SIEMENS

Data sheet

6ES7321-1BH02-0AA0



SIMATIC S7-300, Digital input SM 321, isolated, 16 DI, 24 V DC, 1x 20-pole

Figuresimilar

Supply voltage Load voltage L+ • Rated value (DC) 24 V • permissible range, upper limit (DC) 28.8 V Input current Imput current from backplane bus 5 V DC, max. 10 mA Power loss. Power loss. Power loss. 10 mA Power loss. Power loss. Power loss. 16 Input characteristic curve in accordance with IEC 61131, type 1 Number of simultaneously controllable inputs horizontal installation - up to 40°C, max. - up to 40°C, max. 16 Input voltage • Vipe of input voltage • Up to 40°C, max. 16 Input voltage • Or signal °C • or signal °C • for signal °		
• Rated value (DC) 24 V • permissible range, lower limit (DC) 20.4 V • permissible range, upper limit (DC) 28.8 V Input current 10 mA Power loss 9 Power loss, typ. 3.5 W Digital inputs 16 Input characteristic curve in accordance with IEC 61131, Yes Yes Number of signal inputs 16	Supply voltage	
• permissible range, lower limit (DC) 20.4 V • permissible range, upper limit (DC) 28.8 V Input current from backplane bus 5 V DC, max. 10 mA Power loss . Power loss, typ. 3.5 W Digital inputs 16 Number of digital inputs 16 Input characteristic curve in accordance with IEC 61131, type 1 Yes Number of simultaneously controllable inputs 16 notizontal installation - - up to 40 °C, max. 16 - up to 60 °C, max. 16 installation - - up to 40 °C, max. 16 Input voltage DC • Type of input voltage DC • Type of input voltage DC • For signal °U* - 30 to +5 V • for signal °U* - 30 to +5 V • for signal °U* - 30 to +5 V • for signal °U* - 70 ro °T*, min. - at °U* to *1*, min. 1.2 ms - at °U* to *1*, min. 1.2 ms - at °T* to °O*, min. 1.2 ms	Load voltage L+	
• permissible range, upper limit (DC) 28.8 V Input current 10 mA Power loss • Power loss, typ. 3.5 W Digital inputs 16 Input characteristic curve in accordance with IEC 61131, type 1 Yes Number of simultaneously controllable inputs 16 norizontal installation - - up to 40 °C, max. 16 vertical installation - - up to 40 °C, max. 16 Input voltage DC • Type of input voltage DC • Fated value (DC) 24 V • for signal °0* - 30 to +5 V • for signal °1* 13 to 30V Input delay (for rated value of input voltage) 6 magnal *1*, typ. • for signal *1*, typ. 7 mA Input delay (for rated value of input voltage) for standard inputs - at *0* to *1*, min. 12 ms - at *0* to *1*, min. 12 ms - at *1* to *0*, max. 48 ms - at *1* to *0*, max. 48 ms - at *1* to *0*, max. 48 ms	 Rated value (DC) 	24 V
Input current 10 mA Power loss Power loss Power loss, typ. 3.5 W Digital inputs 16 Number of digital inputs 16 Input characteristic curve in accordance with IEC 61131, type 1 Yes Number of simultaneously controllable inputs 16 Number of simultaneously controllable inputs 16 - up to 40 °C, max. 16 Input voltage DC • Rated value (DC) 24 V • for signal °0" -30 to +5 V • for signal °1" 13 to 30V Input delay (for rated value of input voltage) TrmA Input delay (for rated value of input voltage) TrmA - parameterizable No - at °0" to "1", min. 1.2 ms - at °1" to "0", max. 4.8 ms Cable length - at "1" to "0", max. - at "1" to "0", max. 4.8 ms Cable length		20.4 V
from backplane bus 5 V DC, max. 10 mA Power loss 3.5 W Power loss, typ. 3.5 W Digital inputs 16 Number of digital inputs 16 Input characteristic curve in accordance with IEC 61131, type 1 Yes Number of simultaneously controllable inputs 16 horizontal installation	 permissible range, upper limit (DC) 	28.8 V
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Power loss, typ. 3.5 W Digital inputs 16 Number of digital inputs 16 Input characteristic curve in accordance with IEC 61131, type 1 Yes Number of simultaneously controllable inputs 16 horizontal installation - — up to 40 °C, max. 16 — up to 60 °C, max. 16 — up to 40 °C, max. 16 Input voltage DC • Rated value (DC) 24 V • for signal "0" -30 to +5 V • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) for signal "1", typ. • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) for signal "1", min. • for signal "1", typ. 7 mA Input delay (for '1et value of input voltage) for signal "1", typ. • at "0" to "1", min. 1.2 ms - at "0" to "1", min. 1.2 ms - at "1" to "0", max. 4.8 ms Cable length • shielded, max. 1000 m • unshielded, max. 600 m<	from backplane bus 5 V DC, max.	10 mA
Digital inputs 16 Number of digital inputs 16 Input characteristic curve in accordance with IEC 61131, type 1 Yes Number of simultaneously controllable inputs 16 horizontal installation 16 — up to 40 °C, max. 16 — up to 40 °C, max. 16 Input voltage DC • Type of input voltage DC • Rated value (DC) 24 V • for signal "0" -30 to +5 V • for signal "1" 13 to 30V Input oursent - • for signal "1", typ. 7 mA Input due (for rated value of input voltage) To and to +5 V • for signal "1", typ. 7 mA Input due (for rated value of input voltage) 10 to 400 (for rated value of input voltage) for standard inputs - — at "0" to "1", max. 4.8 ms — at "1" to "0", min. 1.2 ms — at "1" to "0", max. 4.8 ms — at "1" to "0", max. 4.8 ms — at "1" to "0", max. 4.8 ms — at "1" to "0", max. 600 m Eable length - <td< td=""><td>Power loss</td><td></td></td<>	Power loss	
Number of digital inputs 16 Input characteristic curve in accordance with IEC 61131, type 1 Yes Number of simultaneously controllable inputs horizontal installation	Power loss, typ.	3.5 W
Input characteristic curve in accordance with IEC 61131, type 1 Yes Number of simultaneously controllable inputs horizontal installation up to 40 °C, max. 16 up to 60 °C, max. 16 vertical installation - up to 40 °C, max. 16 Input voltage DC Rated value (DC) 24 V • for signal "0" -30 to +5 V • for signal "1" 13 to 30V Input delay (for rated value of input voltage) for signal "1", typ. • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) for standard inputs - at "0" to "1", min. 1.2 ms - at "0" to "1", min. 1.2 ms - at "0" to "1", min. 1.2 ms - at "1" to "0", min. 1.000 m • unshielded, max.	Digital inputs	
type 1 Number of simultaneously controllable inputs horizontal installation 16	Number of digital inputs	16
horizontal installation - - up to 60 °C, max. 16 - up to 60 °C, max. 16 - up to 60 °C, max. 16 Input voltage 16 1 - up to 40 °C, max. 16 Input voltage DC 1 • Type of input voltage DC • Rated value (DC) 24 V • for signal "0" -30 to +5 V • for signal "1" 13 to 30V Input current - - • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) - - for standard inputs - - - parameterizable No - - at "0" to "1", min. 1.2 ms - - at "1" to "0", max. 4.8 ms - - at "1" to "0", max. 4.8 ms - - shielded, max. 1000 m - • unshielded		Yes
	horizontal installation	
vertical installation 16 Input voltage DC • Type of input voltage DC • Rated value (DC) 24 V • for signal "0" -30 to +5 V • for signal "1" 13 to 30V Input current 7 mA • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) 7 mA for standard inputs - - parameterizable No - at "0" to "1", min. 1.2 ms - at "0" to "1", max. 4.8 ms - at "1" to "0", max. 4.8 ms - at "1" to "0", max. 4.8 ms Cable length - • shielded, max. 600 m • shielded, max. 600 m • connectable encoders - • 2-wire sensor Yes	— up to 40 °C, max.	16
up to 40 °C, max. 16 Input voltage DC • Type of input voltage DC • Rated value (DC) 24 V • for signal "0" -30 to +5 V • for signal "1" 13 to 30V Input current - • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) 7 mA for standard inputs - - parameterizable No - at "0" to "1", max. 4.8 ms - at "1" to "0", max. 4.8 ms - at "1" to "0", max. 4.8 ms - at "1" to "0", max. 1000 m • bielded, max. 600 m Encoder Connectable encoders • 2-wire sensor Yes	— up to 60 °C, max.	16
Input voltage• Type of input voltageDC• Rated value (DC)24 V• for signal "0"-30 to +5 V• for signal "1"13 to 30VInput current-• for signal "1", typ.7 mAInput delay (for rated value of input voltage)7 mAfor standard inputs parameterizableNo- at "0" to "1", min.1.2 ms- at "0" to "1", max.4.8 ms- at "0" to "1", max.4.8 ms- at "1" to "0", max.4.8 ms- at "1" to "0", max.4.8 ms- at "1" to "0", max.600 mEncoderConnectable encoders• 2-wire sensorYes	vertical installation	
• Type of input voltage DC • Rated value (DC) 24 V • for signal "0" -30 to +5 V • for signal "1" 13 to 30V Input current - • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) 7 mA for standard inputs - - parameterizable No - at "0" to "1", min. 1.2 ms - at "0" to "1", max. 4.8 ms - at "0" to "1", max. 4.8 ms - at "1" to "0", max. 4.8 ms - at "1" to "0", max. 4.8 ms Cable length 1 000 m • shielded, max. 600 m Encoder Connectable encoders • 2-wire sensor Yes	— up to 40 °C, max.	16
• Rated value (DC) 24 V • for signal "0" -30 to +5 V • for signal "1" 13 to 30V Input current 7 mA • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) 7 mA for standard inputs - - parameterizable No - at "0" to "1", min. 1.2 ms - at "0" to "1", max. 4.8 ms - at "0" to "0", min. 1.2 ms - at "1" to "0", max. 4.8 ms Cable length - • shielded, max. 600 m • unshielded, max. 600 m • 2-wire sensor Yes	Input voltage	
• for signal "0" -30 to +5 V • for signal "1" 13 to 30V Input current - • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) 7 mA for standard inputs - - parameterizable No - at "0" to "1", min. 1.2 ms - at "0" to "1", max. 4.8 ms - at "0" to "1", max. 4.8 ms - at "1" to "0", min. 1.2 ms - at "1" to "0", max. 4.8 ms - at "1" to "0", max. 4.8 ms - at "1" to "0", max. 4.8 ms Cable length - • shielded, max. 600 m Encoder - Connectable encoders - • 2-wire sensor Yes		DC
• for signal "1" 13 to 30V Input current 7 mA • for signal "1", typ. 7 mA Input delay (for rated value of input voltage) 600 m for standard inputs 1.2 ms - at "0" to "1", max. 4.8 ms - at "1" to "0", min. 1.2 ms - at "1" to "0", max. 4.8 ms - at "1" to "0", max. 4.8 ms Cable length 1000 m • shielded, max. 600 m • Connectable encoders Yes	 Rated value (DC) 	24 V
Input current 7 mA Input delay (for rated value of input voltage) 7 mA for standard inputs - - parameterizable No - at "0" to "1", min. 1.2 ms - at "0" to "1", max. 4.8 ms - at "1" to "0", min. 1.2 ms - at "1" to "0", max. 4.8 ms Cable length 1.000 m • shielded, max. 600 m • unshielded, max. 600 m Encoder Yes	 for signal "0" 	-30 to +5 V
 for signal "1", typ. 7 mA Input delay (for rated value of input voltage) for standard inputs – parameterizable – at "0" to "1", min. – at "0" to "1", max. – at "1" to "0", min. – at "1" to "0", max. 4.8 ms – at "1" to "0", max. 2 ms – at "1" to "0", max. 8 ms Cable length shielded, max. 1000 m unshielded, max. 600 m Encoder Connectable encoders • 2-wire sensor Yes	 for signal "1" 	13 to 30V
Input delay (for rated value of input voltage) for standard inputs	Input current	
for standard inputs parameterizableNo at "0" to "1", min.1.2 ms at "0" to "1", max.4.8 ms at "1" to "0", min.1.2 ms at "1" to "0", max.4.8 msCable length• shielded, max.1 000 m• unshielded, max.600 mEncoderConnectable encoders• 2-wire sensorYes	 for signal "1", typ. 	7 mA
parameterizable No at "0" to "1", min. 1.2 ms at "0" to "1", max. 4.8 ms at "1" to "0", min. 1.2 ms at "1" to "0", max. 4.8 ms Cable length 600 m • shielded, max. 600 m • unshielded, max. 600 m	Input delay (for rated value of input voltage)	
	for standard inputs	
at "0" to "1", max. 4.8 ms at "1" to "0", min. 1.2 ms at "1" to "0", max. 4.8 ms Cable length • shielded, max. 1 000 m • unshielded, max. 600 m Encoder Connectable encoders • 2-wire sensor Yes	•	No
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at "1" to "0", max. 4.8 ms Cable length 1000 m • shielded, max. 600 m • unshielded, max. 600 m	— 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	,	1.2 ms
• shielded, max. 1 000 m • unshielded, max. 600 m Encoder Connectable encoders • 2-wire sensor Yes		4.8 ms
• unshielded, max. 600 m Encoder Connectable encoders • 2-wire sensor Yes	Cable length	
Encoder Connectable encoders • 2-wire sensor Yes	 shielded, max. 	
Connectable encoders • 2-wire sensor Yes	• unshielded, max.	600 m
• 2-wire sensor Yes	Encoder	
	Connectable encoders	
— permissible quiescent current (2-wire sensor), 1.5 mA		Yes
	— permissible quiescent current (2-wire sensor),	1.5 mA

max.	
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Alarms	
 Diagnostic alarm 	No
Hardware interrupt	No
Diagnostics indication LED	
 Status indicator digital input (green) 	Yes
Potential separation	
Potential separation digital inputs	
 between the channels 	No
 between the channels, in groups of 	16
 between the channels and backplane bus 	Yes; Optocoupler
Isolation	
Isolation tested with	500 V DC
connection method / header	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	200 g

last modified:

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