Siemens 6ES7315-2AH14-0AB0 SIMATIC S7-300 CPU 315-2 DP



Siemens 6ES7315-2AH14-0AB0 is the SIMATIC S7-300 CPU 315-2 DP. The CPU 315-2 DP controls an S7-300 rack and communicates with distributed field devices over its dedicated PROFIBUS DP interface. Separate signal modules provide the cabinet's local sensor and actuator channels.

Technical Specifications

Product Identity	
Manufacturer	Siemens AG
Complete order number	6ES7315-2AH14-0AB0
Product family	SIMATIC S7-300
CPU designation	CPU 315-2 DP
Data-sheet revision baseline	Hardware 01 / firmware V3.3
Housing (W × H × D)	40 × 125 × 130 mm
Approximate weight	290 g
Functional Configuration	
Communications	MPI and PROFIBUS DP master/slave
Signal arrangement	Modular signal I/O
Engineering software	STEP 7 V5.5 SP1 or V5.2 SP1 with HSP 218
Performance & Power	
Integrated work memory	256 KB
Rated supply	24 V DC
Permissible supply range	19.2–28.8 V DC
Rated current	850 mA
Typical no-load current	150 mA
Typical inrush current	3.5 A
Typical power loss	4.5 W
Typical bit operation	0.05 µs
Typical floating-point operation	0.45 µs
Environment	
Horizontal mounting	0 to 60 °C
Vertical mounting	0 to 40 °C

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Compatibility & Selection Guide

Engineering baseline. Configure the exact CPU 315-2 DP hardware entry with STEP 7 V5.5 SP1 or V5.2 SP1 with HSP 218. Distributed I/O. Configure the CPU for the required DP master or slave role. This order variant has no onboard Industrial Ethernet interface.

Wiring & Installation Reference

CPU supply (24 V DC), MPI (RS-485), PROFIBUS DP (Isolated RS-485), Local field I/O (Signal modules). The CPU expects 19.2–28.8 V DC. The Siemens data sheet specifies external supply-line protection of at least 2 A. Its typical inrush current is 3.5 A. Terminate field signal wiring at the installed signal modules. Match module positions and addresses to the STEP 7 project.

Frequently Asked Questions

How large a Micro Memory Card can 6ES7315-2AH14-0AB0 use?

It accepts a SIMATIC Micro Memory Card up to 8 MB as load memory.

How much retentive data can 6ES7315-2AH14-0AB0 preserve on a power interruption?

The maximum retentive data area is 128 KB. Allocate the values that must survive a power interruption within that limit.

How many diagnostic events can 6ES7315-2AH14-0AB0 retain for fault finding?

The diagnostic buffer has up to 500 entries, with the last 100 entries retained after power loss.

How long does the real-time clock of 6ES7315-2AH14-0AB0 keep time without power?

Clock backup time is six weeks at an ambient temperature of 40 °C.

How many S7-300 racks can 6ES7315-2AH14-0AB0 address in one local assembly?

The configuration supports up to four racks in total, including the central rack.

What block-count limit should a project migration to 6ES7315-2AH14-0AB0 allow for?

The CPU supports up to 1,024 DBs, FCs and FBs combined. The selected memory card can reduce the number that can actually be loaded.

How many connections can be allocated to programming devices on 6ES7315-2AH14-0AB0?

The configurable allocation for PG communication is 1 to 15 connections.

Which startup organization block can 6ES7315-2AH14-0AB0 execute?

Startup logic runs in OB 100. The CPU supports one startup organization block.

Source: Siemens exact-order datasheet. Selected manufacturer page follows.

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Data sheet 6ES7315-2AH14-0AB0



SIMATIC S7-300, CPU 315-2DP Central processing unit with MPI Integr. power supply 24 V DC Work memory 256 KB 2nd interface DP master/slave Micro Memory Card required

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
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	
● Mains/voltage failure stored energy time	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
I^2t	1 $A^2 \cdot s$
Power loss	
Power loss, typ.	4.5 W
Memory	
Work memory	
● integrated	256 kbyte
● expandable	No
Load memory	
● Plug-in (MMC)	Yes
● Plug-in (MMC), max.	8 Mbyte
● Data management on MMC (after last programming), min.	10 a
Backup	
● present	Yes; Guaranteed by MMC (maintenance-free)
● without battery	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
CPU-blocks	

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