1006) — Number of connections, max. 16 — Data length for connections per port, supported • ISO-on-TCP (RFC1006) — Number of connections, max. 16 — Data length, max. 32 768 byte • UDP — Number of connections, max. 16 — Data length, max. 32 768 byte • UDP — Number of connections, max. 16 — Data length, max. 32 768 byte • Sy via integrated PROFINET interface and loadable FBs • Wes; via integrated PROFINET interface and loadable FBs • Local length, max. 32 768 byte • Sy via integrated PROFINET interface and loadable FBs • Local length, max. 32 768 byte • Sy via integrated PROFINET interface and loadable FBs • Local length, max. 32 768 byte • Sy via integrated PROFINET interface and loadable FBs • Local length, max. 1472 byte • Supported		CA
PROFINET CBA • acyclic transmission • cyclic transmission Open IE communication • Keep-alive function, in the ring, max. - Switchover time on line break, typ Number of connections, max. - Data length for connection type 01H, max Data length for connections per port, supported • ISO-on-TCP (RFC1006) - Number of connections, max Data length, max. • UDP - Number of connections, max Data length, max Data length length, max Data length length	,	
 acyclic transmission cyclic transmission Pes Open IE communication Number of connections, max. Local port numbers used at the system end d. Exemplies function, supported Protocols PROFIsafe PROFIsafe Switchover time on line break, typ. Number of stations in the ring, max. TCP/IP Number of connections, max. Data length for connection type 01H, max. Data length for connections per port, supported ISO-on-TCP (RFC1006) Number of connections, max. Data length, max. Data length, max. UDP Number of connections, max. UDP Number of connections, max. 1472 byte Wes sourced Ves Ves 		1 024 byte
vyclic transmission Open IE communication Number of connections, max. Auction of the properties of the		V
Open IE communication Number of connections, max. Local port numbers used at the system end Starting Frotocols Protocols PROFIsafe Redundancy mode Media redundancy Switchover time on line break, typ. Number of stations in the ring, max. Open IE communication TCP/IP Number of connections, max. Data length for connections per port, supported ISO-on-TCP (RFC1006) Number of connections, max. Data length, max. Data length, max. Data length, max. Data length, max. Number of connections, max. Data length, max. Data length, max. Yes Ves Ves Ves Ves Ves Ves Ves	•	
 Number of connections, max. Local port numbers used at the system end 0, 20, 21, 25, 80, 102, 135, 161, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-alive function, supported Yes Protocots PROFIsafe Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. 50 Open IE communication TCP/IP — Number of connections, max. — Data length for connection type 01H, max. — Data length for connection type 11H, max. — several passive connections per port, supported ISO-on-TCP (RFC1006) — Number of connections, max. — Data length, max. UDP — Number of connections, max. — Data length, max. UDP — Number of connections, max. — Data length, max. UDP — Number of connections, max. — Data length, max. UDP — Number of connections, max. — Data length, max. UDP — Number of connections, max. — Data length, max. UDP — Number of connections, max. — Data length, max. UDP — Number of connections, max. — Data length, max. UDP — Number of connections, max. — Data length, max. UDP — Number of connections, max. — Data length, max. UDP — Number of connections, max. — Data length, max. UDP — Number of connections, max. — Data length, max. UDP — Number of connections, max. — Authorized PROFINET interface and loadable FBs — Number of connections, max. — Authorized PROFINET interface and loadable FBs — Number of connections, max. — Authorized PROFINET interface and loadable FBs — Authorized PROFINET interface and loadable FBs —		res
Local port numbers used at the system end (40
Keep-alive function, supported Protocols PROFIsafe PROFIsafe Redundancy mode Media redundancy - Switchover time on line break, typ Number of stations in the ring, max. Open IE communication TCP/IP Number of connections, max Data length for connection type 01H, max Several passive connections per port, supported ISO-on-TCP (RFC1006) - Number of connections, max Data length, max.		
PROFIsafe Yes Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. Open IE communication • TCP/IP — Number of connections, max. — Data length for connection type 01H, max. — Data length for connections per port, supported • ISO-on-TCP (RFC1006) — Number of connections, max. — Data length, max. — Data length, max. 16 — Data length, max. 16 — Data length, max. 16 — Data length, max. • UDP — Yes; via integrated PROFINET interface and loadable FBs — Number of connections, max. 16 — Data length, max. • UDP — Yes; via integrated PROFINET interface and loadable FBs — Number of connections, max. 16 — Data length, max. • UDP — Yes; via integrated PROFINET interface and loadable FBs — Number of connections, max. 16 — Data length, max. 16 — Data length, max. 172 byte	Local port numbers used at the system end	
PROFIsafe Redundancy mode Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. Open IE communication • TCP/IP — Number of connections, max. — Data length for connection type 01H, max. — Data length for connection type 11H, max. — several passive connections per port, supported • ISO-on-TCP (RFC1006) — Number of connections, max. — Data length, max. — Data length, max. 16 — Data length, max. 16 — Number of connections, max. 16 — Data length, max. • UDP — Yes; via integrated PROFINET interface and loadable FBs — Number of connections, max. 16 — Data length, max. 16 — Data length, max. 16 — Data length, max. 16 — Data length, max. 17 Yes Web server • supported Yes	Keep-alive function, supported	Yes
Redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. Open IE communication • TCP/IP — Number of connections, max. — Data length for connection type 01H, max. — several passive connections per port, supported • ISO-on-TCP (RFC1006) — Number of connections, max. — Data length, max. — Data length, max. — Data length, max. — Data length, max. — Data length, max. — Data length, max. — Data length, max. — Data length, max. — Data length, max. • UDP — Number of connections, max. — Data length, max. • UDP — Number of connections, max. — Data length, max. — Data length, max. 16 — Data length, max. 16 — Data length, max. 17 Yes Ves Ves Ves Ves Ves	Protocols	
Media redundancy — Switchover time on line break, typ. — Number of stations in the ring, max. Open IE communication • TCP/IP — Number of connections, max. — Data length for connection type 01H, max. — Data length for connection type 11H, max. — several passive connections per port, supported • ISO-on-TCP (RFC1006) — Number of connections, max. — Data length, max. — Data length, max. — Data length, max. — Data length, max. — Data length, max. • UDP — Number of connections, max. — Data length, max. • UDP — Ves; via integrated PROFINET interface and loadable FBs — Number of connections, max. — Data length, max. 16 — Data length, max. 16 — Data length, max. 17 18 19 19 19 10 10 10 10 10 10 10	PROFIsafe	Yes
- Switchover time on line break, typ Number of stations in the ring, max. Open IE communication TCP/IP - Number of connections, max Data length for connection type 01H, max Data length for connections per port, supported ISO-on-TCP (RFC1006) - Number of connections, max Data length, max Supported - Supported - Yes	Redundancy mode	
 — Number of stations in the ring, max. Deepen IE communication TCP/IP — Number of connections, max. — Data length for connection type 01H, max. — Data length for connection type 11H, max. — several passive connections per port, supported ISO-on-TCP (RFC1006) — Number of connections, max. — Data length, max. — Data length, max. ■ UDP — Number of connections, max. — Data length, max. ■ Data length, max. ■ Data length, max. ■ System of connections, max. — Data length, max. ■ Data length, max. ■ System of connections, max. — Data length, max. ■ 1472 byte Web server ■ supported Yes Yes 	Media redundancy	
Open IE communication TCP/IP Number of connections, max. Data length for connection type 01H, max. Several passive connections per port, supported ISO-on-TCP (RFC1006) Number of connections, max. Data length, max. Data length, max. Several passive connections per port, supported Yes ISO-on-TCP (RFC1006) Number of connections, max. Data length, max. UDP Yes; via integrated PROFINET interface and loadable FBs Yes; via integrated PROFINET interface and loadable FBs 16 Number of connections, max. 16 Yes; via integrated PROFINET interface and loadable FBs 16 Number of connections, max. 16 Yes; via integrated PROFINET interface and loadable FBs 1472 byte	— Switchover time on line break, typ.	200 ms; PROFINET MRP
Open IE communication TCP/IP Yes; via integrated PROFINET interface and loadable FBs Number of connections, max. Data length for connection type 01H, max. Data length for connection type 11H, max. Several passive connections per port, supported ISO-on-TCP (RFC1006) Number of connections, max. Data length, max. UDP Yes; via integrated PROFINET interface and loadable FBs A byte Yes; via integrated PROFINET interface and loadable FBs 16 Yes; via integrated PROFINET interface and loadable FBs 16 Number of connections, max. 16 Data length, max. 16 Yes; via integrated PROFINET interface and loadable FBs 1472 byte	Number of stations in the ring, max.	50
TCP/IP Number of connections, max. Data length for connection type 01H, max. Data length for connection type 11H, max. Say 768 byte ISO-on-TCP (RFC1006) Number of connections, max. Data length, max. UDP Number of connections, max. Data length, max. UDP Number of connections, max. Data length, max. 16 Number of connections, max. Yes; via integrated PROFINET interface and loadable FBs 1472 byte Web server supported Yes		
 Number of connections, max. Data length for connection type 01H, max. Data length for connection type 11H, max. Several passive connections per port, supported ISO-on-TCP (RFC1006) Number of connections, max. Data length, max. UDP Number of connections, max. Data length, max. Data length, max. Number of connections, max. Yes 	·	Yes; via integrated PROFINET interface and loadable FBs
 Data length for connection type 01H, max. Data length for connection type 11H, max. several passive connections per port, supported ISO-on-TCP (RFC1006) Number of connections, max. Data length, max. UDP Number of connections, max. UDP Number of connections, max. A Number of connections, max. Data length, max. A Number of connections, max. Data length, max. 1472 byte Web server supported Yes 		•
 — Data length for connection type 11H, max. — several passive connections per port, supported • ISO-on-TCP (RFC1006) — Number of connections, max. — Data length, max. • UDP — Number of connections, max. • UDP — Number of connections, max. — Data length, max. 16 — Yes; via integrated PROFINET interface and loadable FBs — Number of connections, max. — Data length, max. 1 472 byte Web server • supported Yes 		
 — several passive connections per port, supported • ISO-on-TCP (RFC1006) — Number of connections, max. — Data length, max. • UDP — Number of connections, max. • UDP — Number of connections, max. — Data length, max. — Data length, max. — Data length, max. • Supported Yes Yes Yes 		•
ISO-on-TCP (RFC1006)		•
 — Number of connections, max. — Data length, max. ◆ UDP — Ves; via integrated PROFINET interface and loadable FBs — Number of connections, max. — Data length, max. 16 — Data length, max. 16 Web server ◆ supported Yes 		
 — Data length, max. ■ UDP — Number of connections, max. — Data length, max. Meb server ■ supported Yes 32 768 byte Yes; via integrated PROFINET interface and loadable FBs 16 1 472 byte Yes 	,	-
VDP Yes; via integrated PROFINET interface and loadable FBs Number of connections, max. Data length, max. 1472 byte Web server supported Yes		
 — Number of connections, max. — Data length, max. 1 472 byte Web server supported Yes 		•
— Data length, max. 1 472 byte Web server ● supported Yes		
Web server ◆ supported Yes		
• supported Yes	— Data length, max.	1 472 byte
	Web server	
◆ User-defined websites Yes	supported	Yes
	User-defined websites	Yes

Number of HTTP clients	5
communication functions / header	
PG/OP communication	Yes
Data record routing	Yes
Global data communication	
• supported	Yes
Number of GD loops, max.	8
Number of GD packets, max.	8
Number of GD packets, transmitter, max.	8
Number of GD packets, receiver, max.	8
Size of GD packets, max.	22 byte
Size of GD packet (of which consistent), max.	22 byte
S7 basic communication	22 5)10
supported	Yes
User data per job, max.	76 byte
User data per job (of which consistent), max.	76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET
• Oser data per job (or which consistent), max.	as server)
S7 communication	
• supported	Yes
• as server	Yes
as client	Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB
• User data per job, max.	See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication)
S5 compatible communication	
• supported	Yes; via CP and loadable FC
communication functions / PROFINET CBA (with set target commu	inication load) / header
 Setpoint for the CPU communication load 	50 %
 Number of remote interconnection partners 	32
 number of master/device functions 	30
 total of all master/device connections 	1 000
 data length of all incoming master/device connections, max. 	4 000 byte
data length of all outgoing master/device connections, max.	4 000 byte
 Number of device-internal and PROFIBUS interconnections 	500
 Data length of device-internal und PROFIBUS interconnections, max. 	4 000 byte
Data length per connection, max.	1 400 byte
performance data / PROFINET CBA / remote interconnection /	/ with acyclic transfer / header
— Sampling interval, min.	500 ms
Number of incoming interconnections	100
Number of outgoing interconnections	100
Data length of all incoming interconnections, max.	2 000 byte
Data length of all outgoing interconnections, max.	2 000 byte
— data volume / as user data for remote interconnections / in the case of acyclic transmission / with PROFINET CBA / per connection / maximum	1 400 byte
performance data / PROFINET CBA / remote interconnection /	/ with cyclic transfer / header
Transmission frequency: Transmission interval, min.	10 ms
Number of incoming interconnections	200
Number of outgoing interconnections	200
Data length of all incoming interconnections, max.	2 000 byte
Data length of all outgoing interconnections, max.	2 000 byte
— data volume / as user data for remote interconnections / with cyclical transfer / with PROFINET CBA / per connection / maximum	450 byte
performance data / PROFINET CBA / HMI variables via PROF	INFT / acvclic / header
Number of stations that can log on for HMI variables (PN OPC/iMap)	3; 2x PN OPC/1x iMap
— HMI variable updating	500 ms
Number of HMI variables	200
Data length of all HMI variables, max.	2 000 byte
Data longer of all Film variables, Illan.	= 000 0,10

performance data / PROFINET CBA / PROFIBUS proxy functi	onality / header
— supported	Yes
Number of linked PROFIBUS devices	16
Data length per connection, max.	240 byte; Slave-dependent
Number of connections	2 to syto, clare appoinding
overall	32
 usable for PG communication 	31
 reserved for PG communication 	1
 adjustable for PG communication, min. 	1
 adjustable for PG communication, max. 	31
usable for OP communication	31
 reserved for OP communication 	1
 adjustable for OP communication, min. 	1
 adjustable for OP communication, max. 	31
 usable for S7 basic communication 	30
 reserved for S7 basic communication 	0
 adjustable for S7 basic communication, min. 	0
 adjustable for S7 basic communication, max. 	30
• usable for S7 communication	16
 reserved for S7 communication 	0
adjustable for S7 communication, min.	0
 adjustable for S7 communication, max. 	16
 total number of instances, max. 	32
usable for routing	X1 as MPI: max. 10; X1 as DP master: max. 24; X1 as DP slave (active): max. 14; X2 as PROFINET: 24 max.
S7 message functions	14, AZ 651 NOT INCT. 24 III.
Number of login stations for message functions, max.	32; Depending on the configured connections for PG/OP and S7 basic
	communication
Process diagnostic messages	Yes
simultaneously active Alarm-S blocks, max.	300
Test commissioning functions	
Status block	Yes; Up to 2 simultaneously
	Yes; Up to 2 simultaneously Yes
Status block Single step Number of breakpoints	
Status block Single step Number of breakpoints Status/control	Yes 4
Status block Single step Number of breakpoints Status/control • Status/control variable	Yes 4 Yes
Status block Single step Number of breakpoints Status/control • Status/control variable • Variables	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters
Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max.	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30
Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max.	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. — of which status variables, max. — of which control variables, max.	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. forcing Forcing	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. forcing Forcing Forcing, variables	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing Forcing Number of variables, max.	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs, memory bits, DB, times, counters 10
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. forcing Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max.	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500
Status block Single step Number of breakpoints Status/control 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 Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No
Status block Single step Number of breakpoints Status/control 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 Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500
Status block Single step Number of breakpoints Status/control Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max.	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499
Status block Single step Number of breakpoints Status/control 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 Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499
Status block Single step Number of breakpoints Status/control Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset	Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499
Status block Single step Number of breakpoints Status/control 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 Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data	Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out	Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10
Status block Single step Number of breakpoints Status/control Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out Standards, approvals, certificates	Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable — of which powerfail-proof Number of entries readable in RUN, max. — adjustable — preset Service data can be read out Standards, approvals, certificates CE mark	Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes Yes
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out Standards, approvals, certificates CE mark UL approval	Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes Yes Yes; File E239877
Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out Standards, approvals, certificates CE mark UL approval RCM (formerly C-TICK)	Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes Yes Yes Yes; File E239877 Yes

• ATEX	Yes
Railway application	165
• EN 50155	No
Ambient conditions	
Ambient temperature during operation	
• min.	-25 °C; = Tmin
• max.	60 °C; = Tmax
Ambient temperature during storage/transportation	oo o, max
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
 Installation altitude above sea level, max. 	2 000 m
Ambient air temperature-barometric pressure-altitude	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m)
Relative humidity	
With condensation, tested in accordance with IEC 60068- 2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Use in stationary industrial systems	
 to biologically active substances according to EN 60721-3-3 	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	W 01 000 H 16 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 to biologically active substances according to EN 60721-3-6 	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
 to chemically active substances according to EN 60721-3-6 	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
 to mechanically active substances according to EN 60721-3-6 	Yes; Class 6S3 incl. sand, dust; *
Usage in industrial process technology	
 Against chemically active substances acc. to EN 60654-4 	Yes; Class 3 (excluding trichlorethylene)
 Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04 	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
Remark	
 Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 	* The supplied plug covers must remain in place over the unused interfaces during operation!
configuration / header	
Configuration software	
• STEP 7	Yes; V5.5 or higher
configuration / programming / header	
Command set	see instruction list
Nesting levels	8
System functions (SFC)	see instruction list
System function blocks (SFB)	see instruction list
Programming language	V
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL — CFC	Yes Yes
— CFC — GRAPH	Yes
— GRAPH — HiGraph®	Yes
Know-how protection	,
User program protection/password protection	Yes
Block encryption	Yes; With S7 block Privacy
Dimensions	
Width	40 mm
Height	125 mm
Depth	130 mm

Weights	
Weight, approx.	340 g
last modified:	5/29/2024 🖸
last modified.	3/29/2024