Data sheet

6ES7317-2EK14-0AB0



SIMATIC S7-300 CPU 317-2 PN/DP, Central processing unit with 1 MB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface Ethernet PROFINET, with 2-port switch, Micro Memory Card required

General information	
HW functional status	01
Firmware version	V3.2
Product function	VV.2
Isochronous mode	Yes; Via PROFIBUS DP or PROFINET interface
Engineering with	res, via riveribos bi si riverinte i intendes
Programming package	STEP 7 V5.5 or higher
Supply voltage	OTEL 1 VO.O OF HIGHER
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, lower limit (DC) permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	2 A min.
Mains buffering	ZAIIIII.
Mains/voltage failure stored energy time	5 ms
Repeat rate, min.	1 s
Input current	13
Current consumption (rated value)	750 mA
	150 mA
Current consumption (in no-load operation), typ.	4 A
Inrush current, typ. I²t	1 A ² ·s
Power loss	TA*S
	4.65 W
Power loss, typ.	4.03 W
Memory Work remon	
Work memory	4 004 librate
• integrated	1 024 kbyte
expandable	No
Load memory	V
• 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)	2 048; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used
DB	reduced by the MMC used.
	0.040, Nearly and a 40000
Number, max.	2 048; Number range: 1 to 16000
• Size, max.	64 kbyte
FB Name to a second	0.040, Nearly and 2000
Number, max.	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	2.040; Number renge; 0 to 7000
Number, max. Oire max. Oire max.	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
OB Circumstance	OATH-1-
Size, max. Number of free cycle ODs.	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	2, 05 121, 122
per priority class	16
additional within an error OB	4
Counters, timers and their retentivity	-
S7 counter	
Number	512
Retentivity	JIZ
— adjustable	Yes
— preset	Z 0 to Z 7
Counting range	201021
— adjustable	Yes
— lower limit	0
— upper limit	999
IEC counter	999
	Yes
presentType	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	Offill filled Offig by NAIN capacity)
	E10
Number Petentivity	512
Retentivity	Vec
— adjustable	Yes No retentivity
— preset	No retentivity
Time range	40
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	Voc
• 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
Retentivity presetNumber of clock memories	MB 0 to MB 15 8; 1 memory byte

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	э
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	
• Inputs	4 096
— of which central	256
Outputs	4 096
— of which central	256
Hardware configuration	
Number of expansion units, max.	3
Number of DP masters • integrated	1
• via CP	4
Number of operable FMs and CPs (recommended)	7
• 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
• retentive	Yes; Must be restarted at each restart
Clock synchronization	
supported	Voc
• •	Yes
to MPI, masterto MPI, slave	Yes

* 10 DP, risator * 10 DP, stave * 10 AS, risator * 10 DP, stave * 10 AS, risator * 10 Digital Anguat * 10 DP, stave * 10 DP, stav		
In AS, nater	• to DP, master	Yes; With DP slave only slave clock
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Number of digital inputs Number of digital outputs Number of analog inputs Number of analog inputs Number of analog inputs Number of analog inputs Number of analog outputs Number of analog outputs Number of industrial Ethernet interfaces Number of Industrial Ethernet interfaces Number of RS 485 interfaces 1: 2 ports (ewitch) RA45 Number of RS 425 interfaces 1: 1. Combined MP1 / PROFIBUS DP Number of RS 425 interfaces 1. Interface Prescription of RS 485 interface 1. Interface Prescription of RS 485 interfaces 1. Interface Prescription of RS 485 interfaces 1. RS 485 1. Output current of the interface, max. 2. 200 mA Proceedis 1. RR 485 1. RR	on Ethernet via NTP	Yes; As client
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Number of PROFINET Interfaces		1: 2 ports (switch) RJ45
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Number of RS 422 interfaces Interface type		
Interface type		
Interface type Isolated Yes Isolated Yes • RS 485 • Output current of the interface, max. • PROFIBUS DP master • PROFIBUS DP salve • PROFIBUS DP salve • Point-to-point connection • No PPI • Transmission rate, max. 12 Mbit/s Services — PG/OP communication • Yes — Routing • Global data communication • Yes — S7 communication, as client • S7 communication, as client • S7 communication, as server • Yes PROFIBUS DP master • Transmission rate, max. • I 2 Mbit/s • Number of DP slaves, max. 12 Mbit/s • Number of DP slaves, max. 124 Services — PG/OP communication • Yes — Routing • Global data communication • Yes • Routing • Rout		
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- 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; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO - SYNC/FREEZE Yes - Activation/deactivation of DP slaves Yes - Number of DP slaves that can be simultaneously activated/deactivated, max Direct data exchange (slave-to-slave communication) - DPV1 Yes		
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 — S7 communication, as server — Equidistance — Isochronous mode — SYNC/FREEZE — Activation/deactivation of DP slaves — Number of DP slaves that can be simultaneously activated/deactivated, max. — Direct data exchange (slave-to-slave communication) — DPV1 Yes Yes Yes Yes Yes Yes; as subscriber Yes 	— S7 communication	Yes
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— Isochronous mode — SYNC/FREEZE — Activation/deactivation of DP slaves — Number of DP slaves that can be simultaneously activated/deactivated, max. — Direct data exchange (slave-to-slave communication) — DPV1 Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO Yes Yes Yes Yes Yes Yes; as subscriber	 S7 communication, as server 	Yes
— SYNC/FREEZE — Activation/deactivation of DP slaves — Number of DP slaves that can be simultaneously activated/deactivated, max. — Direct data exchange (slave-to-slave communication) — DPV1 DP or PROFINET IO Yes Yes Yes Yes Yes Yes Yes Ye	— Equidistance	Yes
 Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) DPV1 Yes Yes 	— Isochronous mode	
 Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) DPV1 Yes 	— SYNC/FREEZE	Yes
activated/deactivated, max. — Direct data exchange (slave-to-slave communication) — DPV1 Yes; as subscriber Yes; as subscriber	 Activation/deactivation of DP slaves 	Yes
communication) — DPV1 Yes		8
		Yes; as subscriber
Address area	— DPV1	Yes
	Address area	

— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
User data per DP slave	
— Inputs, max.	244 byte
— Outputs, max.	244 byte
PROFIBUS DP slave	
 Transmission rate, max. 	12 Mbit/s
 automatic baud rate search 	Yes; only with passive interface
 Address area, max. 	32
 User data per address area, max. 	32 byte
Services	
— 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 communication) 	Yes
— 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	100
• 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 slave	No
Open IE communication	Yes; Via TCP/IP, ISO on TCP, and UDP
Web server	Yes
Media redundancy	Yes
PROFINET IO Controller	160
	100 Mbit/s
Transmission rate, max. Services	TOO INDIUS
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 	128

a	
flexibility"	
— of which in line, max.	61
Number of connectable IO Devices for RT, max.	128
— of which in line, max.	128
Activation/deactivation of IO Devices	Yes
 Number of IO Devices that can be simultaneously activated/deactivated, max. 	8
 IO Devices changing during operation (partner ports), supported 	Yes
 Number of IO Devices per tool, max. 	8
 Device replacement without swap medium 	Yes
— Send cycles	$250~\mu s, 500~\mu s, 1~ms;~2~ms,~4~ms$ (not in the case of IRT with "high flexibility" option)
— Updating time	$250~\mu s$ to 512 ms (depending on the operating mode, see Manual "S7-300 CPU 31xC and CPU 31x, technical Data" for more details)
Address area	
— Inputs, max.	8 kbyte
— Outputs, max.	8 kbyte
 User data consistency, max. 	1 024 byte
PROFINET IO Device	
Services	
— PG/OP communication	Yes
— Routing	Yes
— S7 communication	Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32
— Isochronous mode	No
— IRT	Yes
— PROFlenergy	Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device
— Shared device	Yes
 Number of IO Controllers with shared device, max. 	2
Transfer memory	
— Inputs, max.	1 440 byte; Per IO Controller with shared device
— Outputs, max.	1 440 byte; Per IO Controller with shared device
Submodules	
— Number, max.	64
— User data per submodule, max.	1 024 byte
PROFINET CBA	
 acyclic transmission 	Yes
cyclic transmission	Yes
Open IE communication	
 Number of connections, max. 	16
Local port numbers used at the system end	0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535
Keep-alive function, supported	Yes
Protocols	
PROFIsafe	No
Redundancy mode	
Media redundancy	
 Switchover time on line break, typ. 	200 ms; PROFINET MRP
— Number of stations in the ring, max.	50
Open IE communication	
• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs
— Number of connections, max.	16
 Data length for connection type 01H, max. 	1 460 byte
 Data length for connection type 11H, max. 	32 768 byte
 several passive connections per port, supported 	Yes
• ISO-on-TCP (RFC1006)	Yes; via integrated PROFINET interface and loadable FBs
 Number of connections, max. 	16
— Data length, max.	32 768 byte
• UDP	Yes; via integrated PROFINET interface and loadable FBs
 Number of connections, max. 	16
— Data length, max.	1 472 byte
-	

Web server	
Web server	Yes
supported User-defined websites	Yes
Number of HTTP clients	5
communication functions / header	3
PG/OP communication	Yes
Data record routing	Yes
Global data communication	165
• 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	
communication function / S7 basic communication	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
	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	
Setpoint for the CPU communication load	50 %
Number of remote interconnection partners	32
 Number of functions, master/slave Total of all master/slave connections 	30
Data length of all incoming connections master/slave,	1 000 4 000 byte
max.	4 000 Byte
 Data length of all outgoing connections master/slave, 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 /	·
— Sampling interval, min.	500 ms
Number of incoming interconnections	100
Number of outgoing interconnections	100
Data length of all outgoing interconnections, max. Pote length of all outgoing interconnections, may.	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 remote connections to input variables / with PROFINET CBA / with cyclic transfer / maximum 	200
 number of remote connections to output variables / with cyclical transfer / with PROFINET CBA / maximum 	200
 data volume / as user data for remote interconnections with input variables / with cyclical transfer / with PROFINET CBA / maximum 	2 000 byte
— data volume / as user data for remote	2 000 byte
interconnections with output variables / with cyclical transfer / with PROFINET CBA / maximum	

interconnections / with cyclical transfer / with PROFINET CBA / per connection / maximum

PROFINET CBA / per connection / maximum	
performance data / PROFINET CBA / HMI variables via PROF	FINET / acyclic / 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
performance data / PROFINET CBA / PROFIBUS proxy functi	·
— supported	Yes
Number of linked PROFIBUS devices	16
Data length per connection, max.	240 byte; Slave-dependent
Number of connections	210 3)10, 0.010 00,0010
• 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 dS FROFINE 1. Z4 IIIdX.
	22. Departing on the configured connections for DC/OD and C7 basis
Number of login stations for message functions, max.	32; Depending on the configured connections for PG/OP and S7 basic communication
Process diagnostic messages	communication Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max.	communication
Process diagnostic messages	communication Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max.	communication Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions	communication Yes 300
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block	communication Yes 300 Yes; Up to 2 simultaneously
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step	communication Yes 300 Yes; Up to 2 simultaneously Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints	communication Yes 300 Yes; Up to 2 simultaneously Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints Status/control	communication Yes 300 Yes; Up to 2 simultaneously Yes 4
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable	communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables	communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max.	communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max.	communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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.	communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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	communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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	communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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	communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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.	communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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	communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs, memory bits, DB, times, counters 10
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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.	communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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	communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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	communication Yes 300 Yes; Up to 2 simultaneously 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
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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.	communication Yes 300 Yes; Up to 2 simultaneously 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
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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	communication Yes 300 Yes; Up to 2 simultaneously 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
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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	communication Yes 300 Yes; Up to 2 simultaneously 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
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions 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	communication Yes 300 Yes; Up to 2 simultaneously 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

Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	60 °C
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	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— 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:

3/12/2024