## Data sheet

SIMATIC S7-300, CPU 317F-2DP, Central processing unit with 1.5 MB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface DP master/slave Micro Memory Card required Can be used with software package S7 Distributed Safety V5.2 SP1 or higher



General information	
HW functional status	01
Firmware version	V3.3
Engineering with	
Programming package	STEP 7 V5.5 + SP1 or higher or STEP 7 V5.2 + SP1 or higher with HSP 202 + Distributed Safety
Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	2 A min.
Input current	
Current consumption (rated value)	870 mA
Current consumption (in no-load operation), typ.	120 mA
Inrush current, typ.	4 A
l²t	1 A <sup>2</sup> ·s

Power loss	
Power loss, typ.	4.5 W
Memory	
Work memory	
• integrated	1 536 kbyte
• expandable	No
<ul> <li>Size of retentive memory for retentive data blocks</li> </ul>	256 kbyte
Load memory	
• Plug-in (MMC)	Yes
• Plug-in (MMC), max.	8 Mbyte
<ul> <li>Data management on MMC (after last programming), min.</li> </ul>	10 y
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	
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
ОВ	
Description	see instruction list
• Size, max.	64 kbyte
<ul> <li>Number of free cycle OBs</li> </ul>	1; OB 1
<ul> <li>Number of time alarm OBs</li> </ul>	1; OB 10
<ul> <li>Number of delay alarm OBs</li> </ul>	2; OB 20, 21
<ul> <li>Number of cyclic interrupt OBs</li> </ul>	4; OB 32, 33, 34, 35
<ul> <li>Number of process alarm OBs</li> </ul>	1; OB 40

<ul><li>Number of DPV1 alarm OBs</li></ul>	3; OB 55, 56, 57
<ul> <li>Number of isochronous mode OBs</li> </ul>	1; OB 61
<ul> <li>Number of startup OBs</li> </ul>	1; OB 100
<ul> <li>Number of asynchronous error OBs</li> </ul>	5; OB 80, 82, 85, 86, 87
<ul> <li>Number of synchronous error OBs</li> </ul>	2; OB 121, 122
Nesting depth	
• per priority class	16
<ul> <li>additional within an error OB</li> </ul>	4

Counters, timers and their retentivity	
S7 counter	
• Number	512
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	511
— preset	Z 0 to Z 7
Counting range	
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
S7 times	
• Number	512
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	511
— preset	No retentivity
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	

Data areas and their retentivity	
retentive data area in total	all, max. 256 KB
Flag	
<ul><li>Number, max.</li></ul>	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	
I/O address area	
• Inputs	8 192 byte
<ul><li>Outputs</li></ul>	8 192 byte
of which distributed	
— Inputs	8 192 byte
— Outputs	8 192 byte
Process image	
• Inputs	8 192 byte
Outputs	8 192 byte
<ul><li>Inputs, adjustable</li></ul>	8 192 byte
Outputs, adjustable	8 192 byte
● Inputs, default	1 024 byte
Outputs, default	1 024 byte
Subprocess images	
<ul><li>Number of subprocess images, max.</li></ul>	1
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	2
• 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	V
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
Backup time	6 wk; At 40 °C ambient temperature
<ul><li>Deviation per day, max.</li></ul>	10 s; Typ.: 2 s
<ul> <li>Behavior of the clock following POWER-ON</li> </ul>	Clock continues running after POWER OFF
<ul> <li>Behavior of the clock following expiry of backup period</li> </ul>	Clock continues to run with the time at which the power failure occurred
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	Yes
● to MPI, master	Yes
● to MPI, slave	Yes
• to DP, master	Yes; With DP slave only slave clock
• to DP, slave	Yes
• in AS, master	Yes
• in AS, slave	Yes
on Ethernet via NTP	No
Digital inputs	
Number of digital inputs	0
Digital outputs	
Number of digital outputs	0
Analog inputs	
Number of analog inputs	0
Analog outputs	
Number of analog outputs	0
Interfaces	
Number of industrial Ethernet interfaces	0
Number of PROFINET interfaces	0

Number of RS 485 interfaces	2
Number of RS 422 interfaces	0
1. Interface	
Interface type	Integrated RS 485 interface
Physics	RS 485
Isolated	Yes
Power supply to interface (15 to 30 V DC), max.	200 mA
Protocols	
• MPI	Yes
<ul> <li>PROFIBUS DP master</li> </ul>	Yes
<ul> <li>PROFIBUS DP slave</li> </ul>	Yes; A DP slave at both interfaces simultaneously is not possible
Point-to-point connection	No
MPI	
Transmission rate, max.	12 Mbit/s
Services	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	Yes
<ul> <li>S7 basic communication</li> </ul>	Yes
— S7 communication	Yes; Only server, configured on one side
<ul> <li>S7 communication, as client</li> </ul>	No; but via CP and loadable FB
— S7 communication, as server	Yes
PROFIBUS DP master	
Transmission rate, max.	12 Mbit/s
<ul><li>Number of DP slaves, max.</li></ul>	124
Services	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	No
<ul> <li>S7 basic communication</li> </ul>	Yes; I blocks only
— S7 communication	Yes; Only server, configured on one side
<ul> <li>S7 communication, as client</li> </ul>	No
— S7 communication, as server	Yes
— Equidistance	Yes
— Isochronous mode	No
— SYNC/FREEZE	Yes
<ul> <li>Activation/deactivation of DP slaves</li> </ul>	Yes
<ul> <li>Number of DP slaves that can be simultaneously activated/deactivated, max.</li> </ul>	8
Direct data exchange (slave-to-slave communication)	Yes; as subscriber
— DPV1	Yes

Address area  - Inputs, max Outputs, max
- Outputs, max.  User data per DP slave Inputs, max Outputs, max
User data per DP slave
Inputs, max Outputs, max Outputs, max Outputs, max Outputs, max Outputs, max Outputs, max Outputs praise  Transmission rate, max automatic baud rate search Address area, max Outputs per address area, max Outputs
- Outputs, max.  PROFIBUS DP slave  1 Transmission rate, max.  1 automatic baud rate search Address area, max.  2 User data per address area, max.  2 User data per address area, max.  3 2 byte  Services  - PG/OP communication Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1  Transfer memory - Inputs - Outputs  2 44 byte  2 Interface Physics - RS 485 Isolated Protocols  No No PROFIBUS DP master - PROFIBUS DP slave - Point-to-point connection No No No Persont interface simultaneously is not possible Posint-to-point connection No No Pess, Only with passive interface Yes; only with passive interface Yes; only with passive interface Yes; only with passive interface Yes Output passive interface Yes  12 Mbit/s  42 Myte 42 Myte and Address area, max. 32  2 Protocols  No 12 Mbit/s Yes 2 Address area, max. 32  2 Pyes 3 Address area, max. 32  32  34  4 byte  2 Address area, max. 32  4 byte 2 Address area, max. 32  2 Pyes 2 Address area, max. 32  32  32  34  4 byte 32  Address area, max. 32  4 byte 32  Address area, max. 4  Address area, max
PROFIBUS DP slave  Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max.  Peg/OP communication Routing Routin
Transmission rate, max.  automatic baud rate search Address area, max.  User data per address area, max.  Perocess  PG/OP communication Sorvices  PG/OP communication No Sorvices Sorvices  PG/OP communication No Sorvices Sorvices  Porest data exchange (slave-to-slave communication) DPV1 No  Poptol No  Transfer memory Inputs Dutputs  Poutputs  Power supply to interface (15 to 30 V DC), max.  Protocols  MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection No  PSS only with passive interface Yes; Only with active interface No Yes Only with active interface Yes Only with active interface Yes Only with active interface No Yes; Only with active interface No No  Perocolos  No  No  PROFIBUS DP master Yes Point-to-point connection No
automatic baud rate search Address area, max. User data per address area, max.  2 byte  Services  - PG/OP communication Routing - Global data communication - S7 basic communication - S7 communication, as client - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 No  Transfer memory - Inputs - Outputs  244 byte - Outputs  244 byte  2. Interface Interface type Physics RS 485 Isolated - Yes  Power supply to interface (15 to 30 V DC), max.  Protocols - MPI - PROFIBUS DP master - PROFIBUS DP slave - Point-to-point connection - S2 communication - No - No - S7 communication - No - No - S7 communication - No - No - S7 communication - No - S7 communication - No
Address area, max.  User data per address area, max.  22 byte  Services  - PG/OP communication Yes - Routing Yes; Only with active interface - Global data communication No - S7 basic communication Yes; Only server, configured on one side - S7 communication, as client No - S7 communication, as server Yes; Connection configured on one side only - Direct data exchange (slave-to-slave communication) - DPV1 No  Transfer memory - Inputs 244 byte - Outputs 244 byte  2. Interface Interface type Integrated RS 485 interface Physics RS 485 Isolated Yes  Power supply to interface (15 to 30 V DC), max.  Protocols  • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection  No
User data per address area, max.  Services  - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication, as client - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1  No  Transfer memory - Inputs - Outputs  244 byte  2. Interface Interface type - Physics - RS 485 - Solution - S8 S8 S8 - Power supply to interface (15 to 30 V DC), max Protocols  MPI - PROFIBUS DP master - PROFIBUS DP slave - Point-to-point connection - Yes - Output sont interfaces simultaneously is not possible - Point-to-point connection - Yes - Output sont interfaces simultaneously is not possible - Point-to-point connection - Yes - Point-to-point connection - Yes - Point-to-point connection - Yes - Point-to-point connection
Services  - PG/OP communication Yes - Routing Yes; Only with active interface - Global data communication No - S7 basic communication No - S7 communication Yes; Only server, configured on one side - S7 communication, as client No - S7 communication, as server Yes; Connection configured on one side only - Direct data exchange (slave-to-slave communication) - DPV1 No  Transfer memory - Inputs 244 byte - Outputs 244 byte  2. Interface Interface type Integrated RS 485 interface Physics RS 485 Isolated Yes Power supply to interface (15 to 30 V DC), max. 200 mA  Protocols  • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection No
PG/OP communication PG/OP communication PRouting PGIobal data communication PS7 basic communication PS7 communication, as client PS7 communication, as server PS8; Connection configured on one side only PS8; Connection configured on one side PS8; Conlection configured on one side PS8; Conle
Routing Yes; Only with active interface  Global data communication No S7 basic communication Yes; Only server, configured on one side S7 communication, as client No S7 communication, as server Yes; Connection configured on one side only Direct data exchange (slave-to-slave communication) DPV1 No  Transfer memory Inputs 244 byte Outputs 244 byte  2. Interface Interface type Integrated RS 485 interface Physics RS 485 Isolated Yes  Power supply to interface (15 to 30 V DC), max. 200 mA  Protocols  MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection No
- Global data communication - S7 basic communication No - S7 communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as client - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 No  Transfer memory - Inputs - Outputs  244 byte  2. Interface Interface type Interface type Interface type Physics RS 485 Isolated - Yes  Power supply to interface (15 to 30 V DC), max.  Protocols  • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection No
- Global data communication - S7 basic communication No - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 No Transfer memory - Inputs - Outputs  244 byte  2. Interface type Interface type Physics RS 485 Isolated - Yes Power supply to interface (15 to 30 V DC), max.  Protocols  • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection No
- S7 communication - S7 communication, as client - S7 communication, as client No - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 No  Transfer memory - Inputs - Outputs  244 byte  2. Interface Interface type Physics RS 485 Isolated Power supply to interface (15 to 30 V DC), max.  Protocols  • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection  Yes; Only server, configured on one side No  No  Yes; Connection configured on one side No  No  Yes; Connection configured on one side No  No  Yes; Connection configured on one side No  No  Yes  Connection configured on one side No  No  Yes  Connection configured on one side No  No  No  Yes  244 byte  244 byte  244 byte  244 byte  244 byte  244 byte  247 byte  248 binterface  Procedure  No  No  No  Protocols  PROFIBUS DP master Yes  PROFIBUS DP slave Point-to-point connection No
- S7 communication - S7 communication, as client - S7 communication, as server - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 No  Transfer memory - Inputs - Outputs  244 byte  2. Interface Interface type Interface type Physics RS 485 Isolated Power supply to interface (15 to 30 V DC), max.  Protocols  • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection  No  Yes; Connection configured on one side No  Yes; Connection configured on one side No  Yes; Connection configured on one side No
— S7 communication, as server — Direct data exchange (slave-to-slave communication) — DPV1 No  Transfer memory — Inputs — Outputs  244 byte  2. Interface Interface type Interface type Power supply to interface (15 to 30 V DC), max.  Protocols  • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection  Yes; Connection configured on one side only Yes  Yes; Connection configured on one side only Yes  Yes  Yes  Yes  Interface AND  Yes  Ves  Yes  Yes  Yes  A DP slave at both interfaces simultaneously is not possible No  No
- S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 No  Transfer memory - Inputs - Outputs  244 byte - Outputs  2. Interface Interface type Interface type Power supply to interface (15 to 30 V DC), max.  Protocols  • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection  Yes  Yes  Connection configured on one side only Yes  Yes  Local Connection configured on one side only Yes  Interface Average Connection Side only Yes  244 byte  244 byte  244 byte  248 byte  249 byte  249 byte  249 byte  249 byte  240
Direct data exchange (slave-to-slave communication) DPV1 No  Transfer memory Inputs 244 byte Outputs 244 byte  2. Interface Interface type Integrated RS 485 interface Physics RS 485 Isolated Yes Power supply to interface (15 to 30 V DC), max. 200 mA  Protocols  MPI No PROFIBUS DP master PROFIBUS DP slave Point-to-point connection No
communication)  — DPV1 No  Transfer memory  — Inputs 244 byte  — Outputs 244 byte  2. Interface  Interface type Integrated RS 485 interface  Physics RS 485  Isolated Yes  Power supply to interface (15 to 30 V DC), max. 200 mA  Protocols  • MPI No  • PROFIBUS DP master  • PROFIBUS DP slave  • Point-to-point connection No
Transfer memory  — Inputs — Outputs  244 byte  244 byte  245 byte  246 byte  247 byte  248 byte  249 byte  249 byte  249 byte  249 byte  240 byte  240 byte  241 byte  241 byte  242 byte  241 byte  242 byte  243 byte  244 byte  245 byte  246 byte  247 byte  RS 485 interface  RS 485  RS
- Inputs - Outputs  244 byte  2. Interface Interface type Integrated RS 485 interface Physics RS 485 Isolated Power supply to interface (15 to 30 V DC), max.  Protocols  • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection  244 byte  244 byte  Integrated RS 485 interface RS 485  RS 485  Yes  Pos  Pos  Pos  Pos  Pos  Pos  Pos  P
Outputs
Interface type Interface type Physics RS 485 Isolated Power supply to interface (15 to 30 V DC), max.  Protocols  MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection  Integrated RS 485 interface RS 485  Ves  Yes  Yes  Yes  Yes  Yes  Yes  Yes
Interface type  Physics  RS 485  Isolated  Power supply to interface (15 to 30 V DC), max.  Protocols  MPI  PROFIBUS DP master  PROFIBUS DP slave  Point-to-point connection  Integrated RS 485 interface  RS 485  Yes  Yes  Yes  Yes  A DP slave at both interfaces simultaneously is not possible  No
Interface type  Physics  RS 485  Isolated  Power supply to interface (15 to 30 V DC), max.  Protocols  MPI  PROFIBUS DP master  PROFIBUS DP slave  Point-to-point connection  Integrated RS 485 interface  RS 485  Yes  Yes  Yes  Yes  A DP slave at both interfaces simultaneously is not possible  No
Physics RS 485 Isolated Yes Power supply to interface (15 to 30 V DC), max. 200 mA  Protocols  • MPI No  • PROFIBUS DP master Yes  • PROFIBUS DP slave Yes; A DP slave at both interfaces simultaneously is not possible  • Point-to-point connection
Isolated  Power supply to interface (15 to 30 V DC), max.  Protocols  • MPI  • PROFIBUS DP master  • PROFIBUS DP slave  • Point-to-point connection  Yes  Yes  Yes  Yes; A DP slave at both interfaces simultaneously is not possible  No
Power supply to interface (15 to 30 V DC), max.  Protocols  • MPI  • PROFIBUS DP master  • PROFIBUS DP slave  • Point-to-point connection  No  200 mA  No  Yes  Yes  Yes; A DP slave at both interfaces simultaneously is not possible  No
Protocols
<ul> <li>MPI</li> <li>PROFIBUS DP master</li> <li>PROFIBUS DP slave</li> <li>PROFIBUS DP slave</li> <li>Point-to-point connection</li> <li>No</li> </ul>
<ul> <li>PROFIBUS DP master</li> <li>PROFIBUS DP slave</li> <li>Point-to-point connection</li> <li>Yes</li> <li>Yes; A DP slave at both interfaces simultaneously is not possible</li> <li>No</li> </ul>
<ul> <li>PROFIBUS DP slave</li> <li>Point-to-point connection</li> <li>Yes; A DP slave at both interfaces simultaneously is not possible</li> <li>No</li> </ul>
• Point-to-point connection No
PROFIBUS DP master
• Transmission rate, max. 12 Mbit/s
Number of DP slaves, max.  124
Services
DO/OD : (: Voo
<ul><li>— PG/OP communication</li><li>— Routing</li><li>Yes</li><li>Yes</li></ul>

<ul> <li>Global data communication</li> </ul>	No
<ul> <li>S7 basic communication</li> </ul>	Yes; I blocks only
— S7 communication	Yes; Only server, configured on one side
<ul> <li>S7 communication, as client</li> </ul>	No; but via CP and loadable FB
<ul> <li>S7 communication, as server</li> </ul>	Yes
— Equidistance	Yes
— Isochronous mode	Yes; OB 61
— SYNC/FREEZE	Yes
<ul> <li>Activation/deactivation of DP slaves</li> </ul>	Yes
<ul> <li>Number of DP slaves that can be</li> </ul>	8
simultaneously activated/deactivated, max.	
<ul> <li>— Direct data exchange (slave-to-slave communication)</li> </ul>	Yes; as subscriber
— DPV1	Yes
Address area	
— Inputs, max.	8 192 byte
— Outputs, max.	8 192 byte
User data per DP slave	
— Inputs, max.	244 byte
— Outputs, max.	244 byte
PROFIBUS DP slave	
• GSD file	The latest GSD file is available on the Internet (http://www.siemens.com/profibus-gsd)
<ul><li>Transmission rate, max.</li></ul>	12 Mbit/s
automatic baud rate search	Yes; only with passive interface
<ul> <li>Address area, max.</li> </ul>	32
<ul> <li>User data per address area, max.</li> </ul>	32 byte
Services	
— PG/OP communication	Yes
— Routing	Yes; Only with active interface
<ul> <li>Global data communication</li> </ul>	No
<ul> <li>S7 basic communication</li> </ul>	No
— S7 communication	Yes; Only server, configured on one side
<ul> <li>S7 communication, as client</li> </ul>	No; but via CP and loadable FB
<ul> <li>S7 communication, as server</li> </ul>	Yes
<ul> <li>— Direct data exchange (slave-to-slave communication)</li> </ul>	Yes
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte

Communication functions	
PG/OP communication	Yes
Data record routing	Yes
Global data communication	
• supported	Yes
<ul> <li>Number of GD loops, max.</li> </ul>	8
<ul> <li>Number of GD packets, max.</li> </ul>	8
<ul> <li>Number of GD packets, transmitter, max.</li> </ul>	8
<ul> <li>Number of GD packets, receiver, max.</li> </ul>	8
<ul> <li>Size of GD packets, max.</li> </ul>	22 byte
• Size of GD packet (of which consistent), max.	22 byte
S7 basic communication	
• supported	Yes
<ul> <li>User data per job, max.</li> </ul>	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 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
Number of connections	
• overall	32
<ul><li>usable for PG communication</li></ul>	31
<ul> <li>reserved for PG communication</li> </ul>	1
<ul><li>adjustable for PG communication, min.</li></ul>	1
<ul> <li>adjustable for PG communication, max.</li> </ul>	31
<ul><li>usable for OP communication</li></ul>	31
<ul> <li>reserved for OP communication</li> </ul>	1
<ul> <li>adjustable for OP communication, min.</li> </ul>	1
<ul> <li>adjustable for OP communication, max.</li> </ul>	31
<ul> <li>usable for S7 basic communication</li> </ul>	30
<ul> <li>reserved for S7 basic communication</li> </ul>	0
<ul> <li>adjustable for S7 basic communication, min.</li> </ul>	0
<ul> <li>adjustable for S7 basic communication, max.</li> </ul>	30
usable for routing	X1 as a MPI, max. 10; X1 as DP Master max. 24; X1 as DP Slave (active) max. 14; X2 as DP Master max. 24; X2 as DP Slave (active) max. 14

S7 message functions	
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
Single step	Yes
Number of breakpoints	4
Status/control	
Status/control variable	Yes
<ul><li>Variables</li></ul>	Inputs, outputs, memory bits, DB, times, counters
<ul> <li>Number of variables, max.</li> </ul>	30
— of which status variables, max.	30
— of which control variables, max.	14
Forcing	
• Forcing	Yes
• Forcing, variables	Inputs, outputs
Number of variables, max.	10
Diagnostic buffer	
• present	Yes
Number of entries, max.	500
— adjustable	No
— of which powerfail-proof	100; Only the last 100 entries are retained
<ul> <li>Number of entries readable in RUN, max.</li> </ul>	499
— adjustable	Yes; From 10 to 499
— preset	10
Service data	
● can be read out	Yes
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	60 °C
Configuration	
Configuration software	
• STEP 7	Yes; STEP 7 V5.5 + SP1 or higher or STEP 7 V5.3 + SP2 or higher with HSP 203
• STEP 7 Lite	No
Programming	
Command set	see instruction list
Nesting levels	8
-	

<ul><li>System functions (SFC)</li></ul>	see instruction list
<ul> <li>System function blocks (SFB)</li> </ul>	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
<ul> <li>Block encryption</li> </ul>	Yes; With S7 block Privacy
Dimensions	
Width	40 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	360 g
last modified:	08/24/2020