Siemens 6ES7313-5BG04-0AB0 SIMATIC S7-300 CPU 313C



Siemens 6ES7313-5BG04-0AB0 is the SIMATIC S7-300 CPU 313C. The 313C combines the control program, local discrete and analog signals, and three high-speed counters in the CPU. Its MPI connection serves S7 communication and engineering access.

Technical Specifications

Product Identity	
Manufacturer	Siemens AG
Complete order number	6ES7313-5BG04-0AB0
Product family	SIMATIC S7-300
CPU designation	CPU 313C
Data-sheet revision baseline	Hardware 01 / firmware V3.3
Housing (W × H × D)	120 × 125 × 130 mm
Approximate weight	660 g
Functional Configuration	
Communications	MPI
Signal arrangement	24 DI, 16 DO, 4 AI, 2 AO and 1 Pt100
High-speed counters	3 counters, up to 30 kHz
Engineering software	STEP 7 V5.5 SP1 or V5.3 SP2 with HSP 203
Performance & Power	
Integrated work memory	128 KB
Rated supply	24 V DC
Permissible supply range	19.2–28.8 V DC
Rated current	650 mA
Typical no-load current	150 mA
Typical inrush current	5 A
Typical power loss	12 W
Typical bit operation	0.07 µs
Typical floating-point operation	0.72 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 313C hardware entry with STEP 7 V5.5 SP1 or V5.3 SP2 with HSP 203. Onboard signal mapping. The compact CPU provides digital and analog channels. The hardware configuration determines their addresses and operating modes.

Wiring & Installation Reference

CPU supply (24 V DC), MPI (RS-485), Local field I/O (Front connector). The CPU expects 19.2–28.8 V DC. Siemens recommends a type C breaker rated at least 2 A or type B rated at least 4 A. Its typical inrush current is 5 A. Two 40-pin front connectors. Verify polarity on the 24 V DC L+ load supply before power is applied. The onboard digital output supply has no reverse-polarity protection.

Frequently Asked Questions

How large a Micro Memory Card can 6ES7313-5BG04-0AB0 use?

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

How much retentive data can 6ES7313-5BG04-0AB0 preserve on a power interruption?

The maximum retentive data area is 64 KB. Allocate the values that must survive a power interruption within that limit.

How many diagnostic events can 6ES7313-5BG04-0AB0 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 6ES7313-5BG04-0AB0 keep time without power?

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

How many S7-300 racks can 6ES7313-5BG04-0AB0 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 6ES7313-5BG04-0AB0 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 6ES7313-5BG04-0AB0?

The configurable allocation for PG communication is 1 to 7 connections.

Which startup organization block can 6ES7313-5BG04-0AB0 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 6ES7313-5BG04-0AB0



SIMATIC S7-300, CPU 313C, COMPACT CPU WITH MPI, 24 DI/16 DO, 4AI, 2AO 1 PT100, 3 FAST COUNTERS (30 KHZ), INTEGRATED 24V DC POWER SUPPLY, 128 KBYTE WORKING MEMORY, FRONT CONNECTOR (2 X 40PIN) AND MICRO MEMORY CARD REQUIRED

General information	
Hardware product version	01
Firmware version	V3.3
Engineering with	
• Programming package	STEP 7 V5.5 + SP1 or higher or STEP 7 V5.3 + SP2 or higher with HSP 203
Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	Miniature circuit breaker, type C; min. 2 A; miniature circuit breaker type B, min. 4 A
Mains buffering	
• Mains/voltage failure stored energy time	5 ms
• Repeat rate, min.	1 s
Digital inputs	
Load voltage L+	
— Rated value (DC)	24 V

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