

VIPA CPU-314SB-314-2AG13

System 300S CPU 314SB/DPM controller

Overview

VIPA CPU-314SB-314-2AG13 is a SPEED7-based System 300S CPU with an integrated PROFIBUS interface, MPI interface and Ethernet PG/OP channel. It executes the control program and communicates with distributed I/O, programming tools and operator systems.

01 / Function

Executes control logic with integrated SPEED7 technology

02 / Function

Coordinates distributed PROFIBUS stations

03 / Function

Provides separate programming and operator communication paths

04 / Function

Supports configurable RS485 point-to-point process links

PARAMETER		SPECIFICATION
Country of origin		Germany
HS / tariff code		8537101190
Shipping origin		Xiamen, Fujian, China
Stock / delivery		1 / 3 days; fast shipment

Plan the controller, backplane modules and PROFIBUS stations as separate configuration items. Check the selected X3 interface mode, memory expansion and Ethernet PG/OP addressing against the installed project before commissioning.

Technical parameter dashboard

VIPA CPU-314SB-314-2AG13

PARAMETER	SPECIFICATION
Order number	314-2AG13
CPU designation	CPU 314SB/DPM
Processor technology	SPEED7
Rated supply	24 V DC
Permitted supply range	20.4-28.8 V DC
Idle current	200 mA
Rated current	1 A
Inrush current	5 A
Maximum backplane output current	2.5 A
Power dissipation	6 W
Integrated load memory	512 KB
Integrated work memory	256 KB
Maximum work memory	512 KB with MCC

PARAMETER	SPECIFICATION
Work-memory split	50% code / 50% data
Memory-card capacity	MMC, maximum 1 GB
Integrated DP masters	1
S7 timers / counters	512 / 512
Flag memory	8192 bytes
Maximum data blocks	4095
Maximum data-block size	64 KB
Default input / output process image	256 / 256 bytes
Maximum input / output process image	2048 / 2048 bytes
Integrated digital / analog I/O	None
Maximum communication connections	32
X2 interface	Isolated RS485 MPI; 9-pin D-sub female
X3 interface	Isolated RS485; DP master, DP slave or PtP

PARAMETER	SPECIFICATION
PROFIBUS data rate	9.6 kbit/s-12 Mbit/s
Maximum DP slaves	124
Maximum DP data per slave	244 input bytes / 244 output bytes
PtP protocol support	ASCII, STX/ETX, 3964(R), USS master, Modbus master
PtP data rate	150 bit/s-115.5 kbit/s
Maximum PtP cable length	500 m
X4 Ethernet	10/100 Mbit/s RJ45; PG/OP
Maximum Ethernet PG/OP connections	4
Housing material	PPE
Mounting	System 300 profile rail
Operating temperature	0 to +60 deg C
Storage temperature	-25 to +70 deg C

Application and installation

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Distributed I/O control

Coordinate a PROFIBUS-DP network using the configured master role and the project's station map.

Programming and operator access

Use the dedicated Ethernet PG/OP channel for supported engineering and operator connections.

Serial device integration

Configure X3 for an applicable RS485 PtP protocol when the project requires serial process communication.

Modular System 300S automation

Execute the PLC program with the configured backplane I/O and separately allocated work and load memory.

Product Precautions

01 / Check

Verify the 314-2AG13 order number and installed CPU 314SB/DPM hardware before transferring a project.

02 / Check

Use a 24 V DC supply within the 20.4-28.8 V permitted range and verify polarity before connection.

03 / Check

Include the connected backplane modules in the supply design; the specified backplane output limit is 2.5 A.

04 / Check

Select the required X3 mode explicitly; the PROFIBUS/PtP interface is inactive after a memory reset until configured.

05 / Check

Assign IP parameters to X4 before online access and do not treat PG/OP Ethernet as a configurable productive connection.

06 / Check

Check that the code/data allocation fits the work memory; MCC expansion does not increase the 512 KB load-memory limit.

07 / Check

Secure the memory card with the slot locking mechanism and observe the spring-release handling instructions.

08 / Check

Check the System 300 rail mounting, temperature limits and configured communication diagnostics before returning the controller to service.

Technical notes: Configure the X3 RS485 interface for its intended PROFIBUS or PtP role. The X4 Ethernet interface is a PG/OP channel and does not support configurable productive connections; assign its IP parameters before online access.

Important Notice: Confirm VIPA CPU-314SB-314-2AG13 identity, supply polarity, configured interface roles, memory requirements and project transfer settings before energizing or replacing the CPU.

Engineering FAQ

VIPA CPU-314SB-314-2AG13 / same answers as the product page

How is work memory divided in VIPA CPU-314SB-314-2AG13?

The CPU includes 256 KB of work memory, divided equally between code and data. An MCC expansion can raise work memory to 512 KB; load memory remains 512 KB.

Can VIPA CPU-314SB-314-2AG13 use X4 for configurable productive Ethernet connections?

No. X4 is the 10/100 Mbit/s Ethernet PG/OP channel. The manual lists four PG/OP connections and excludes productive connections; IP parameters must be assigned for online access.

Which interface modes can VIPA CPU-314SB-314-2AG13 use on X3?

The isolated RS485 X3 interface can be configured as a PROFIBUS-DP master, PROFIBUS-DP slave or PtP interface. Its selected mode must match the installed project.

What happens to X3 after a memory reset of VIPA CPU-314SB-314-2AG13?

The PROFIBUS/PtP interface is deactivated after the reset. Activate the intended functionality through the appropriate hardware configuration before expecting network operation.

How many DP slaves can VIPA CPU-314SB-314-2AG13 address?

The specified DP-master maximum is 124 slaves. The published maximum payload per slave is 244 input bytes and 244 output bytes; the project must respect both limits.

Does VIPA CPU-314SB-314-2AG13 include built-in analog or digital I/O?

No integrated digital or analog inputs or outputs are listed. I/O address capacity and process-image sizes describe supported configuration resources, not onboard terminals.

Which serial protocols are supported by VIPA CPU-314SB-314-2AG13?

The PtP interface supports ASCII, STX/ETX, 3964(R), USS master and Modbus master. The specification does not list Modbus slave support for this interface.

What supply and backplane limits apply to VIPA CPU-314SB-314-2AG13?

The rated supply is 24 V DC with a permitted range of 20.4-28.8 V DC. Rated CPU current is 1 A, and the maximum current supplied to the backplane is 2.5 A.

Catalogue and contact

Eight verified product links / navigation only, not approved substitutes

BRAND + MODEL	RELATION	PRODUCT LINK
ABB CI854BK01 3BSE069449R1	Automation catalogue	Explore ABB CI854BK01 3BSE069449R1 page
ABB CI857K01 3BSE018144R1	Automation catalogue	Explore ABB CI857K01 3BSE018144R1 page
ABB CI860K01 3BSE032444R1	Automation catalogue	Explore ABB CI860K01 3BSE032444R1 page
ABB CI854AK01 3BSE030220R1	Automation catalogue	Explore ABB CI854AK01 3BSE030220R1 page
ABB PM866K01 3BSE050198R1	Automation catalogue	Explore ABB PM866K01 3BSE050198R1 page
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ABB PM864AK02 3BSE018164R1	Automation catalogue	Explore ABB PM864AK02 3BSE018164R1 page
ABB TB811 3BSE008568R1	Automation catalogue	Explore ABB TB811 3BSE008568R1 page

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Technical source: VIPA HB140, CPU 314-2AG13, DE 14-40; hardware sections 4.1-4.3, printed pages 26-38. Commercial fields supplied by Apter Power.

The reference manual supplies the technical evidence. Catalogue links are separate navigation aids and do not imply compatibility.