

6ES7317-2AJ10-0AB0

SIMATIC S7-300 CPU 317-2 DP

central program execution plus MPI and PROFIBUS DP data exchange

PRODUCT SNAPSHOT

BRAND

Siemens

FAMILY

SIMATIC S7-300 automation system

PART

6ES7317-2AJ10-0AB0

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PRODUCT OVERVIEW

central program execution plus MPI and PROFIBUS DP data exchange

1

Executes S7-300 control logic

2

Coordinates MPI and PROFIBUS DP communication

3

Stores project data on a SIMATIC Micro Memory Card

4

Operates as a PROFIBUS DP master or slave

SYSTEM COMPONENTS

SIMATIC S7-300 rack

SIMATIC Micro Memory Card

PROFIBUS DP field stations

STEP 7 engineering project

TECHNICAL NOTE

Install 6ES7317-2AJ10-0AB0 in the documented S7-300 rack with its required Micro Memory Card fitted, then restore the recorded MPI and PROFIBUS DP configuration. After power-up, review CPU diagnostics and run controlled communication and I/O checks before release.

TECHNICAL DATA

PARAMETER	VALUE
Complete model	6ES7317-2AJ10-0AB0
CPU designation	CPU 317-2 DP
Hardware version	01
Firmware version	V2.6
Programming package	STEP 7 V5.4 SP2 or higher
Integrated work memory	512 kbyte
Retentive data-block memory, max.	256 kbyte
Plug-in load memory	SIMATIC Micro Memory Card
MMC capacity, max.	8 Mbyte
MMC data retention, min.	10 years

PARAMETER	VALUE
Bit-operation time, min.	0.05 us
Word-operation time, min.	0.2 us
Fixed-point operation time, min.	0.2 us
Floating-point operation time, min.	1.0 us
S7 counters	512
I/O process image	256 bytes input / 256 bytes output
First interface	MPI/PROFIBUS DP, 12 Mbit/s
Second interface	PROFIBUS DP master/slave
Racks, max.	4
Modules per rack, max.	8

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
6RA8075-6DS22-0AA0	SINAMICS DC converter	View 6RA8075-6DS22-0AA0 page
6ES7414-3EM07-0AB0	SIMATIC S7-400 CPU	View 6ES7414-3EM07-0AB0 page
6EP1434-2BA20	SITOP power supply	View 6EP1434-2BA20 page
6ES7432-1HF00-0AB0	SIMATIC S7-400 analog output	View 6ES7432-1HF00-0AB0 page
6EP3334-8SB00-0AY0	SITOP compact power supply	View 6EP3334-8SB00-0AY0 page
6ES7954-8LC04-0AA0	SIMATIC memory card	View 6ES7954-8LC04-0AA0 page
6AV2124-0QC02-0AX1	SIMATIC HMI panel	View 6AV2124-0QC02-0AX1 page
6ES7590-1AB60-0AA0	SIMATIC front connector	View 6ES7590-1AB60-0AA0 page

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Distributed PROFIBUS DP machine control

Executes S7-300 control logic

S7-300 multi-rack automation

Coordinates MPI and PROFIBUS DP communication

MPI-connected engineering and HMI access

Stores project data on a SIMATIC Micro Memory Card

CPU 317-2 DP installed-base replacement

Operates as a PROFIBUS DP master or slave

PRODUCT PRECAUTIONS

- 1 Confirm the complete 6ES7317-2AJ10-0AB0 order number and hardware version before replacement.
- 2 Back up the STEP 7 hardware configuration and user program before removing the CPU.
- 3 Isolate the 24 V DC supply and place controlled equipment in a safe maintenance state.
- 4 Use ESD controls and protect the S7-300 backplane and interface connectors.
- 5 Preserve MPI and PROFIBUS station addresses, bus parameters and termination settings.
- 6 Install the required SIMATIC Micro Memory Card before controlled restart.
- 7 Verify DP master/slave configuration and connected-station diagnostics after power-up.
- 8 Complete controlled I/O and communication tests before returning the controller to service.

ENGINEER FAQ

Q1 Does 6ES7317-2AJ10-0AB0 match SIMATIC S7-300 rack in a Distributed PROFIBUS DP machine control installation?

Verify the complete 6ES7317-2AJ10-0AB0 marking, the documented SIMATIC S7-300 automation system position and the installed SIMATIC S7-300 rack before fitting the assembly.

Q2 How should 6ES7317-2AJ10-0AB0 be wired when it must executes s7-300 control logic?

Isolate the circuit, identify every terminal and reproduce the approved polarity, shield and channel assignment for 6ES7317-2AJ10-0AB0; then continuity-test the affected path.

Q3 Which SIMATIC S7-300 automation system records should be captured before removing 6ES7317-2AJ10-0AB0?

Record the as-found wiring, installed position, active configuration and diagnostic state associated with 6ES7317-2AJ10-0AB0 before disconnection.

Q4 What controlled test confirms that 6ES7317-2AJ10-0AB0 can coordinates mpi and profibus dp communication?

Apply the approved field or simulated stimulus, observe the SIMATIC S7-300 automation system indication and confirm the intended response without bypassing the normal interlocks.

Q5 Which SIMATIC Micro Memory Card condition should be checked when 6ES7317-2AJ10-0AB0 reports an abnormal state?

Check the SIMATIC Micro Memory Card supply, seating and connection first, then compare channel diagnostics with the recorded 6ES7317-2AJ10-0AB0 baseline.

Q6 Can 6ES7317-2AJ10-0AB0 be moved directly into S7-300 multi-rack automation without validating STEP 7 engineering project?

No. Confirm the STEP 7 engineering project, revision, connection scheme and SIMATIC S7-300 automation system configuration before transferring 6ES7317-2AJ10-0AB0 to that duty.

Q7 What maintenance evidence is required after 6ES7317-2AJ10-0AB0 is used for MPI-connected engineering and HMI access?

Retain the nameplate record, corrective action, final diagnostics and a controlled mpi-connected engineering and hmi access functional-test result for 6ES7317-2AJ10-0AB0.

Q8 How should 6ES7317-2AJ10-0AB0 be returned to service in CPU 317-2 DP installed-base replacement?

Restore power under control, verify stores project data on a simatic micro memory card, exercise the intended signal path and release 6ES7317-2AJ10-0AB0 only after the SIMATIC S7-300 automation system remains in its approved operating state.

SOURCE Siemens CPU 31xC and CPU 31x Technical Specifications | A5E00105475-12

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