Siemens 6GK1543-1AA01

01 CP 5431 Communications Processor / system role

Product function

Siemens 6GK1543-1AA01 links a compatible S5 application to a configured PROFIBUS partner using coordinated communication jobs and matching data interpretation.

Selected configuration

In the specified S5-to-S7 arrangement, the CP 5431 operates in the passive S5 station while an S7-300 station with CP 342-5 initiates communication. The example uses FDL free-layer-2 access and the SDA acknowledged-send service.

Functional path

S7 active partner	PROFIBUS FDL exchange	S5 CP 5431	S5 receive and return logic

Configuration	CP 5431 for a compatible S5 station
Interface	PROFIBUS FDL free-layer-2 access
Operating feature	SDA acknowledged data exchange

The S5 program receives a complete data block before copying it to the send buffer and returning it to the active partner. RECEIVE and SEND handling, completion status and error processing therefore form part of the application behavior.

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02 Technical operating envelope

Processor family	CP 5431
Controller platform in the verified arrangement	SIMATIC S5-135U/155U
Bus system	PROFIBUS
Communication protocol	FDL with free layer 2 access
Acknowledged service	SDA, Send Data with Acknowledge

Station role in the example	Passive S5 partner
S5 receive block in the example	FB121 RECEIVE
S5 send block in the example	FB120 SEND
Example user-data length	2 bytes; application-specific
Example addressing header	4 bytes; application-specific

The retained application establishes this exact CP in an S5 PROFIBUS FDL arrangement. Example payload sizes and program blocks are application details, not hardware capacity ratings.

Operating interpretation

The source establishes a specific application, not an exhaustive CP hardware specification.

Configuration boundary

Match both station configurations, startup synchronization and application data layout.

Which S5 blocks handle receiving and sending through 6GK1543-1AA01?

The example uses FB121 RECEIVE and FB120 SEND, called through its application logic. Preserve completion and error handling when adapting the program.

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03 System integration and applications

S5-to-S7 data exchange

A configured S5 CP 5431 communicates with a compatible S7 PROFIBUS partner.

Acknowledged FDL jobs

The SDA service supports application-controlled acknowledged data transfer.

Legacy station integration

An existing S5 station retains its communication role within an engineered mixed-generation system.

Buffer and handshake testing

Known-value exchanges verify receive completion, returned data and job-error handling.

System and supply context

Siemens 6GK1543-1AA01 operates within the following defined system context. Confirm CP 5431 identity and the installed S5 communication project.

Application boundary

The retained application establishes this exact CP in an S5 PROFIBUS FDL arrangement. Example payload sizes and program blocks are application details, not hardware capacity ratings.

Is 6GK1543-1AA01 the active initiator in that S5-to-S7 arrangement?

No. The S5 station containing CP 5431 is the passive partner; the S7-300 station with CP 342-5 initiates the exchange.

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04 Engineering selection decisions

Which PROFIBUS service is demonstrated with 6GK1543-1AA01?

The verified S5-to-S7 arrangement uses FDL free-layer-2 access with SDA, Send Data with Acknowledge.

Does the six-byte example define the transfer limit of 6GK1543-1AA01?

No. It consists of a four-byte header and two user-data bytes in that specific example. It is not a general hardware-capacity specification.

Can a different S5 CPU be substituted around 6GK1543-1AA01 without reviewing the project?

No. The example uses a defined hardware configuration. A different CPU or CP arrangement requires the program and configuration to be adapted and verified.

How can the return path through 6GK1543-1AA01 be verified?

Use a controlled known value and compare the received and echoed values at the active station, while checking job completion and error indications at both ends.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of 6GK1543-1AA01 is unconfirmed. Apter Power availability is assessed separately from manufacturer lifecycle status.

Replacement assessment

Match both station configurations, startup synchronization and application data layout.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; use it together with the applicable manufacturer instructions.

Technical basis

Siemens Communication between SIMATIC S5 and S7, application 48394001 V1.0.

Related product navigation

- Siemens 6ES7215-1AG40-0XB0
- Siemens 6ES7217-1AG40-0XB0

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries