

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

S7-400

6ES7414-2XG03-0AB0

CENTRAL PROCESSING UNIT

Used with the applicable SIMATIC S7-400 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens official manufacturer documentation



Product data sheet
6ES7414-2XG03-0AB0

Available as a Spare Part Only - subject to availability - SIMATIC S7-400, CPU 414-2 256 KB WORKING MEMORY (128 KB CODE, 128 KB DATA)

Supply voltages

Rated value

24 V DC

Yes

Feeding of external backup voltage to CPU

5 to 15 VDC

Current consumption

from backplane bus 24 V DC, max.

300 mA ; Total current consumption of the components connected to the MPI/DP interfaces, but no more than 150 mA per interface

from backplane bus 5 V DC, max.

1.6 A

Current consumption/ power loss

Power loss, typ.

7.5 W

Backup battery

Backup current, typ.

40 µA

Backup current, max.

380 µA

Memory

Data and program memory

Data memory, max.

128 Kibyte

Program memory, max.

128 Kibyte

Work memory

integrated

256 Kibyte

expandable

No

Load memory

expandable FEPR0M

Yes ; with Memory Card (FLASH)

expandable FEPR0M, max.

64 Mbyte

integrated RAM, max.

256 Kibyte

expandable RAM

Yes ; With Memory Card (RAM)

expandable RAM, max.

64 Mbyte

Backup

present

Yes

with battery	Yes ; All data
without battery	No
CPU/ blocks	
DB	
Number, max.	4095 ; DB 0 reserved
Size, max.	64 Kibyte
FB	
Number, max.	2048
Size, max.	64 Kibyte
FC	
Number, max.	2048
Size, max.	64 Kibyte
OB	
Size, max.	64 Kibyte
Number of time alarm OBs	4
Number of delay alarm OBs	4
Number of watchdog interrupts	4
Number of process alarm OBs	4
Nesting depth	
per priority class	24
additional within an error OB	2
CPU/ processing times	
for bit operations, min.	0.1 µs
for word operations, min.	0.1 µs
for fixed point arithmetic, min.	0.1 µs
for floating point arithmetic, min.	0.6 µs
Times/counters and their retentivity	
S7 counter	
Number	256
Retentivity	
can be set	Yes
lower limit	0
upper limit	255
preset	Z 0 to Z 7
Counting range	

lower limit	1
upper limit	999
IEC counter	
present	Yes
Type	SFB
S7 times	
Number	256
Retentivity	
can be set	Yes
lower limit	0
upper limit	255
preset	No retentivity
Time range	
lower limit	10 ms
upper limit	9990 s
IEC timer	
present	Yes
Type	SFB
Data areas and their retentivity	
retentive data area, total	Total working and load memory (with backup battery)
Flag	
Number, max.	8 Kibyte
Retentivity available	Yes ; MB 0 to MB 8191
Number of clock memories	8 ; 1 memory byte
Data blocks	
Number, max.	4096 ; DB 0 reserved
Size, max.	64 Kibyte
Address area	
I/O address area	
Inputs	8 Kibyte
Outputs	8 Kibyte
Process image	
Inputs, adjustable	8 Kibyte ; adjustable at the expense of the code area of the RAM
Outputs, adjustable	8 Kibyte ; adjustable at the expense of the code area of the RAM

Inputs, default	256 byte
Outputs, default	256 byte
consistent data, max.	244 byte
Access to consistent data in process image	Yes
Subprocess images	
Number of subprocess images, max.	8
Digital channels	
Inputs	65536
Outputs	65536
Inputs, of which central	65536
Outputs, of which central	65536
Analog channels	
Inputs	4096
Outputs	4096
Inputs, of which central	4096
Outputs, of which central	4096
Hardware configuration	
connectable OPs	31 without message processing, 8 with message processing
Central devices, max.	1
Expansion devices, max.	21 ; (of which 6 ER with K-bus)
Multicomputing	Yes ; 4 CPUs max. (with UR1 or UR2)
IM	
Number of connectable IMs (total), max.	6
Number of connectable IM 460s, max.	6
Number of connectable IM 463s, max.	4 ; IM 463-2
Number of DP masters	
integrated	2
via IM 467	4
via CP	10
Mixed mode IM + CP permitted	No ; IM 467 cannot be used jointly with CP 443-5 Ext.
via interface module	0
Number of pluggable S5 modules (via adapter capsule in central device), max.	6
Number of operable FMs and CPs (recommended)	

FM	32 ; Limited due to number of slots and number of connections
CP, point-to-point	32 ; limited due to number of slots
CP, LAN	32 ; limited due to number of connections
PROFIBUS and Ethernet CPs	14 ; incl. CP 443-5 Ext. and IM 467
Time of day	
Clock	
Hardware clock (real-time clock)	Yes
battery-backed and synchronizable	Yes
Resolution	1 ms
Runtime meter	
Number	8
Clock synchronization	
supported	Yes
to MPI, master	Yes
to MPI, slave	Yes
to DP, master	Yes
to DP, slave	Yes
in AS, master	Yes
in AS, slave	Yes
S7 message functions	
Number of login stations for message functions, max.	8
Symbol-related messages	Yes
Block related messages	Yes
Alarm 8-blocks	Yes
Process control messages	Yes
Test commissioning functions	
Status/control	
Status/control variable	Yes
Forcing	
Forcing	Yes
Status block	Yes
Single step	Yes
Number of breakpoints	4
Diagnostic buffer	