

# SIMATIC S7-400

## Central processing units

High-availability CPUs  
CPU 412H, CPU 414H, CPU 416H, CPU 417H

### Overview CPU 412H



- CPU for SIMATIC S7-400H and S7-400F/FH
- Can be used in S7-400H high-availability systems
- Can be used with F runtime license as F-capable CPU in S7-400F/FH safety-related systems
- With integrated PROFIBUS DP master and combined MPI/PROFIBUS DP master interface
- With integrated PROFINET interface (2-port switch)
- Features 2 slots for sync modules

### Overview CPU 414H



- CPU for SIMATIC S7-400H and S7-400F/FH
- Can be used in S7-400H high-availability systems
- Can be used with F runtime license as F-capable CPU in S7-400F/FH safety-related systems
- With integrated PROFIBUS DP master and combined MPI/PROFIBUS DP master interface
- With integrated PROFINET interface (2-port switch)
- Features 2 slots for sync modules

### Overview CPU 416H

- CPU for SIMATIC S7-400H and S7-400F/FH
- Can be used in S7-400H high-availability systems
- Can be used with F runtime license as F-capable CPU in S7-400F/FH safety-related systems
- With integrated PROFIBUS DP master and combined MPI/PROFIBUS DP master interface
- With integrated PROFINET interface (2-port switch)
- Features 2 slots for sync modules

### Overview CPU 417H



- CPU for SIMATIC S7-400H and S7-400F/FH
- Can be used in S7-400H high-availability systems
- Can be used with F runtime license as F-capable CPU in S7-400F/FH safety-related systems
- With integrated PROFIBUS DP master interface and combined MPI/PROFIBUS DP master interface
- With integrated PROFINET interface (2-port switch)
- Features 2 slots for sync modules

# SIMATIC S7-400

## Central processing units

High-availability CPUs  
CPU 412H, CPU 414H, CPU 416H, CPU 417H

### Technical specifications

	6ES7 412-5HK06-0AB0 CPU 412-5H PN/DP	6ES7 414-5HM06-0AB0 CPU 414-5H PN/DP	6ES7 416-5HS06-0AB0 CPU 416-5H PN/DP	6ES7 417-5HT06-0AB0 CPU 417-5H PN/DP
<b>General information</b>				
Engineering with • Programming package	As of STEP 7 V5.5 SP2 with HF1	As of STEP 7 V5.5 SP2 with HF1	As of STEP 7 V5.5 SP2 with HF1	As of STEP 7 V5.5 SP2 with HF1
<b>Supply voltage</b>				
24 V DC	No; Power supply via system power supply	No; Power supply via system power supply	No; Power supply via system power supply	No; Power supply via system power supply
<b>Power losses</b>				
Power loss, typ.	7.5 W	7.5 W	7.5 W	7.5 W
<b>Memory</b>				
Work memory				
• integrated	1 Mbyte	4 Mbyte	16 Mbyte	32 Mbyte
• integrated (for program)	512 kbyte	2 Mbyte	6 Mbyte	16 Mbyte
• integrated (for data)	512 kbyte	2 Mbyte	10 Mbyte	16 Mbyte
Load memory				
• expandable FEPROM, max.	64 Mbyte	64 Mbyte	64 Mbyte	64 Mbyte
• integrated RAM, max.	512 kbyte	512 kbyte	1 Mbyte	1 Mbyte
• expandable RAM, max.	64 Mbyte	64 Mbyte	64 Mbyte	64 Mbyte
<b>CPU processing times</b>				
for bit operations, typ.	31.25 ns	18.75 ns	12.5 ns	7.5 ns
for word operations, typ.	31.25 ns	18.75 ns	12.5 ns	7.5 ns
for fixed point arithmetic, typ.	31.25 ns	18.75 ns	12.5 ns	7.5 ns
for floating point arithmetic, typ.	62.5 ns	37.5 ns	25 ns	15 ns
<b>Counters, timers and their retentivity</b>				
S7 counter				
• Number	2 048	2 048	2 048	2 048
IEC counter				
• present	Yes	Yes	Yes	Yes
S7 times				
• Number	2 048	2 048	2 048	2 048
IEC timer				
• present	Yes	Yes	Yes	Yes
<b>Data areas and their retentivity</b>				
Flag				
• Number, max.	8 192 byte	8 192 byte	16 384 byte	16 384 byte
<b>Address area</b>				
I/O address area				
• Inputs	8 kbyte	8 kbyte	16 kbyte	16 kbyte
• Outputs	8 kbyte	8 kbyte	16 kbyte	16 kbyte
Process image				
• Inputs, adjustable	8 kbyte	8 kbyte	16 kbyte	16 kbyte
• Outputs, adjustable	8 kbyte	8 kbyte	16 kbyte	16 kbyte
<b>Time of day</b>				
Clock				
• Hardware clock (real-time clock)	Yes	Yes	Yes	Yes
Operating hours counter				
• Number	16	16	16	16

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## Central processing units

High-availability CPUs  
CPU 412H, CPU 414H, CPU 416H, CPU 417H

### Technical specifications (continued)

	6ES7 412-5HK06-0AB0 CPU 412-5H PN/DP	6ES7 414-5HM06-0AB0 CPU 414-5H PN/DP	6ES7 416-5HS06-0AB0 CPU 416-5H PN/DP	6ES7 417-5HT06-0AB0 CPU 417-5H PN/DP
<b>1st interface</b>				
Type of interface	integrated	integrated	integrated	integrated
Physics	RS 485 / PROFIBUS + MPI	RS 485 / PROFIBUS + MPI	RS 485 / PROFIBUS + MPI	RS 485 / PROFIBUS + MPI
Functionality				
• MPI	Yes	Yes	Yes	Yes
• DP master	Yes	Yes	Yes	Yes
• DP slave	No	No	No	No
DP master				
• Number of DP slaves, max.	32	32	32	32
<b>2nd interface</b>				
Type of interface	PROFINET	PROFINET	PROFINET	PROFINET
Physics	Ethernet RJ45	Ethernet RJ45	Ethernet RJ45	Ethernet RJ45
Number of ports	2	2	2	2
Functionality				
• DP master	No	No	No	No
• DP slave	No	No	No	No
• PROFINET IO Controller	Yes	Yes	Yes	Yes
• PROFINET IO Device	No	No	No	No
• PROFINET CBA	No	No	No	No
PROFINET IO Controller				
• Max. number of connectable IO devices for RT	256	256	256	256
<b>3rd interface</b>				
Type of interface	integrated	integrated	integrated	integrated
Physics	RS 485 / PROFIBUS	RS 485 / PROFIBUS	RS 485 / PROFIBUS	RS 485 / PROFIBUS
Functionality				
• DP master	Yes	Yes	Yes	Yes
• DP slave	No	No	No	No
DP master				
• Number of DP slaves, max.	64	96	125	125
<b>4th interface</b>				
Type of interface	Pluggable synchronization submodule (FO)	Pluggable synchronization submodule (FO)	Pluggable synchronization submodule (FO)	Pluggable synchronization submodule (FO)
Plug-in interface modules	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0
<b>5th interface</b>				
Type of interface	Pluggable synchronization submodule (FO)	Pluggable synchronization submodule (FO)	Pluggable synchronization submodule (FO)	Pluggable synchronization submodule (FO)
Plug-in interface modules	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0	Synchronization modules 6ES7960-1AA06-0XA0 or 6ES7960-1AB06-0XA0
<b>Isochronous mode</b>				
Isochronous operation (application synchronized up to terminal)	No	No	No	No

# SIMATIC S7-400

## Central processing units

High-availability CPUs  
CPU 412H, CPU 414H, CPU 416H, CPU 417H

### Technical specifications (continued)

	6ES7 412-5HK06-0AB0 CPU 412-5H PN/DP	6ES7 414-5HM06-0AB0 CPU 414-5H PN/DP	6ES7 416-5HS06-0AB0 CPU 416-5H PN/DP	6ES7 417-5HT06-0AB0 CPU 417-5H PN/DP
<b>Communication functions</b>				
PG/OP communication	Yes	Yes	Yes	Yes
Data record routing	Yes	Yes	Yes	Yes
S7 routing	Yes	Yes	Yes	Yes
Global data communication				
• supported	No	No	No	No
S7 basic communication				
• supported	No	No	No	No
S7 communication				
• supported	Yes	Yes	Yes	Yes
S5-compatible communication				
• supported	Yes; (via CP max. 10 and FC AG_SEND and FC AG_RECV)	Yes; (via CP max. 10 and FC AG_SEND and FC AG_RECV)	Yes; (via CP max. 10 and FC AG_SEND and FC AG_RECV)	Yes; (via CP max. 10 and FC AG_SEND and FC AG_RECV)
Standard communication (FMS)				
• supported	Yes; Via CP and loadable FB	Yes; Via CP and loadable FB	Yes; Via CP and loadable FB	Yes; Via CP and loadable FB
Open IE communication				
• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs	Yes; via integrated PROFINET interface and loadable FBs	Yes; via integrated PROFINET interface and loadable FBs	Yes; via integrated PROFINET interface and loadable FBs
- Number of connections, max.	46	62	94	118
• ISO-on-TCP (RFC1006)	Yes; Via integrated PROFINET interface or CP 443-1 and loadable FBs	Yes; Via integrated PROFINET interface or CP 443-1 and loadable FBs	Yes; Via integrated PROFINET interface or CP 443-1 and loadable FBs	Yes; Via integrated PROFINET interface or CP 443-1 and loadable FBs
- Number of connections, max.	46	62	94	118
• UDP	Yes; via integrated PROFINET interface and loadable FBs	Yes; via integrated PROFINET interface and loadable FBs	Yes; via integrated PROFINET interface and loadable FBs	Yes; via integrated PROFINET interface and loadable FBs
- Number of connections, max.	46	62	94	118
Web server				
• supported	No	No	No	No
Number of connections				
• overall	48	64	96	120
<b>Configuration</b>				
programming				
• Programming language				
- LAD	Yes	Yes	Yes	Yes
- FBD	Yes	Yes	Yes	Yes
- STL	Yes	Yes	Yes	Yes
- SCL	Yes	Yes	Yes	Yes
- CFC	Yes	Yes	Yes	Yes
- GRAPH	Yes	Yes	Yes	Yes
- HiGraph®	Yes	Yes	Yes	Yes
Know-how protection				
• User program protection/password protection	Yes	Yes	Yes	Yes
• Block encryption	Yes; With S7 block Privacy	Yes; With S7 block Privacy	Yes; With S7 block Privacy	Yes; With S7 block Privacy
<b>Dimensions</b>				
Width	50 mm	50 mm	50 mm	50 mm
Height	290 mm	290 mm	290 mm	290 mm
Depth	219 mm	219 mm	219 mm	219 mm
Required slots	2	2	2	2
<b>Weight</b>				
Weight, approx.	995 g	995 g	995 g	995 g

# SIMATIC S7-400

## Central processing units

High-availability CPUs  
CPU 412H, CPU 414H, CPU 416H, CPU 417H

Ordering data	Order No.	Order No.
<b>CPU 412-5H</b> For S7-400H and S7-400F/FH; 1 MB RAM, 1 combined MPI/ PROFIBUS DP master interface, 1 PROFIBUS DP interface, 2 PROFINET interfaces (switches), 2 slots for sync modules, slot for memory card, incl. slot number labels	<b>6ES7 412-5HK06-0AB0</b>	
<b>CPU 412-5H system bundle</b> Not assembled, consisting of: UR2-H rack, 2 x PS 405/407 power supply units, 2 x CPU 412-5H, 4 x Sync modules (for max. 10 m), 2 x fiber optic cables for sync mod- ules (1 m), 4 x backup batteries; additional two memory cards required (to be ordered separately)		
<b>412-5H system bundle, 120/230 V AC, 10 A</b>	<b>6ES7 400-0HR01-4AB0</b>	
<b>412-5H system bundle, 24/48/60 V DC, 10 A</b>	<b>6ES7 400-0HR51-4AB0</b>	
<b>CPU 414-5H</b> For S7-400H and S7-400F/FH; 4 MB RAM, 1 combined MPI/ PROFIBUS DP master interface, 1 PROFIBUS DP interface, 2 PROFINET interfaces (switches), 2 slots for sync modules, slot for memory card, incl. slot number labels	<b>6ES7 414-5HM06-0AB0</b>	
<b>CPU 414-5H system bundle</b> Not assembled, consisting of: UR2-H rack, 2 x PS 405/407 power supply units, 2 x CPU 414-5H, 4 x Sync modules (for max. 10 m), 2 x fiber optic cables for sync mod- ules (1 m), 4 x backup batteries; two additional memory cards required (to be ordered separately)		
<b>414-5H system bundle, 120/230 V AC, 10 A</b>	<b>6ES7 400-0HR02-4AB0</b>	
<b>414-5H system bundle, 24/48/60 V DC, 10 A</b>	<b>6ES7 400-0HR52-4AB0</b>	
<b>CPU 416-5H</b> For S7-400H and S7-400F/FH; 16 MB RAM, 1 combined MPI/ PROFIBUS DP master interface, 1 PROFIBUS DP interface, 2 PROFINET interfaces (switches), 2 slots for sync modules, slot for memory card, incl. slot number labels	<b>6ES7 416-5HS06-0AB0</b>	
<b>CPU 416-5H system bundle</b> Not assembled, consisting of: UR2-H rack, 2 x PS 405/407 power supply units, 2 x CPU 416-5H, 4 x Sync modules (for max. 10 m), 2 x fiber optic cables for sync mod- ules (1 m), 4 x backup batteries; two additional memory cards required (to be ordered separately)		
<b>416-5H system bundle, 120/230 V AC, 10 A</b>	<b>6ES7 400-0HR03-4AB0</b>	
<b>416-5H system bundle, 24/48/60 V DC, 10 A</b>	<b>6ES7 400-0HR53-4AB0</b>	
<b>CPU 417-5H</b> For S7-400H and S7-400F/FH; 32 MB RAM, 1 combined MPI/PROFIBUS DP master inter- face, 1 PROFIBUS DP interface, 2 PROFINET interfaces (switches), 2 slots for sync modules, slot for memory card, incl. slot number labels	<b>6ES7 417-5HT06-0AB0</b>	
<b>CPU 417-5H system bundle</b> Not assembled, consisting of: UR2-H rack, 2 x PS 405/407 power supply units, 2 x CPU 417-5H, 4 x Sync modules (for max. 10 m), 2 x fiber optic cables for sync mod- ules (1 m), 4 x backup batteries; two additional memory cards required (to be ordered separately)		
<b>417-5H system bundle, 120/230 V AC, 10 A</b>	<b>6ES7 400-0HR04-4AB0</b>	
<b>417-5H system bundle, 24/48/60 V DC, 10 A</b>	<b>6ES7 400-0HR54-4AB0</b>	
<b>Memory card RAM</b> 1 MB 2 MB 4 MB 8 MB 16 MB 64 MB		<b>6ES7 952-1AK00-0AA0</b> <b>6ES7 952-1AL00-0AA0</b> <b>6ES7 952-1AM00-0AA0</b> <b>6ES7 952-1AP00-0AA0</b> <b>6ES7 952-1AS00-0AA0</b> <b>6ES7 952-1AY00-0AA0</b>
<b>FEPRM memory card</b> 1 MB 2 MB 4 MB 8 MB 16 MB 32 MB 64 MB		<b>6ES7 952-1KK00-0AA0</b> <b>6ES7 952-1KL00-0AA0</b> <b>6ES7 952-1KM00-0AA0</b> <b>6ES7 952-1KP00-0AA0</b> <b>6ES7 952-1KS00-0AA0</b> <b>6ES7 952-1KT00-0AA0</b> <b>6ES7 952-1KY00-0AA0</b>

# SIMATIC S7-400

## Central processing units

High-availability CPUs  
CPU 412H, CPU 414H, CPU 416H, CPU 417H

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Ordering data	Order No.	Order No.	
<b>MPI cable</b> for connection of SIMATIC S7 and PG via MPI; 5 m in length	6ES7 901-0BF00-0AA0	<b>SIMATIC Manual Collection update service for 1 year</b> Current "Manual Collection" DVD and the three subsequent updates	6ES7 998-8XC01-8YE2
<b>Slot number plates</b> 1 set (spare part)	6ES7 912-0AA00-0AA0	<b>RS 485 bus connector with 90° cable outlet</b> Max. transfer rate 12 Mbit/s Without PG interface With PG interface	6ES7 972-0BA12-0XA0 6ES7 972-0BB12-0XA0
<b>S7 F Systems RT License</b> For processing safety-related user programs, for one S7 400H-based system each with CPU 412-5H, CPU 414-5H, CPU 416-5H or CPU 417-5H	6ES7 833-1CC00-6YX0	<b>RS 485 bus connector with angled cable outlet</b> Max. transfer rate 12 Mbit/s Without PG interface With PG interface Max. transfer rate 1.5 Mbit/s Without PG interface	6ES7 972-0BA42-0XA0 6ES7 972-0BB42-0XA0 6ES7 972-0BA30-0XA0
<b>S7 F Systems V6.1</b> Programming and configuring environment for creating and operating safety-related STEP 7 programs for an S7 400H-based target system, floating license for 1 user, runs under Windows XP Prof SP2, Windows XP Prof SP2/SP3, Windows Server 2003 SP2 2 languages (English, German) Type of delivery: License certificate as well as software and electronic documentation on CD	6ES7 833-1CC02-0YA5	<b>Bus connector RS 485 with 90° cable outlet for FastConnect connection technology</b> Max. transfer rate 12 Mbit/s Without PG interface <ul style="list-style-type: none"> <li>• 1 unit</li> <li>• 100 units</li> </ul> With PG interface <ul style="list-style-type: none"> <li>• 1 unit</li> <li>• 100 units</li> </ul>	6ES7 972-0BA52-0XA0 6ES7 972-0BA52-0XB0 6ES7 972-0BB52-0XA0 6ES7 972-0BB52-0XB0
<b>S7 F systems upgrade from V5.x/V6.0 to V6.1</b> 2 languages (English, German), floating license for 1 user Type of delivery: License certificate as well as software and electronic documentation on CD	6ES7 833-1CC02-0YE5	<b>RS 485 bus connector with axial cable outlet</b> For SIMATIC OP, for connection to PPI, MPI, PROFIBUS	6GK1 500-0EA02
<b>SIMATIC Manual Collection</b> Electronic manuals on DVD, multilingual: LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC Based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC	6ES7 998-8XC01-8YE0	<b>PROFIBUS FastConnect bus cable</b> Standard type with special design for quick mounting, 2-core, shielded, sold by the meter, max. delivery unit 1000 m, minimum ordering quantity 20 m	6XV1 830-0EH10

# SIMATIC S7-400

## Central processing units

### Sync-module for coupling the CPU 41xH

#### Overview



- For coupling the two CPU 41xH in the S7-400H subunits.
- Can be plugged direct into the CPU

#### Technical specifications

	6ES7 960-1AA06-0XA0	6ES7 960-1AB06-0XA0
<b>Input current</b> from CPU, max.	220 mA	240 mA
<b>Power losses</b> Power loss, typ.	0.77 W	0.83 W
<b>Dimensions</b>		
Width	13 mm	13 mm
Height	14 mm	14 mm
Depth	58 mm	58 mm
<b>Weight</b> Weight, approx.	14 g	14 g

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#### Ordering data

##### Sync module

for coupling the CPU 41xH  
for S7-400H/F/FH;  
2 modules required per CPU;

for patch cable, can be used  
with fiber-optic cables up to 10 m

for patch and installation cables,  
can be used with fiber-optic cables  
up to 10 km

##### Order No.

6ES7 960-1AA06-0XA0

6ES7 960-1AB06-0XA0

##### Fiber-optic connecting cable

For Sync module  
6ES7 960-1Ax04-0XA0

- 1 m
- 2 m
- 10 m

For Sync module  
6ES7 960-1AB06-0XA0;  
fiber-optic monomode LC/LC duplex  
crossed 9/125 μ (max. 10 km)

##### Order No.

6ES7 960-1AA04-5AA0  
6ES7 960-1AA04-5BA0  
6ES7 960-1AA04-5KA0

On request

# SIMATIC S7-400

## Central processing units

### Y-link for S7-400H

#### Overview



- Transceiver for the transition from a redundant PROFIBUS DP master system to a single-channel PROFIBUS DP master system
- To connect devices with a single PROFIBUS DP interface to the redundant PROFIBUS DP master system of the SIMATIC S7-400H

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#### Technical specifications

6ES7 153-2BA02-0XB0	
<b>General information</b>	
Vendor identification (VendorID)	801Eh
<b>Supply voltage</b>	
24 V DC	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
permissible range (ripple included), lower limit (DC)	20.4 V
permissible range (ripple included), upper limit (DC)	28.8 V
External protection for supply cables (recommendation)	2.5 A
Mains buffering	
• Mains/voltage failure stored energy time	5 ms
<b>Input current</b>	
Current consumption, max.	650 mA
Inrush current, typ.	3 A
$I^2t$	0.1 A <sup>2</sup> ·s
<b>Output voltage</b>	
Rated value, 5 V DC	Yes
<b>Output current</b>	
for backplane bus (5 V DC), max.	1.5 A
<b>Power losses</b>	
Power loss, typ.	5.5 W
<b>Address area</b>	
Addressing volume	
• Outputs	244 byte
• Inputs	244 byte
<b>Hardware configuration</b>	
Number of modules per DP slave interface, max.	12

6ES7 153-2BA02-0XB0	
<b>Time stamping</b>	
Accuracy	1 ms; 1ms at up to 8 modules; 10ms at up to 12 modules
Number of message buffers	15
Messages per message buffer	20
Number of stampable digital inputs, max.	128; Max. 128 signals/station; max. 32 signals/slot
Time format	RFC 1119
Time resolution	0.466 ns
Time interval for transmitting the message buffer if a message is present	1 000 ms
Time stamp on signal change	rising / falling edge as signal entering or exiting
<b>Interfaces</b>	
Interface physics, RS 485	Yes
Interface physics, FOC	No
<b>PROFIBUS DP</b>	
• Node addresses	1 to 125 permitted
• Automatic detection of transmission speed	Yes
• PROFIBUS DP, output current, max.	70 mA
• Transmission procedure	RS 485
• Transmission rate, max.	12 Mbit/s
• SYNC capability	Yes
• FREECE capability	Yes
• Direct data exchange (slave-to-slave communication)	Yes; Sender
• PROFIBUS DP	9-pin sub D
<b>1st interface</b>	
DP slave	
• GSD file	SI04801.GSG
• Automatic baud rate search	Yes
<b>Communication functions</b>	
Bus protocol/transmission protocol	PROFIBUS DP to EN 50170



### Technical specifications (continued)

6ES7 153-2BA02-0XB0	
<b>Isolation</b>	
Isolation checked with	Isolation voltage 500 V
<b>Degree and class of protection</b>	
IP20	Yes
<b>Ambient conditions</b>	
Operating temperature	
• Min.	0 °C
• max.	60 °C
Air pressure	
• Operating altitude above sea level, max.	3 000 m
<b>Dimensions</b>	
Width	40 mm
Height	125 mm
Depth	117 mm
<b>Weight</b>	
Weight, approx.	360 g

6ES7 197-1LB00-0XA0	
<b>General information</b>	
Requirements for DP master system	
• Length of parameter assignment message	244 byte
<b>Supply voltage</b>	
Description	
	via bus module
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
<b>Interfaces</b>	
PROFIBUS DP	
• Properties of the lower-level DP master systems	
- Transmission rate, max.	12 Mbit/s; 45.45 kbit/s to 12 Mbit/s
- Termination of lower-level DP master system	Active terminating resistor (Bus Terminator)
- Use of OLM/OBT	Yes
- Use of RS 485 repeaters, max.	9
- Number of DP slaves, max.	31; 64 when using RS 485 repeaters or OLM/OBT
<b>Protocols</b>	
PROFIBUS DP	Yes
<b>Interrupts/diagnostics/status information</b>	
Status indicator	No
Alarms	
• Alarms	No
Diagnostic messages	
• Diagnostic functions	Yes
<b>Galvanic isolation</b>	
to lower-level DP master system	Yes
<b>Dimensions</b>	
Width	40 mm
Height	125 mm
Depth	130 mm
<b>Weight</b>	
Weight, approx.	200 g

# SIMATIC S7-400

## Central processing units

### Y-link for S7-400H

#### Ordering data

#### Order No.

For use with STEP 7 from V5.4 or PCS 7 from V7.0:

#### Y link

For connecting single-channel DP slaves to SIMATIC S7-400H; consisting of  
 2 IM 153 interface modules (6ES7 153-2BA02-0XB0),  
 1 Y coupler (6ES7 197-1LB00-0XA0),  
 1 BM IM/IM bus module (6ES7 195-7HD80-0XA0),  
 1 BM Y coupler bus module (6ES7 654-7HY00-0XA0)

**6ES7 197-1LA04-0XA0**

For use with PCS 7 V6.0 or higher:

#### Y link

For connecting single-channel DP slaves to SIMATIC S7-400H; consisting of  
 2 IM 153 interface modules (6ES7 153-2BA82-0XB0),  
 1 Y coupler (6ES7 197-1LB00-0XA0),  
 1 BM IM/IM bus module (6ES7 195-7HD80-0XA0),  
 1 BM Y coupler bus module (6ES7 654-7HY00-0XA0)

**6ES7 197-1LA11-0XA0**

#### Order No.

#### Accessories

#### Mounting rail

For assembling the Y link with active bus modules

- Length 483 mm
- Length 530 mm

**6ES7 195-1GA00-0XA0**  
**6ES7 195-1GF30-0XA0**