

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Selected official pages for procurement and maintenance review

PRODUCT BRAND

Siemens

PRODUCT MODEL

6ES7321-1BL00-0AA0

32-Channel Digital Input Module. Relevant section pages: 63, 64, 65, 66. Adjacent model text on shared pages is outside this product reference.

OFFICIAL SOURCE

S7-300 Module data; 05/2022, A5E00105505-AK

[Open manufacturer reference](#)

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Amikon Limited prepared this independent reference package. Selected manufacturer pages follow with their original content and pagination visible.

SIMATIC

S7-300 S7-300 Module data

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Equipment Manual

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Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

WARNING

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

3.7 Digital input module SM 321; DI 32 x DC 24 V; (6ES7321-1BL00-0AA0)

C7-CPU's	Order number
C7-613	6ES7613-1CA01-0AE3
C7-635 Touch	6ES7635-2EB01-0AE3
C7-635 Key	6ES7635-2EC01-0AE3
C7-636 Touch	6ES7636-2EB00-0AE3
C7-636 Key	6ES7636-2EC00-0AE3

! WARNING**Use of the module**

This module must be configured in a STEP 7 project in which the correct address assignment and allocation of the input/output point is ensured. Using the module without having first carried out this configuration work can lead to machines or processes operating in an unexpected manner.

If machines or processes do run in an unexpected manner, this can result in death, serious injury, and/or material damage.

3.7 Digital input module SM 321; DI 32 x DC 24 V; (6ES7321-1BL00-0AA0)

Order number: "Standard module"

6ES7321-1BL00-0AA0

Order number: "SIPLUS S7-300 module"

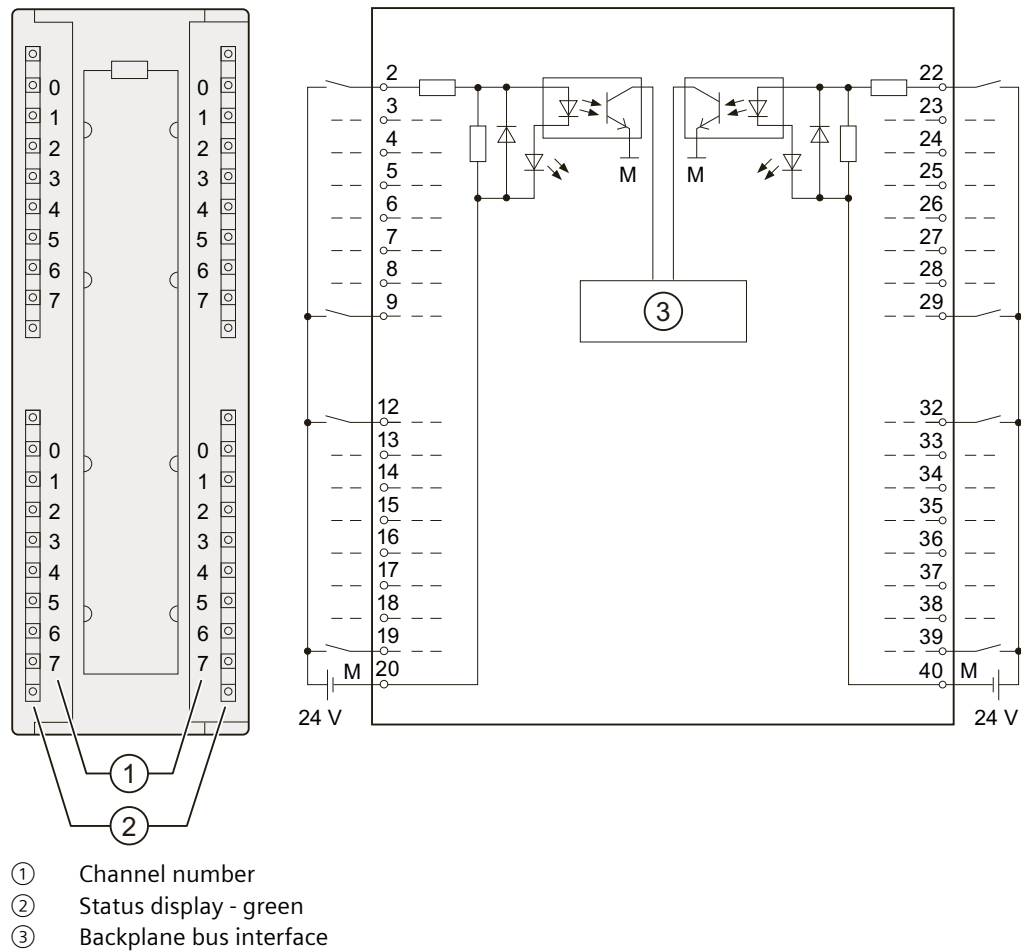
6AG1321-1BL00-2AA0

Properties

Properties of SM 321; DI 32 x DC 24 V:

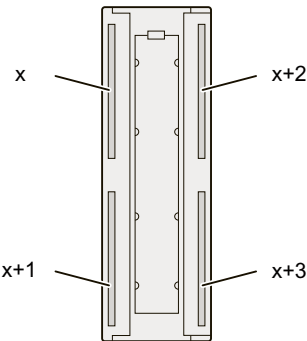
- 32 inputs, isolated in groups of 16
- Rated input voltage 24 V DC
- Suitable for switches and 2-/3-/4-wire proximity switches (BEROs)

Wiring and block diagram of SM 321; DI 32 x DC 24 V



Terminal assignment of SM 321; DI 32 x DC 24 V

The figure below shows how channels are assigned to addresses (input byte x up to input byte x+3).



Technical specifications of SM 321; DI 32 x DC 24 V

Technical specifications	
Dimensions and weight	
Dimensions W x H x D (mm)	40 x 125 x 120
Weight	ca. 260 g
Module-specific data	
Supports isochronous mode	No
Number of inputs	32
Cable length - Unshielded - Shielded	Max. 600 m Max. 1000 m
Front connector	40-pin
Voltages, currents, potentials	
Number of simultaneously controlled inputs - Horizontal mounting position - to 40 °C - to 60 °C - Vertical arrangement - to 40 °C	32 16 32
Electrical isolation - between channels and the backplane bus - Between channels – in groups of	yes Yes 16
Isolation test voltage	500 V DC
Current consumption From the backplane bus	Max. 15 mA
Power loss of the module	Typ. 6.5 W
Status, interrupts, diagnostics	
Status display	Green LED per channel
Interrupts	None
Diagnostic functions	None
Encoder selection data	
Input voltage - Rated value "1" signal "0" signal	24 V DC 13 to 30 V - 30 to + 5 V
Input current "1" signal	Typ. 7 mA
Input delay "0" to "1" transition "1" to "0" transition	1.2 ms to 4.8 ms 1.2 ms to 4.8 ms

3.8 Digital output module SM 321; DI 32 x AC 120 V; (6ES7321-1EL00-0AA0)

Technical specifications	
Input characteristics	to IEC 61131, type 1
Connection of 2-wire BEROs • Permissible quiescent current	Supported Max. 1.5 mA
Connection of the signal transmitters	Using a 40-pin front connector

3.8 Digital output module SM 321; DI 32 x AC 120 V; (6ES7321-1EL00-0AA0)

Order number

6ES7321-1EL00-0AA0

Properties

Properties of SM 321; DI 32 x AC 120 V:

- 32 inputs, electrically isolated in groups of 8
- Rated input voltage 120 VAC
- Suitable for switches and 2-/3-wire AC proximity switches