AMIKON TECHNICAL DOCUMENTATION

Installation Reference

Siemens 6ES7321-1BH82-0AA0

Expanded-Temperature Digital Input Module

MODULE	INPUTS	SIGNAL	CONNECTOR
SM 321	16 digital	24 V DC	20-pin

Pre-installation verification only. No terminal diagram for the BH82 suffix has been verified. The following checks use the exact-model data sheet and do not replace the complete manufacturer installation instructions or approved wiring design.

01 PRE-INSTALLATION VERIFICATION

- Verify L+ is nominal 24 V DC within 20.4-28.8 V DC.
- Compare input signals with the documented 0-state and 1-state voltage thresholds.
- Check two-wire sensor quiescent current does not exceed 1.5 mA.
- Check cable lengths against 1,000 m shielded or 600 m unshielded limits.
- Confirm a 20-pin front connector; terminal assignments require a separate verified drawing.
- Account for maximum 25 mA L+ no-load current and 10 mA backplane current.
- Treat the sixteen inputs as one potential group, not sixteen separately isolated channels.

02 ORIGINAL DATA-SHEET REFERENCE

Original Siemens data-sheet pages 1-2 follow unchanged. They document electrical and connector conditions; they do not contain a terminal-assignment diagram.

Amikon-hosted original Siemens data-sheet pages

SIEMENS

Data sheet 6ES7321-1BH82-0AA0

SIMATIC S7-300, DIGITAL INPUT SM 321, OPTICALLY ISOLATED, FOR EXPANDED TEMPERATURE RANGE, 16 DI, 24V DC, 20 PIN

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• permissible range, lower limit (DC)	20.4 V
• permissible range, upper limit (DC)	28.8 V
Input current	
from load voltage L+ (without load), max.	25 mA
from backplane bus 5 V DC, max.	10 mA
Power loss	
Power loss, typ.	3.5 W
Digital inputs	
Number of digital inputs	16
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	16
— up to 60 °C, max.	16
Input voltage	
• Rated value (DC)	24 V
• for signal "0"	-30 to +5V
• for signal "1"	13 to 30V
Input current	
• for signal "1", typ.	9 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— at "0" to "1", min.	1.2 ms
— at "0" to "1", max.	4.8 ms
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA

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Potential separation	
Potential separation digital inputs	
• between the channels, in groups of	16
• between the channels and backplane bus	Yes; Optocoupler
Isolation	
Isolation tested with	500 V DC
Connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	200 g
last modified:	08/15/2019

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