## **SIEMENS**

## **Data sheet**

## 6ES7315-6FF04-0AB0



SIMATIC S7-300, CPU 315F-2DP Fail-safe module with MPI Integr. power supply 24 V DC, Work memory 384 KB, 40 mm width, 2nd interface DP master/slave Micro Memory Card required

Figure similar

General information	
HW functional status	01
Firmware version	V3.3
Product function	
Isochronous mode	Yes
Engineering with	
Programming package	STEP 7 V5.5 + SP1 or higher or STEP 7 V5.2 + SP1 or higher with HSP 218 + Distributed Safety
Supply voltage	
Rated value (DC)	24 V
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.
Mains buffering	
<ul> <li>Mains/voltage failure stored energy time</li> </ul>	5 ms
Repeat rate, min.	1 s
Input current	
Current consumption (rated value)	850 mA
Current consumption (in no-load operation), typ.	150 mA
Inrush current, typ.	3.5 A
l²t	1 A <sup>2</sup> ·s
Power loss	
Power loss, typ.	4.5 W
Memory	
Work memory	
• integrated	384 kbyte
expandable	No
Load memory	
• Plug-in (MMC)	Yes
<ul><li>Plug-in (MMC), max.</li></ul>	8 Mbyte
<ul> <li>Data management on MMC (after last programming), min.</li> </ul>	10 a
Backup	
• present	Yes; Guaranteed by MMC (maintenance-free)
<ul><li>without battery</li></ul>	Yes; Program and data
CPU processing times	
for bit operations, typ.	0.05 µs
for word operations, typ.	0.09 µs
for fixed point arithmetic, typ.	0.12 μs

for floating point arithmetic, typ.	0.45 μs
PU-blocks	4.034 (DDa ECo EDo) the maximum number of a data the blacks
Number of blocks (total)	1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.
DB	
Number, max.	1 024; Number range: 1 to 16000
Size, max.	64 kbyte
FB	
Number, max.	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
Number, max.	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
Number, max.	see instruction list
• Size, max.	64 kbyte
<ul> <li>Number of free cycle OBs</li> </ul>	1; OB 1
Number of time alarm OBs	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
Number of startup OBs	1; OB 100
<ul> <li>Number of asynchronous error OBs</li> </ul>	5; OB 80, 82, 85, 86, 87
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	
per priority class	16
additional within an error OB	4
ounters, timers and their retentivity	
S7 counter	
Number	256
Retentivity	
— adjustable	Yes
— 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	256
Retentivity	
— adjustable	Yes
— 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)
ata areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	128 kbyte
Flag	
• Size, max.	2 048 byte
Retentivity available	Yes; MB 0 to MB 2 047
Retentivity preset	MB 0 to MB 15
<ul> <li>Number of clock memories</li> </ul>	8; 1 memory byte

Data blocks  Retentivity adjustable Retentivity preset Yes  Local data  per priority class, max.  32 kbyte; Max. 2 KB per block  Address area  I/O address area  I/O address area  Inputs Outputs Of which distributed — Inputs — Outputs — Outputs — Outputs — Outputs  Process image Inputs  Inputs  2 048 byte	
● Retentivity preset  Local data  ● per priority class, max.  32 kbyte; Max. 2 KB per block  Address area  I/O address area  ● Inputs  ● Outputs  ● Outputs  Othich distributed  — Inputs — Outputs  2 048 byte  2 048 byte  2 048 byte  9 048 byte  2 048 byte  2 048 byte  2 048 byte	
Local data  • per priority class, max.  Address area  I/O address area  • Inputs • Outputs • Outputs  of which distributed — Inputs — Outputs  2 048 byte	
per priority class, max.  32 kbyte; Max. 2 KB per block  Address area  I/O address area  Inputs Outputs Outputs Of which distributed  Inputs Outputs Outp	
Address area  I/O address area  Inputs Outputs Outputs Of which distributed — Inputs — Outputs  Outputs  2 048 byte  2 048 byte  2 048 byte  2 048 byte  Process image	
I/O address area	
Outputs  of which distributed  — Inputs  — Outputs  2 048 byte  2 048 byte  2 048 byte  2 048 byte  Process image	
of which distributed  — Inputs 2 048 byte  — Outputs 2 048 byte  Process image	
<ul> <li>— Inputs</li> <li>— Outputs</li> <li>Process image</li> <li>2 048 byte</li> <li>2 048 byte</li> </ul>	
— Outputs 2 048 byte  Process image	
Process image	
•	
• Inputs 2 048 byte	
• Outputs 2 048 byte	
• Inputs, adjustable 2 048 byte	
• Outputs, adjustable 2 048 byte	
• Inputs, default 384 byte	
Outputs, default     384 byte	
Subprocess images	
Number of subprocess images, max.	
Digital channels	
• Inputs 16 384	
— of which central 1 024	
• Outputs 16 384	
— of which central 1 024	
Analog channels	
• Inputs 1 024	
— of which central 256	
• Outputs 1 024	
— 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)	
• 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  • retentive and synchronizable  Yes	
Backup time     6 wk; At 40 °C ambient temperature	
	abod off
Behavior of the clock following expiry of backup period     the clock continues at the time of day it had when power was switch continues at the time of day it had when power was switched by the clock continues at the time of day it had when power was switched by the clock continues at the time of day it had when power was switched by the clock continues at the time of day it had when power was switched by the clock continues at the time of day it had when power was switched by the clock continues at the time of day it had when power was switched by the clock continues at the time of day it had when power was switched by the clock continues at the time of day it had when power was switched by the clock continues at the time of day it had when power was switched by the clock continues at the time of day it had when power was switched by the clock continues at the time of day it had when power was switched by the clock continues at the clock contin	neu on
Operating hours counter	
Number     Number/Number range	
Number/Number range     0     10     10    10    10     10    10    10     10    10    10    10     10    10     10    10    10    10    10    10     10     10     10     10     10     10     1	
• 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	

• to RP, master • to RP, master • to RP, device • to RP, master • to RP, device • in RS, master • in RS, master • in RS, cevice  No    in RS, cevice   No    in RS, cevice   No    in RS, device   in RS, device   No    in RS, device   in RS, device   No    in RS, device   No    in RS, device   No    in RS, device   in RS, device   No    in RS, device   in RS, device   No    in RS, device   in		
• in AS, mater • in AS, tervee • in AS, device • No    Digital imparts	• on MPI, device	Yes
	• to DP, master	Yes; With DP slave only slave clock
No   No   No   No   No   No   No   No	• on DP, device	Yes
No   No   No   No   No   No   No   No	● in AS. master	Yes
Integrate of digital injurits   0   0   0   0   0   0   0   0   0		No
Number of digital inputs  Number of digital culputs  Analog imputs  Number of analog inputs  Number of analog outputs  Number of Industrial Ethernet interfaces  Number of RS 445 interfaces  Number of RS 425 interfaces  1		
Number of Royal outputs Number		0
Number of analog inputs		U
Number of analog inputs Number of analog outputs Number of analog outputs Number of analog outputs Number of Industrial Ethernet interfaces Number of PROFINET interfaces 0 Number of RS 486 interfaces 2 Number of RS 486 interfaces 2 Number of RS 486 interfaces 0 Number of RS 486 interfaces 0 Number of RS 486 interfaces 0 Interface type Interface type Interface type Interface type Interface type 0 Interface type		
Number of analog inputs		0
Number of analog outputs Number of analog outputs Number of Industrial Ethernet Interfaces Number of RS-0FNET Interfaces Number of RS-0FNET Interfaces Number of RS-422 interfaces Number of RS-422 interfaces Number of RS-422 interfaces No Interface type Interface type Stocket RS-428	Analog inputs	
Number of industrial Ethemet interfaces	Number of analog inputs	0
Number of RPCPINET interfaces 0 Number of RPCPINET interfaces 0 Number of RS 428 interfaces 2 Number of RS 429 interfaces 0 Interface type	Analog outputs	
Number of PROFINET Interfaces 0 Number of PROFINET Interfaces 2 Number of RS 420 interfaces 2 Number of RS 420 interfaces 2 Interface yes 542 interfaces 9 Interface type 542 interface yes 642	Number of analog outputs	0
Number of Industrial Ethernet Interfaces   0	Interfaces	
Number of RS 485 interfaces   2		0
Number of RS 485 interfaces   2		
Number of RS 422 interfaces		
Interface   Interface   Integrated RS 485 interface   Integrated RS 485 interface   Integrated RS 485 interface   No   Interface types   RS 485   Yes   200 mA   Protocols   Yes   PROFIBUS DP master   No   PROFIBUS DP master   No   PROFIBUS DP master   No   Protocols		
Interface type	1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	U
Isolated Interface types  RS 485 Output current of the interface, max.  Protocols  MPI PROFIBUS DP master PROFIBUS DP master PROFIBUS DP device Point-to-point connection No  MPI  Transmission rate, max. Services  PG/OP communication PS basic communication PS communication No PROFIBUS DP master PROFIBU		
Interface types	Interface type	Integrated RS 485 interface
	Isolated	No
Output current of the interface, max.  Protocols  • MPI  • PROFIBUS DP master  • PROFIBUS DP device  • Point-to-point connection  MPI  • Transmission rate, max.  187.5 kbit/s  Services  - PG/OP communication  - Routing  - Routing  - S7 basic communication  - S7 communication  - S7 communication  - S7 communication  - S7 communication, as client  - S7 communication, as server  2. Interface  Interface type  • RS 485  • Output current of the interface, max.  Protocols  • MPI  • PROFIBUS DP master  • Transmission rate, max.  12 Mbit/s  • max. number of DP devices  Services  - Routing  - Routing  - Routing  - Routing  - PROFIBUS DP master  • Transmission rate, max.  12 Mbit/s  • max. number of DP devices  - Routing  - Routing  - Routing  - Routing  - S7 basic communication  - S7 basic communication  No  - S7 basic communication  - S7 communication	Interface types	
Procision  MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection No  MPI  Transmission rate, max.  Services PGIOP communication Routing Strommunication Strommun	• RS 485	Yes
MP  Yes	<ul> <li>Output current of the interface, max.</li> </ul>	200 mA
PROFIBUS DP master PROFIBUS DP device Point-to-point connection No MPI  Transmission rate, max.  8ervices  - PC/OP communication Routing Rout	Protocols	
PROFIBUS DP device Point-to-point connection No	• MPI	Yes
PROFIBUS DP device Point-to-point connection No	PROFIBUS DP master	No
Point-to-point connection No  MPI  ■ Transmission rate, max. 187.5 kbit/s  Services		
<ul> <li>Transmission rate, max.</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— Global data communication</li> <li>— S7 basic communication</li> <li>— S7 communication</li> <li>— S7 communication, as client</li> <li>— S7 communication, as client</li> <li>— S7 communication, as server</li> <li>— S7 communication, as server</li> <li>2. Interface</li> <li>Interface type</li> <li>Integrated RS 485 interface</li> <li>Isolated</li> <li>— Yes</li> <li>Interface types</li> <li>● RS 485</li> <li>● Output current of the interface, max.</li> <li>PROFIBUS DP master</li> <li>● PROFIBUS DP device</li> <li>● PROFIBUS DP device</li> <li>● PROFIBUS DP master</li> <li>● Transmission rate, max.</li> <li>12 Mbit/s</li> <li>• max. number of DP devices</li> <li>124; Per station</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Yes</li> <li>— Routing</li> <li>— PG jobal data communication</li> <li>— S7 basic communication</li> <li>Yes; I blocks only</li> <li>— S7 communication</li> <li>Yes; Only server, configured on one side</li> </ul>		INO
Services  - PG/OP communication Yes - Routing Yes - Global data communication Yes - S7 basic communication Yes - S7 communication Yes - S7 communication Yes - S7 communication Yes - S7 communication, as client No - S7 communication, as server Yes  2. Interface Interface type Integrated RS 485 interface Isolated Yes Interface types - RS 485 - Output current of the interface, max. 200 mA  Protocols - MPI No - PROFIBUS DP master Yes - PROFIBUS DP device Yes - Point-to-point connection No  PROFIBUS DP master - Transmission rate, max. 12 Mbit/S - max. number of DP devices 124; Per station  Services - Routing Yes - Routing Yes - Global data communication No - S7 basic communication Yes; Unlocks only - S7 communication Yes; Only server, configured on one side		407 5 14 2/-
- PG/OP communication Yes - Routing Yes - Global data communication Yes - S7 basic communication Yes - S7 communication Yes - S7 communication Yes; Only server, configured on one side - S7 communication, as client No - S7 communication, as server Yes  Interface type Interface type Integrated RS 485 interface Isolated Yes Interface types - RS 485 - Output current of the interface, max. 200 mA  Protocols - MPI No - PROFIBUS DP master Yes - PROFIBUS DP device Yes - Point-to-point connection No  PROFIBUS DP master - Transmission rate, max. 12 Mbit/s - max. number of DP devices 124; Per station  Services - PG/OP communication Yes - Routing Yes - Global data communication No - S7 basic communication Yes; I blocks only - S7 communication Yes; Only server, configured on one side		187.5 KDIVS
- Routing		
- Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as client - S7 communication, as server  2. Interface Interface type  - RS 485 - Output current of the interface, max.  Protocols - MPI - PROFIBUS DP master - PROFIBUS DP device - Point-to-point connection - PROFIBUS DP master - Transmission rate, max Transmission rate, max Transmission rate, max PG/OP communication - Routing - Global data communication - S7 basic communication - S7 basic communication - S7 communication - S7 communication - S7 communication - Yes; I blocks only - Yes; Only server, configured on one side	— PG/OP communication	
- S7 basic communication Yes Yes, Only server, configured on one side - S7 communication, as client No - S7 communication, as client No - S7 communication, as server Yes  2. Interface Interface type Interface type Interface types • RS 485 Yes • Output current of the interface, max. 200 mA  Protocols • MPI No PROFIBUS DP master Yes • PROFIBUS DP device Yes • Point-to-point connection No  PROFIBUS DP master • Transmission rate, max. 12 Mbit/s • max. number of DP devices 124; Per station  Services - PG/OP communication Yes - Global data communication Yes - S7 basic communication Yes; I blocks only - S7 communication Yes; Only server, configured on one side	— Routing	Yes
- S7 communication Yes; Only server, configured on one side - S7 communication, as client No - S7 communication, as server Yes  2. Interface  Interface Uppe Interface type Interface types  • RS 485 • Output current of the interface, max. 200 mA  Protocols  • MPI No • PROFIBUS DP master Yes • PROFIBUS DP device Yes • Point-to-point connection No  PROFIBUS DP master  • Transmission rate, max. 12 Mbit/s • max. number of DP devices 124; Per station  Services - PG/OP communication Yes - Global data communication No - S7 basic communication Yes; I blocks only - S7 communication Yes; Only server, configured on one side	<ul> <li>Global data communication</li> </ul>	Yes
	<ul> <li>S7 basic communication</li> </ul>	Yes
- S7 communication, as server  2. Interface Interface type Interface type Interface types Interface types  • RS 485 • Output current of the interface, max.  200 mA  Protocols  • MPI • PROFIBUS DP master • PROFIBUS DP device • Point-to-point connection  PROFIBUS DP master • Transmission rate, max. • max. number of DP devices  • max. number of DP devices  - PG/OP communication - Routing - Routing - Global data communication - S7 basic communication - S7 communication - Yes; I blocks only Yes; Only server, configured on one side	— S7 communication	Yes; Only server, configured on one side
Interface type	<ul> <li>— S7 communication, as client</li> </ul>	No
Interface type Isolated Yes  Interface types  RS 485 Output current of the interface, max.  Protocols  MPI No PROFIBUS DP master PROFIBUS DP device Point-to-point connection No  PROFIBUS DP master Transmission rate, max. Transmission rate, max. Protocols  124; Per station  Services  PG/OP communication PS7 basic communication No Yes; I blocks only Yes; Only server, configured on one side	<ul> <li>S7 communication, as server</li> </ul>	Yes
Interface type Isolated Yes  Interface types  RS 485 Output current of the interface, max.  Protocols  MPI No PROFIBUS DP master PROFIBUS DP device Point-to-point connection No  PROFIBUS DP master Transmission rate, max. Transmission rate, max. Protocols  124; Per station  Services  PG/OP communication PS7 basic communication No Yes; I blocks only Yes; Only server, configured on one side	2. Interface	
Interface types  RS 485 Output current of the interface, max.  Protocols  MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection  PROFIBUS DP master Transmission rate, max.  12 Mbit/s max. number of DP devices 124; Per station  Services  PG/OP communication PROFIBUS DR data communication Profibus DR data communication Profibus DR device PG/OP communication PG/OP communic		Integrated RS 485 interface
Interface types  RS 485 Output current of the interface, max.  Protocols  MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection  PROFIBUS DP master Transmission rate, max. Transmission rate, max. Protocols  PG/OP communication Services PG/OP communication PG Device Point-to-point connection No PROFIBUS DP master  Transmission rate, max. PG/OP devices PG/OP communication PG/OP communication PS7 basic communication PS7 basic communication PS7 communication PYes; I blocks only PS7 communication PS8 configured on one side	· ·	-
RS 485 Output current of the interface, max.  Protocols  MPI PROFIBUS DP master PROFIBUS DP device Proint-to-point connection  PROFIBUS DP master Transmission rate, max. Transmission rate, max. Transmission rate, max. Transmission rate, max. Pax. number of DP devices  PG/OP communication PROFIBUS DP master  Transmission rate, max. The max of DP devices  PG/OP communication PG/OP communication PS7 basic communication PS7 basic communication PS7 communication PS7 communication PYes; I blocks only Pyes; Only server, configured on one side		
<ul> <li>Output current of the interface, max.</li> <li>Protocols</li> <li>MPI</li> <li>No</li> <li>PROFIBUS DP master</li> <li>Yes</li> <li>PROFIBUS DP device</li> <li>Yes</li> <li>Point-to-point connection</li> <li>No</li> <li>PROFIBUS DP master</li> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>12 Mbit/s</li> <li>max. number of DP devices</li> <li>124; Per station</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— Routing</li> <li>— Global data communication</li> <li>— S7 basic communication</li> <li>— S7 tosmmunication</li> <li>Yes; I blocks only</li> <li>— S7 communication</li> <li>Yes; Only server, configured on one side</li> </ul>	· · · · · · · · · · · · · · · · · · ·	Vac
Protocols  MPI PROFIBUS DP master Yes PROFIBUS DP device Point-to-point connection No  PROFIBUS DP master Transmission rate, max. 12 Mbit/s max. number of DP devices 124; Per station  Services PG/OP communication Yes Routing Global data communication No S7 basic communication Yes; I blocks only Server, configured on one side		
<ul> <li>MPI</li> <li>PROFIBUS DP master</li> <li>PROFIBUS DP device</li> <li>Point-to-point connection</li> <li>No</li> </ul> PROFIBUS DP master <ul> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>124; Per station</li> </ul> Services <ul> <li>PG/OP communication</li> <li>Routing</li> <li>Global data communication</li> <li>Yes</li> <li>Global data communication</li> <li>S7 basic communication</li> <li>Yes; I blocks only</li> <li>Yes; Only server, configured on one side</li> </ul>		ZUU IIIA
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<ul> <li>Point-to-point connection</li> <li>PROFIBUS DP master</li> <li>● Transmission rate, max.</li> <li>● max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— Global data communication</li> <li>— S7 basic communication</li> <li>— S7 communication</li> <li>Yes; I blocks only</li> <li>— S7 communication</li> <li>Yes; Only server, configured on one side</li> </ul>	PROFIBUS DP master	
PROFIBUS DP master  • Transmission rate, max.  • max. number of DP devices  124; Per station  Services  - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - Yes; Only server, configured on one side	<ul> <li>PROFIBUS DP device</li> </ul>	Yes
<ul> <li>Transmission rate, max.</li> <li>max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— Global data communication</li> <li>— S7 basic communication</li> <li>— S7 communication</li> <li>— S7 communication</li> <li>Yes; I blocks only</li> <li>— S7 communication</li> <li>Yes; Only server, configured on one side</li> </ul>	Point-to-point connection	No
<ul> <li>● max. number of DP devices</li> <li>Services</li> <li>— PG/OP communication</li> <li>— Routing</li> <li>— Global data communication</li> <li>— S7 basic communication</li> <li>— S7 communication</li> <li>— S7 communication</li> <li>Yes; I blocks only</li> <li>— S7 communication</li> <li>Yes; Only server, configured on one side</li> </ul>	PROFIBUS DP master	
Services  - PG/OP communication Yes - Routing Yes - Global data communication No - S7 basic communication Yes; I blocks only - S7 communication Yes; Only server, configured on one side	<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
Services  - PG/OP communication Yes - Routing Yes - Global data communication No - S7 basic communication Yes; I blocks only - S7 communication Yes; Only server, configured on one side	• max. number of DP devices	124; Per station
<ul> <li>— PG/OP communication</li> <li>— Routing</li> <li>— Global data communication</li> <li>— S7 basic communication</li> <li>— S7 communication</li> <li>— S7 communication</li> <li>— S8 communication</li> <li>— S9 communi</li></ul>	Services	
<ul> <li>Routing</li> <li>Global data communication</li> <li>S7 basic communication</li> <li>Yes; I blocks only</li> <li>S7 communication</li> <li>Yes; Only server, configured on one side</li> </ul>		Yes
<ul> <li>— Global data communication</li> <li>— S7 basic communication</li> <li>— S7 communication</li> <li>— S7 communication</li> <li>Yes; I blocks only</li> <li>Yes; Only server, configured on one side</li> </ul>		
<ul> <li>— S7 basic communication</li> <li>— S7 communication</li> <li>Yes; I blocks only</li> <li>Yes; Only server, configured on one side</li> </ul>	-	
— S7 communication Yes; Only server, configured on one side		
— S7 communication, as client		
	— S7 communication, as client	NO NO

<ul> <li>S7 communication, as server</li> </ul>	Yes
— Equidistance	Yes
<ul> <li>Isochronous mode</li> </ul>	Yes; OB 61
— SYNC/FREEZE	Yes
<ul> <li>activation/deactivation of DP devices</li> </ul>	Yes
<ul> <li>max. number of DP devices that can be activated/deactivated at the same time</li> </ul>	8
— DPV1	Yes
Address area	
— Inputs, max.	2 048 byte
— Outputs, max.	2 048 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 at: http://www.siemens.com/profibus-gsd
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; Only server, configured on one side
S7 communication     S7 communication, as client	No
	Yes
— S7 communication, as server	
<ul> <li>— Direct data exchange (slave-to-slave communication)</li> </ul>	Yes
— DPV1	No
Transfer memory	
•	244 byte
— Inputs	244 byte
— Inputs — Outputs	244 byte 244 byte
— Inputs — Outputs Protocols	244 byte
Inputs Outputs  Protocols  PROFIsafe	· ·
— Inputs — Outputs  Protocols  PROFIsafe communication functions / header	Yes
— Inputs — Outputs  Protocols  PROFIsafe communication functions / header  PG/OP communication	Yes Yes
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing	Yes
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication	Yes Yes Yes
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported	Yes Yes Yes Yes
- Inputs - Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max.	Yes Yes Yes Yes 8
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max.	Yes Yes Yes Yes 8 8
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max.	Yes Yes Yes Yes 8 8 8
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max.	Yes  Yes  Yes  Yes  8 8 8 8
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max.	Yes  Yes  Yes  Yes  8 8 8 8 8 22 byte
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.	Yes  Yes  Yes  Yes  8 8 8 8
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication	Yes  Yes  Yes  Yes  Yes  8  8  8  8  22 byte  22 byte
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.	Yes Yes Yes Yes  Yes 8 8 8 8 22 byte 22 byte
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication  • supported • User data per job, max.	Yes Yes Yes Yes  Yes 8 8 8 8 8 22 byte 22 byte Yes 76 byte
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported	Yes Yes Yes Yes  Yes 8 8 8 8 22 byte 22 byte
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication  • supported • User data per job, max.	Yes  Yes  Yes  Yes  Yes  8  8  8  8  22 byte  22 byte  Yes  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication  • supported • User data per job, max. • User data per job (of which consistent), max.	Yes  Yes  Yes  Yes  Yes  8  8  8  8  22 byte  22 byte  Yes  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication  • supported • User data per job, max. • User data per job (of which consistent), max.	Yes  Yes  Yes  Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication  • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported	Yes  Yes  Yes  Yes  Yes  8  8  8  8  22 byte  22 byte  Yes  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported • supported • as server	Yes  Yes  Yes  Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes  Yes
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported • as server • as client	Yes  Yes  Yes  Yes  Yes  8  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packets, of which consistent, max.  S7 basic communication • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication • supported • as server • as client • User data per job, max.	Yes  Yes  Yes  Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication  • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication  • supported • as server • as client • User data per job, max. • User data per job (of which consistent), max.	Yes  Yes  Yes  Yes  Yes  8  8  8  22 byte  22 byte  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye
— Inputs — Outputs  Protocols  PROFIsafe  communication functions / header  PG/OP communication  Data record routing  Global data communication  • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max.  S7 basic communication  • supported • User data per job, max. • User data per job (of which consistent), max.  S7 communication  • supported • as server • as client • User data per job (of which consistent), max.  S5 compatible communication	Yes  Yes  Yes  Yes  Yes  Yes  8  8  8  22 byte  22 byte  Yes  Yes  76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye

overall	16
<ul> <li>usable for PG communication</li> </ul>	15
<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>	15
<ul> <li>usable for OP communication</li> </ul>	15
<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>	15
<ul> <li>usable for S7 basic communication</li> </ul>	12
<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>	12
S7 message functions	
Number of login stations for message functions, max.	16; 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
<ul><li>of which status variables, max.</li></ul>	30
— of which control variables, max.	14
Forcing	
• Forcing	Yes
<ul> <li>Forcing, variables</li> </ul>	Inputs, outputs
Number of variables, max.	10
Diagnostic buffer	
• present	Yes
<ul> <li>Number of entries, max.</li> </ul>	500
— adjustable	No
<ul><li>of which powerfail-proof</li></ul>	100; Only the last 100 entries are retained
<ul> <li>Number of entries readable in RUN, max.</li> </ul>	
— 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.	0° °C
configuration / header	
Configuration software	
• STEP 7	Yes; V5.2 SP1 or higher with HW update
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	
<ul> <li>User program protection/password protection</li> </ul>	Yes
<ul> <li>Block encryption</li> </ul>	Yes; With S7 block Privacy
Dimensions	
Width	40 mm
Height	125 mm
Depth	130 mm
Weights	
Weights	

last modified:

