SIEMENS

Data sheet

6ES7410-5FM08-0AB0



********** spare part ******** SIMATIC S7, CPU 410SIS Safety Controller central processing unit for S7-400F and S7-400FH, 5 interfaces: 2x PN, 1x DP, 2x for Sync modules for use as spare part, without System Expansion Card

Figure similar

WITH	
General information	
Product type designation	CPU 410SIS
HW functional status	1
Firmware version	V8.2
Design of PLC basic unit	With Conformal Coating (ISA-S71.04 severity level G1; G2; G3) and operating temperature to 70 $^{\circ}\text{C}$
Product function	
• SysLog	Yes; via TCP; up to 4 receivers can be parameterized; buffer capacity max. 3 200 entries
Field interface security	Yes
Engineering with	
 Programming package 	SIMATIC SIS COMPACT V9.0 or higher
CiR - Configuration in RUN	
CiR synchronization time, basic load	60 ms
CiR synchronization time, time per I/O byte	0 μs
Input current	
from backplane bus 5 V DC, typ.	2 A
from backplane bus 5 V DC, max.	2.4 A
from backplane bus 24 V DC, max.	150 mA; DP interface
from interface 5 V DC, max.	90 mA; At the DP interface
Power loss	
Power loss, typ.	10 W
Processor	
CPU speed	450 MHz; Multi-processor system
Memory	
Work memory	
• integrated	4 Mbyte
• integrated (for program)	2 Mbyte
• integrated (for data)	2 Mbyte
expandable	No
Load memory	
• integrated RAM, max.	48 Mbyte
expandable RAM	No
Backup	
with battery	Yes; all data
without battery	Yes; Program and data of the load memory
Battery	
Backup battery	
Backup current, typ.	370 μA; Valid up to 40°C

Dealers compat areas	0.4 A
Backup current, max. Parly of time are as a second and a second a second and	2.1 mA
Backup time, max.	Dealt with in the module data manual with the secondary conditions and the factors of influence
 Feeding of external backup voltage to CPU 	No
CPU processing times	
for bit operations, typ.	7.5 ns
for word operations, typ.	7.5 ns
	7.5 ns
for fixed point arithmetic, typ.	15 ns
for floating point arithmetic, typ. Process tasks, max.	
CPU-blocks	9; Individually adjustable from 10 ms to 5 s
DB	
	4C 000: Number represent to 4C 000 (= Instances)
• Number, max.	16 000; Number range: 1 to 16 000 (= Instances)
• Size, max.	64 kbyte
FB	0.000 N. J. 7000
Number, max.	8 000; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	0.000 N. J
Number, max.	8 000; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
Number, max.	see instruction list
• Size, max.	64 kbyte
 Number of free cycle OBs 	1; OB 1
 Number of time alarm OBs 	8; OB 10-17
 Number of delay alarm OBs 	4; OB 20-23
 Number of cyclic interrupt OBs 	9; OB 30-38 (= Process Tasks)
 Number of process alarm OBs 	8; OB 40-47
 Number of DPV1 alarm OBs 	3; OB 55-57
 Number of startup OBs 	2; OB 100, 102
 Number of asynchronous error OBs 	9; OB 80-88
 Number of synchronous error OBs 	2; OB 121, 122
Nesting depth	
 per priority class 	24
 additional within an error OB 	2
Counters, timers and their retentivity	
IEC counter	
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
IEC timer	
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	Total working and load memory (with backup battery)
	Total working and load memory (with backup battery)
Flag	16 284 hyte
Size, max. Potontivity available.	16 384 byte
Retentivity available	Yes
Number of clock memories	8; in 1 memory byte
Local data	CALIF
adjustable, max.	64 kbyte
Address area	
I/O address area	
• Inputs	2 048 byte
Outputs	2 048 byte
Process image	
 Inputs, default 	2 048 byte; not changeable
Outputs, default	
• Outputs, default	2 048 byte; not changeable
consistent data, max.	2 048 byte; not changeable 244 byte

Surchivars configuration	Subprocess images	
Planetwise configuration No		15
Multicomputing No		
Mutcomputing Number of DP masters Integrated Via CP O Number of IQ Controllers Integrated Via CP O Siots required stots required stots Timo of dity Clock Hardware clock (real-time) Personal of the stote of the stot		119
Number of DP masters		
• integrated 1	The state of the s	1.0
Number of I/O Controllers		1
Number of IO Controllers		
• Integrated 0 0 0 0 0 0 0 0 0		
via CP 0 1 1 1 1 1 1 1 1 1		0
Siots		
Time of day		
Hardware clock (real-time)	required slots	2
Hardware clock (real-lime) retentive and synchronizable Resolution Deviation per day (buffered), max. S & s; Power on Operating hours counter Number Number Number 16 Number/Number range 0 to 15 Range of values 5FC 2, 3 and 4; 0 to 32767 hours SFC 101; 0 to 2^31 - 1 hours Granularity 1 h retentive Yes Clock synchronization *upported Yes * on DP, device Yes * in AS, master Yes * in AS, master Yes * in AS, device Yes * on Ethernet via NTP Possible as client and master/slave via SIMATIC process Interfaces Number of industrial Ethernet interfaces 12 Number of PROFINET interfaces 22 Number of PROFINET interfaces 32 Number of Other interfaces 33 Number of Connections 16 Interface PROFIBUS DP master Yes PROFIBUS DP master Y	Time of day	
retentive and synchronizable Resolution Deviation per day (buffered), max. Deviation per day (buffered), max. Deviation per day (unbuffered), max. Respective Number Number Number in 16 Number in 16 Number in 17 Range of values Granularity Respective Granularity Per elentive Yes Glock synchronization Supported Yes 10 DP, master 10 DP, master 10 n DP, device 10 n AS, master 10 n AS, device 10 n AS, device 10 n Ethernet via NTP Possible as client and master/slave via SIMATIC process Interfaces Number of Industrial Ethernet interfaces 10 Number of PROFINET interfaces 10 Number of other interfaces 11, PROFIBUS DP Number of other interfaces 1, Interface Interface Interface interfaces 1, PROFIBUS DP Number of connections 16 Interface type RS 485 / PROFIBUS Interface type PROFIBUS DP master 150 mA Protocols PROFIBUS DP master Number of connections, max. 150 mA Protocols PROFIBUS DP master Number of connections, max. 14 Mbit/s 182 183 1	Clock	
Resolution Deviation per day (buffered), max. Deviation per day (buffered), max. Deviation per day (unbuffered), max. Deviation per day (unbuffered), max. Deviation per day (unbuffered), max. Se si Power on Operating hours counter	Hardware clock (real-time)	Yes
Deviation per day (buffered), max. Deviation per day (unbuffered), max. Destation per day (unbuffered), max. Destating hours counter Number Number Number	 retentive and synchronizable 	Yes
● Deviation per day (unbuffered), max. 8.6 s; Power on Operating hours counter 16 ● Number 16 ● Number/Number range 0 to 15 ● Range of values SFCs 2, 3 and 4: 0 to 32767 hours SFC 101: 0 to 2°31 - 1 hours ● Granularity 1 h ● retentive Yes Clock synchronization Yes ● to DP, master Yes ● to DP, device Yes ● in AS, master Yes ● in AS, device Yes ● no Ethernet via NTP Possible as client and master/slave via SIMATIC process Interfaces 2 Number of Industrial Ethernet interfaces 2 Number of PROFINET interfaces 0 Number of Other interfaces 1; PROFIBUS DP Number of Other interfaces 1; PROFIBUS DP Interface type RS 485 / PROFIBUS Isolated Yes Number of connections 16 Interface types Output current of the interface, max. 150 mA PROFIBUS DP master No PROFIBUS DP master N		1 ms
Number 16	 Deviation per day (buffered), max. 	1.7 s; Power off
Number of industrial Ethernet interfaces Number of surplementations Interfaces Interface type Interface t	Deviation per day (unbuffered), max.	8.6 s; Power on
Number of industrial Ethernet interfaces Number of ROFRIPE Interfaces Number of other interfaces Number of other interfaces Number of connections Interface type Number of connections Number of connections Number of connections Number of connections Number of PROFIBUS DP master PROFIBUS DP device Number of connections, max. PROFIBUS DP device Number of connections, max. PROFIBUS DP device No PROFIBUS DP master No PROFIBUS DP device No PROFIBUS DP master No PROFIBUS DP master No PROFIBUS DP device No PROFIBUS DP master No PROFIBUS DP master No PROFIBUS DP master No PROFIBUS DP device No PROFIBUS DP master No PROFIBUS DP device No PROFIBUS DP master No PROFIBUS DP ma		
• Range of values • Granularity • retentive Clock synchronization • supported • to DP, master • on DP, device • in AS, device • on Ethernet via NTP Number of industrial Ethernet interfaces Number of St8 485 interfaces 1; PROFIBUS DP Number of connections Interface type Interface type • Output current of the interface, max. PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Transmission rate, max. • Transmission rate, max. • Number of slots per interface, max. • PROFIBUS DF device • Number of slots per interface, max. • Transmission rate, max. • Transmission rate, max. • Number of slots per interface, max. • PROFIBUS DF device • Number of slots per interface, max. • Transmission rate, max. • Transmission rate, max. • Transmission rate, max. • Transmission rate, max. • PROFO Communication • PROFICES • Number of slots per interface, max. • PROFO Communication • PROFICES • PROFICES • PROFO Communication • Yes	• Number	16
• Granularity • retentive • retentive • retentive Clock synchronization • supported • to DP, master • to DP, master • on DP, device • in AS, master • in AS, device • on Ethernet via NTP • Possible as client and master/slave via SIMATIC process Interfaces Number of industrial Ethernet interfaces Number of RS 485 interfaces 0 Number of RS 485 interfaces 1; PROFIBUS DP Number of other interfaces 2; 2x synchronization 1. Interface Interface type Isolated Yes Number of connections 16 Interface types • Output current of the interface, max. Protocols • PROFIBUS DP master • No PROFIBUS DP master • Number of connections, max. • Transmission rate, max. 16 • Transmission rate, max. • Transmission rate, max. • Transmission rate, max. • Number of sobs per interface, max. 1 632 Services — PG/OP communication Yes	Number/Number range	0 to 15
retentive Yes Clock synchronization • supported Yes • to DP, master Yes • on DP, device Yes • in AS, device Yes • in AS, device Yes • on Ethernet via NTP Possible as client and master/slave via SIMATIC process Interfaces Number of industrial Ethernet interfaces 2 Number of industrial Ethernet interfaces 0 Number of statis interfaces 1; PROFIBUS DP Number of other interfaces 2; 2x synchronization Interface Interface Interface type RS 485 / PROFIBUS Isolated Yes Number of connections 16 Interface types • Output current of the interface, max. 150 mA Protocols • PROFIBUS DP master Yes • PROFIBUS DP master • Number of connections, max. 16 • Transmission rate, max. 12 Mbit/s • max. number of DP devices 96 • Number of slots per interface, max. 1632 Services — PG/OP communication Yes	Range of values	SFCs 2, 3 and 4: 0 to 32767 hours SFC 101: 0 to 2^31 - 1 hours
Clock synchronization • supported • to DP, master • to DP, master • on DP, device • in AS, master • in AS, device • on Ethernet via NTP Possible as client and master/slave via SIMATIC process Interfaces Number of industrial Ethernet interfaces Number of PROFINET interfaces Number of states as 1: PROFIBUS DP Number of other interfaces 1: PROFIBUS DP Number of other interfaces Number of other interfaces 1: PROFIBUS DP Number of connections Interface type RS 485 / PROFIBUS Isolated Yes Number of connections 16 Interface types • Output current of the interface, max. Protocols • PROFIBUS DP master • PROFIBUS DP master • PROFIBUS DP master • Number of connections, max. • Transmission rate, max. 16 • Transmission rate, max. • Transmission rate, max. • Transmission rate, max. • Mumber of Stop per interface, max. 1632 Services — PG/OP communication Yes	Granularity	1 h
• supported • to DP, master • to DP, master • on DP, device • in AS, master • in AS, device • on Ethernet via NTP Possible as client and master/slave via SIMATIC process Interfaces Number of industrial Ethernet interfaces Number of PROFINET interfaces 0 Number of SA 485 interfaces 1; PROFIBUS DP Number of other interfaces 2; 2x synchronization Interface Interface type RS 485 / PROFIBUS Isolated Yes • Output current of the interface, max. Protocols • PROFIBUS DP master • Number of connections, max. • Transmission rate, max. 12 Mbit/s • max. number of DP devices • Number of olso per interface, max. 1632 Services — PG/OP communication Yes	retentive	Yes
to DP, master on DP, device on DP, device in AS, master ves in AS, device ves on Ethernet via NTP Possible as client and master/slave via SIMATIC process Interfaces Number of industrial Ethernet interfaces 2 Number of PROFINET interfaces 0 Number of RS 485 interfaces 1; PROFIBUS DP Number of other interfaces 2; 2x synchronization Interface type Interface type RS 485 / PROFIBUS Isolated Yes Number of connections Interface types Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP master PROFIBUS DP device No PROFIBUS DP master Number of connections, max. If Transmission rate, max. If Transmission rate, max. If Number of solots per interface, max. If Solots per interface, max. In the solots per	Clock synchronization	
on DP, device in AS, master in AS, master in AS, device on Ethernet via NTP possible as client and master/slave via SIMATIC process Interfaces Number of industrial Ethernet interfaces 2 Number of PROFINET interfaces 0 Number of St 485 interfaces 1; PROFIBUS DP Number of other interfaces 1; PROFIBUS DP Interface type RS 485 / PROFIBUS Isolated Yes Number of connections 16 Interface types • Output current of the interface, max. PROFIBUS DP master • PROFIBUS DP master • PROFIBUS DP device No PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Transmission rate, max. • Number of blos per interface, max. 1632 Services — PG/OP communication Yes	supported	Yes
in AS, master in AS, device ves on Ethernet via NTP Possible as client and master/slave via SIMATIC process Interfaces Number of industrial Ethernet interfaces 2 Number of PROFINET interfaces 0 Number of S 485 interfaces 1; PROFIBUS DP Number of other interfaces 1; PROFIBUS DP Number of other interfaces 1; PROFIBUS DP Interface type ■ Output current of the interface, max. ■ Output current of the interface, max. ■ PROFIBUS DP master ■ PROFIBUS DP master ■ Number of connections, max. ■ Transmission rate, max. ■ Transmission rate, max. ■ max. number of DP devices ■ Number of slots per interface, max. ■ 1632 Services — PG/OP communication Yes	• to DP, master	Yes
• in AS, device • on Ethernet via NTP Possible as client and master/slave via SIMATIC process Interfaces Number of industrial Ethernet interfaces 2 Number of PROFINET interfaces 0 Number of RS 485 interfaces 1; PROFIBUS DP Number of other interfaces 2; 2x synchronization Interface Interface type RS 485 / PROFIBUS Isolated Yes Number of connections 16 Interface types • Output current of the interface, max. 150 mA Protocols • PROFIBUS DP master • PROFIBUS DP device No PROFIBUS DP master • Number of connections, max. 16 • Transmission rate, max. 12 Mbit/s • max. number of DP devices • Number of slots per interface, max. 1632 Services - PG/OP communication Yes	• on DP, device	Yes
• on Ethernet via NTP Possible as client and master/slave via SIMATIC process Interfaces Number of industrial Ethernet interfaces Number of PROFINET interfaces 0 Number of RS 485 interfaces 1; PROFIBUS DP Number of other interfaces 2; 2x synchronization 1. Interface Interface type Interface type RS 485 / PROFIBUS Isolated Yes Number of connections 16 Interface types • Output current of the interface, max. PROFIBUS DP master PROFIBUS DP master PROFIBUS DP master • Number of connections, max. 150 mA PROFIBUS DP master • Number of connections, max. 16 • Transmission rate, max. 12 Mbit/s • max. number of DP devices 96 • Number of slots per interface, max. 1632 Services — PG/OP communication Yes	• in AS, master	Yes
Number of industrial Ethernet interfaces	• in AS, device	Yes
Number of industrial Ethernet interfaces 2 Number of PROFINET interfaces 0 Number of RS 485 interfaces 1; PROFIBUS DP Number of other interfaces 2; 2x synchronization 1. Interface Interface type RS 485 / PROFIBUS Isolated Yes Number of connections 16 Interface types • Output current of the interface, max. 150 mA Protocols • PROFIBUS DP master Yes • PROFIBUS DP device No PROFIBUS DP device No PROFIBUS DP master • Number of connections, max. 16 • Transmission rate, max. 12 Mbit/s • max. number of DP devices 96 • Number of slots per interface, max. 1 632 Services — PG/OP communication Yes	 on Ethernet via NTP 	Possible as client and master/slave via SIMATIC process
Number of PROFINET interfaces Number of RS 485 interfaces 1; PROFIBUS DP Number of other interfaces 2; 2x synchronization 1. Interface Interface type RS 485 / PROFIBUS Isolated Yes Number of connections 16 Interface types • Output current of the interface, max. Protocols • PROFIBUS DP master • PROFIBUS DP device PROFIBUS DP device No PROFIBUS DP master • Number of connections, max. • Number of connections, max. 16 • Transmission rate, max. • Mumber of DP devices • Number of slots per interface, max. 1 632 Services — PG/OP communication Yes	Interfaces	
Number of RS 485 interfaces 1; PROFIBUS DP Number of other interfaces 2; 2x synchronization 1. Interface Interface type Interface type RS 485 / PROFIBUS Isolated Yes Number of connections 16 Interface types Output current of the interface, max. 150 mA Protocols PROFIBUS DP master PROFIBUS DP device No PROFIBUS DP master Number of connections, max. 16 Transmission rate, max. 12 Mbit/s max. number of DP devices Number of slots per interface, max. 1632 Services — PG/OP communication Yes	Number of industrial Ethernet interfaces	2
Number of other interfaces 1. Interface Interface type Interface type Isolated Interface types Number of connections Interface types Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP device No PROFIBUS DP master Number of connections, max. 16 Iterface types PROFIBUS DP device No PROFIBUS DP device No PROFIBUS DP device No PROFIBUS DP master Number of connections, max. 16 Transmission rate, max. 12 Mbit/s max. number of DP devices PG/OP communication Yes	Number of PROFINET interfaces	0
Interface type Interface type Isolated Yes Number of connections Interface types Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP device No PROFIBUS DP master Number of connections, max. If Transmission rate, max. Italy Mbit/s max. number of DP devices Number of slots per interface, max. Italy Mbit/s Services PROFOP communication Yes	Number of RS 485 interfaces	1; PROFIBUS DP
Interface type Isolated Yes Number of connections 16 Interface types • Output current of the interface, max. 150 mA Protocols • PROFIBUS DP master • PROFIBUS DP master • PROFIBUS DP master • Number of connections, max. 16 • Transmission rate, max. 12 Mbit/s • max. number of DP devices • Number of slots per interface, max. 1632 Services — PG/OP communication Yes	Number of other interfaces	2; 2x synchronization
Isolated Number of connections Interface types Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP device No PROFIBUS DP master Number of connections, max. Transmission rate, max. Transmission rate, max. Number of DP devices Number of slots per interface, max. 1632 Services PG/OP communication Yes	1. Interface	
Number of connections Interface types Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP device No PROFIBUS DP master Number of connections, max. Transmission rate, max. Transmission rate, max. Mumber of slots per interface, max. PG/OP communication 16 150 mA Yes 150 mA 16 No PROFIBUS DP master No PROFIBUS DP device No 16 16 16 16 16 16 16 16 16 1	Interface type	RS 485 / PROFIBUS
Interface types Output current of the interface, max. 150 mA Protocols PROFIBUS DP master PROFIBUS DP device No PROFIBUS DP master Number of connections, max. 16 Transmission rate, max. 12 Mbit/s max. number of DP devices Number of slots per interface, max. 1632 Services — PG/OP communication Yes	Isolated	Yes
Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP device No PROFIBUS DP master Number of connections, max. 16 Transmission rate, max. 12 Mbit/s max. number of DP devices Number of slots per interface, max. 1632 Services — PG/OP communication Yes	Number of connections	16
Protocols PROFIBUS DP master PROFIBUS DP device No PROFIBUS DP master Number of connections, max. 16 Transmission rate, max. 12 Mbit/s max. number of DP devices Number of slots per interface, max. 1632 Services — PG/OP communication Yes	Interface types	
 PROFIBUS DP master PROFIBUS DP device No PROFIBUS DP master Number of connections, max. Transmission rate, max. max. number of DP devices Number of slots per interface, max. Services PG/OP communication Yes	Output current of the interface, max.	150 mA
 PROFIBUS DP device Number of connections, max. Transmission rate, max. max. number of DP devices Number of slots per interface, max. Services PG/OP communication No No 16 Whit/s 96 1632 Services Yes 		
PROFIBUS DP master Number of connections, max. 16 Transmission rate, max. 12 Mbit/s max. number of DP devices Number of slots per interface, max. 1632 Services — PG/OP communication Yes	PROFIBUS DP master	
 Number of connections, max. Transmission rate, max. max. number of DP devices Number of slots per interface, max. Services — PG/OP communication 16 12 Mbit/s 96 1632 163		No
 Transmission rate, max. max. number of DP devices Number of slots per interface, max. Services PG/OP communication Yes 		
 max. number of DP devices Number of slots per interface, max. Services PG/OP communication Yes 		
● Number of slots per interface, max. 1 632 Services — PG/OP communication Yes		
Services — PG/OP communication Yes		
— PG/OP communication Yes		1 632
— Routing Yes; S7 routing	— Routing	Yes; S7 routing
— Global data communication No		
— S7 basic communication No	— S7 basic communication	No
— S7 communication Yes	— S7 communication	Yes
— S7 communication, as client Yes	 S7 communication, as client 	Yes
— S7 communication, as server	 S7 communication, as server 	Yes

— Equidistance	No
— Isochronous mode	No
— SYNC/FREEZE	No
 activation/deactivation of DP devices 	Yes; Approved for stand-alone operation only, not in conjunction with CiR (Configuration in Run)
Direct data exchange (slave-to-slave	No
communication)	· ·
— DPV1	Yes
Address area	4
— Inputs, max.	1 536 byte
— Outputs, max.	1 536 byte
1st interface / DP master / payload data per DP Device / heade	
— user data per DP device, max.	244 byte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
— Slots, max.	244
— per slot, max.	128 byte
2. Interface	
Interface type	Integrated Ethernet interface
Isolated	Yes
automatic detection of transmission rate	Yes; Autosensing
Autonegotiation	Yes
Autocrossing	Yes
Change of IP address at runtime, supported	No
Number of connections	120
Interface types	
 Number of ports 	2
integrated switch	Yes
Protocols	
 PROFINET IO Controller 	No
PROFINET IO Device	No
PROFINET CBA	No
Open IE communication	Yes
Web server	No
Media redundancy	Yes
Open IE communication	
 Number of connections, max. 	118
• Local port numbers used at the system end	0, 20, 21, 25, 102, 135, 161, 34962, 34963, 34964, 65532, 65533, 65534, 65535
 Keep-alive function, supported 	Yes
3. Interface	
Interface type	Integrated Ethernet interface
Isolated	Yes
automatic detection of transmission rate	Yes; Autosensing
Autonegotiation	Yes
Autocrossing	Yes
Number of connections	120
Interface types	
Number of ports	2
• integrated switch	Yes
Protocols	
PROFINET IO Controller	No
PROFINET IO Controller PROFINET IO Device	No
PROFINET TO Device PROFINET CBA	No
	Yes
Open IE communication Web conver	
Web server Modis redundancy	No Vos
Media redundancy Onen IF communication	Yes
Open IE communication	440
Number of connections, max.	118
 Local port numbers used at the system end 	0, 20, 21, 25, 102, 135, 161, 34962, 34963, 34964, 65532, 65533, 65534, 65535
Keep-alive function, supported	Yes

l. Interface	
Interface type	Pluggable synchronization submodule (FO)
Plug-in interface modules	Synchronization module 6ES7960-1AA06-0XA0, 6ES7960-1AB06-0XA0 or
i. Interface	6ES7960-1AA08-0XA0
Interface type	Pluggable synchronization submodule (FO)
Plug-in interface modules	Synchronization module 6ES7960-1AA06-0XA0, 6ES7960-1AB06-0XA0 or
	6ES7960-1AA08-0XA0
rotocols	
Supports protocol for PROFINET IO	No
PROFINET CBA	No
PROFIsafe	Yes
PROFIBUS	Yes
AS-Interface	Yes; Via add-on
Redundancy mode	
Media redundancy	
 Switchover time on line break, typ. 	< 200 ms
 Number of stations in the ring, max. 	50
SIMATIC communication	
S7 routing	Yes
Open IE communication	
• TCP/IP	Yes
 Number of connections, max. 	118
— Data length, max.	32 kbyte
 several passive connections per port, supported 	Yes
• ISO-on-TCP (RFC1006)	Yes
 Number of connections, max. 	118
— Data length, max.	32 kbyte
• UDP	Yes
 Number of connections, max. 	118
— Data length, max.	1 472 byte
Further protocols	
• MODBUS	Yes; Via add-on
communication functions / header	
PG/OP communication	Yes
 Number of connectable OPs without message processing 	119
Number of connectable OPs with message processing	119; When using Alarm_S/SQ and Alarm_D/DQ
Data record routing	Yes
S7 communication	
• supported	Yes
• as server	Yes
• as client	
	Yes
User data per job, max.	Yes 64 kbyte
User data per job, max.	64 kbyte
User data per job, max.User data per job (of which consistent), max.	64 kbyte
 User data per job, max. User data per job (of which consistent), max. Number of connections	64 kbyte 462 byte; 1 variable
 User data per job, max. User data per job (of which consistent), max. Number of connections overall 	64 kbyte 462 byte; 1 variable
User data per job, max. User data per job (of which consistent), max. Number of connections overall usable for PG communication	64 kbyte 462 byte; 1 variable
User data per job, max. User data per job (of which consistent), max. Number of connections overall usable for PG communication reserved for PG communication	64 kbyte 462 byte; 1 variable
User data per job, max. User data per job (of which consistent), max. Number of connections overall usable for PG communication reserved for PG communication usable for OP communication reserved for OP communication	64 kbyte 462 byte; 1 variable 120 1
User data per job, max. User data per job (of which consistent), max. Number of connections overall usable for PG communication reserved for PG communication usable for OP communication reserved for OP communication	64 kbyte 462 byte; 1 variable 120 1
User data per job, max. User data per job (of which consistent), max. Number of connections overall usable for PG communication reserved for PG communication usable for OP communication reserved for OP communication reserved for OP communication	64 kbyte 462 byte; 1 variable 120 1 1 119; max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with
User data per job, max. User data per job (of which consistent), max. Number of connections overall usable for PG communication reserved for PG communication usable for OP communication reserved for OP communication	64 kbyte 462 byte; 1 variable 120 1 1 119; max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)
User data per job, max. User data per job (of which consistent), max. Number of connections overall usable for PG communication reserved for PG communication usable for OP communication reserved for OP communication reserved for OP communication Preserved for OP communication Program stations for message functions, max.	64 kbyte 462 byte; 1 variable 120 1 1 119; max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes
User data per job, max. User data per job (of which consistent), max. Number of connections overall usable for PG communication reserved for PG communication usable for OP communication reserved for OP communication reserved for OP communication Process diagnostic message functions, max.	64 kbyte 462 byte; 1 variable 120 1 1 1 119; max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes
User data per job, max. User data per job (of which consistent), max. Number of connections overall usable for PG communication reserved for PG communication usable for OP communication reserved for OP communication reserved for OP communication reserved for OP communication Processed functions Number of login stations for message functions, max. Program alarms Process diagnostic messages simultaneously active Alarm-S blocks, max.	64 kbyte 462 byte; 1 variable 120 1 1 1 119; max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks
User data per job, max. User data per job (of which consistent), max. Number of connections overall usable for PG communication reserved for PG communication usable for OP communication reserved for OP communication reserved for OP communication reserved for OP communication Processed functions Number of login stations for message functions, max. Program alarms Process diagnostic messages simultaneously active Alarm-S blocks, max. Alarm 8-blocks Number of instances for alarm 8 and S7 communication	64 kbyte 462 byte; 1 variable 120 1 1 1 119; max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes

Test commissioning functions		
Status block	Yes	
Single step	Yes	
Number of breakpoints	4	
Status/control		
Status/control variable	Yes	
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters	
Number of variables, max.	70	
Diagnostic buffer		
• present	Yes	
Number of entries, max.	3 200	
Service data	0.200	
• can be read out	Yes	
Standards, approvals, certificates		
CE mark	Yes	
UKCA mark	Yes	
CSA approval	Yes	
UL approval	Yes	
cULus	Yes	
	Yes	
FM approval PCM (formerly C TICK)	Yes	
RCM (formerly C-TICK)	Yes	
KC approval EAC (formerly Gost-R)	Yes	
CCC	Yes	
Use in hazardous areas	res	
	ATEX II 3G Ex ec IIC T4 Gc	
ATEX Ambient conditions	ATEX II 3G EX et IIC 14 Gt	
Ambient temperature during operation	0.00	
• min.	0 °C	
• max.	70 °C	
Altitude during operation relating to sea level	2 000 m	
Installation altitude above sea level, max. configuration / header	2 000 111	
configuration / programming / header	and instruction list	
Command set Neeting lovels	see instruction list	
Nesting levels Access to consistent data in present image.	7	
Access to consistent data in process image Suptem functions (SEC)	Yes	
System functions (SFC) System function blocks (SFD)	see instruction list	
System function blocks (SFB) Programming language	see instruction list	
Programming language	Voc	
— CFC	Yes	
configuration / programming / number of simultaneously active		
— RD_REC	8; SFC 59; per interface	
— WR_REC	8; SFC 58; per interface	
— WR_PARM	8; SFC 55; per interface	
— PARM_MOD	1; SFC 57; per interface	
— WR_DPARM	2; SFC 56; per interface	
— DPNRM_DG	8; SFC 13; per interface	
— RDSYSST	8; SFC 51	
— DP_TOPOL	1; SFC 103; per interface	
configuration / programming / number of simultaneously active		
— RDREC	8; SFB 52; per interface	
— WRREC	8; SFB 53; per interface	
Know-how protection		
·		
User program protection/password protection	Yes	
User program protection/password protection Block encryption	Yes; With S7 block Privacy	
User program protection/password protection Block encryption Dimensions	Yes; With S7 block Privacy	
User program protection/password protection Block encryption Dimensions Width	Yes; With S7 block Privacy 50 mm	
User program protection/password protection Block encryption Dimensions	Yes; With S7 block Privacy	

Weights
Weight, approx. 1.1 kg

last modified: 4/25/2024 🖸