

SIEMENS

Product Information

SIMATIC S7-300

Digital Input Module SM 321; DI 16× UC24/48 V as of Version $\frac{X|2}{3|4}$

New Digital Input Module Available

The S7-300 Digital Input Module SM 321; DI 16×UC24/48 V has been added to the S7-300 family. The order number for this module is 6ES7 321-1CH00-0AA0.

This product information includes details about the characteristics and technical specifications of the digital input module SM 321; DI 16×UC24/48 V. Refer to the *S7-300 Installation and Hardware Manual* for more information about the S7-300 product family.

You will also learn:

- How to configure digital input module SM 321; DI 16×UC24/48 V

Additional Assistance

For assistance in answering technical questions, for training on this product, or for ordering, contact your Siemens distributor or sales office.

Characteristic Features and Technical Specifications of the Digital Input Module SM 321; DI 16XUC24/48 V

Order No.

6ES7 321-1CH00-0AA0

Characteristic Features

The digital input module SM 321; DI 16xUC24/48 V has the following characteristic features:

- 16 individually isolated inputs
- Isolation between channels is 120 V
- 24 to 48V AC or DC rated input voltage
- Inputs are fully independent and can be connected in any desired configuration

Terminal Connection Diagram and Wiring Diagram

Figure 1 shows the terminal connection diagram and the wiring diagram for the Digital Input SM321 DI 16xUC24/48 V Module.

The detailed technical specifications for this digital input module are shown on the following page.

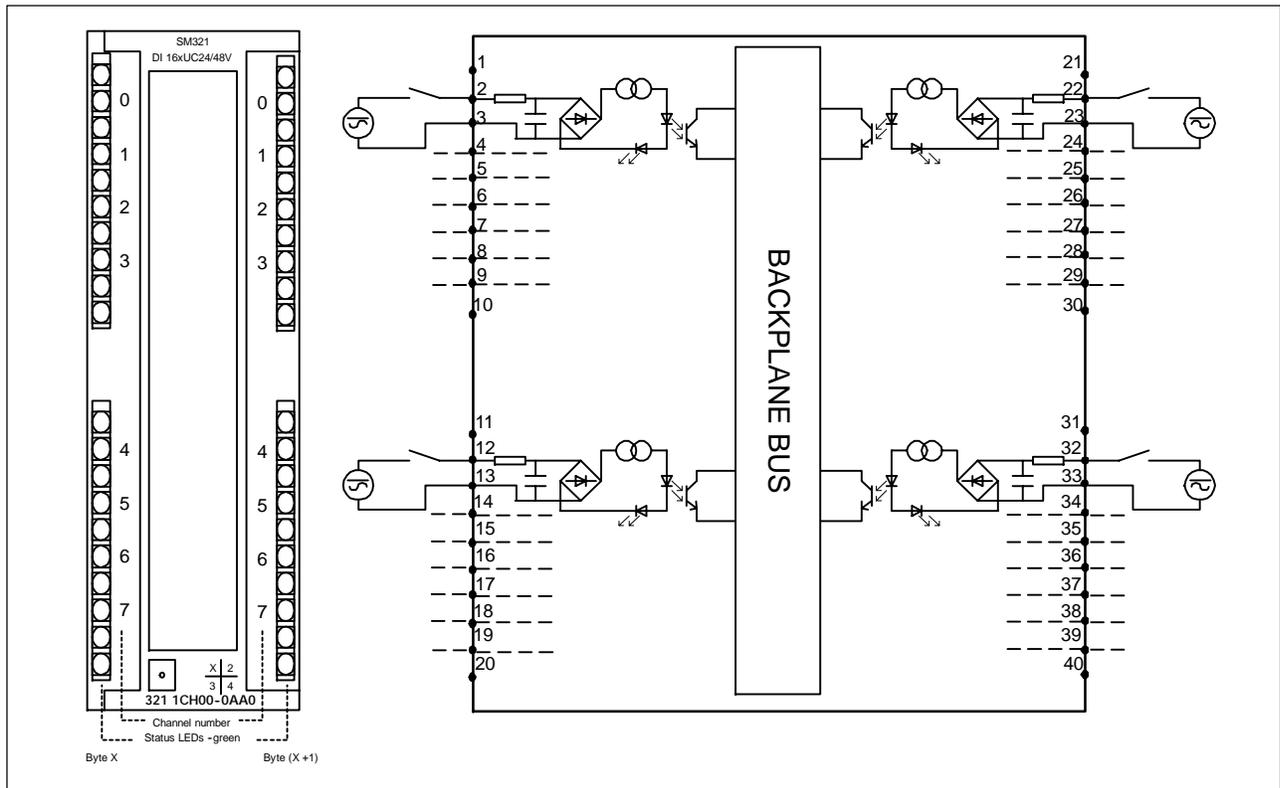


Figure 1 Connection Diagram of Digital Input Module SM 321; DI 16 x UC24/48 V

Hazardous Location Information

“Power, input and output (I/O) wiring must be in accordance with Class I, Division 2 wiring methods [Article 501-4 (b) of the National Electric Code, NFPA 70] and in accordance with the authority having jurisdiction.”

Peripheral equipment must be suitable for the location it is used in.

The equipment must be suitable for use in Class I, Div. 2, Groups A, B, C, and D Hazardous Locations and nonhazardous locations only.



Warning **Explosion Hazard**

Substitution of components may impair suitability for Class I, Div. 2 Hazardous Locations. Different or lesser quality components may cause an explosion or other hazardous situation, which could result in death or serious injury, and/or damage to equipment.

To avoid potentially hazardous situations, always use the appropriate components.



Warning **Explosion Hazard**

Never disconnect equipment before powering off or before ascertaining that the area is nonhazardous. Disconnecting equipment before powering off or in a hazardous area may cause an explosion, which could result in death or serious injury, and/or damage to equipment.

To avoid potentially hazardous situations, always power off equipment and assure that the area is nonhazardous before disconnecting.

Dimensions and Weight		Status, Interrupts, Diagnostics	
Dimensions W × H × D	40 × 125 × 120mm	Status display	Green LEDs per channel
Weight	Approx. 260 g	Data for Selecting a Sensor	
Data for Specific Module		Input voltage	
Number of inputs	16	• Rated value	24 or 48 VDC/ 24 or 48 VAC
Length of cable		• For signal "1"	14 V to 60 V
• Unshielded	max. 600 m	• For signal "0"	-5 V to 5 V
• Shielded	max. 1000 m	• Frequency range	0 to 63 Hz
Voltage, Currents, Potentials		Input current	
Number of input points that can be triggered simultaneously		• At signal "1"	typ. 2.7 mA
• Horizontal configuration Up to 60° C	16	• At signal "0"	from -1 to +1 mA
• All other mounting positions Up to 40° C	16	Input signal "0" delay	
Isolation		• At "0" to "1"	max. 16 ms
• Between channels and backplane bus	Yes	• At "1" to "0"	max. 16 ms
• Between the channels In groups of	Yes 1	Input characteristic curve	According to IEC 1131, Type 1
Permitted potential difference		Connection of Two-wire BEROs	Possible
• Between the channels and backplane bus	170 VDC, 120 VAC	• Permitted bias current	max. 1 mA
• Between the inputs of different groups	170 VDC, 120 VAC		
Insulation tested with			
• Between the channels and backplane bus	1500 VAC		
• Between the inputs of different groups	1500 VAC		
Current consumption			
• From the backplane bus	max. 100 mA		
Power dissipation of the module			
• Operation at 24 V	typ. 1.5 W		
• Operation at 48 V	typ. 2.8 W		