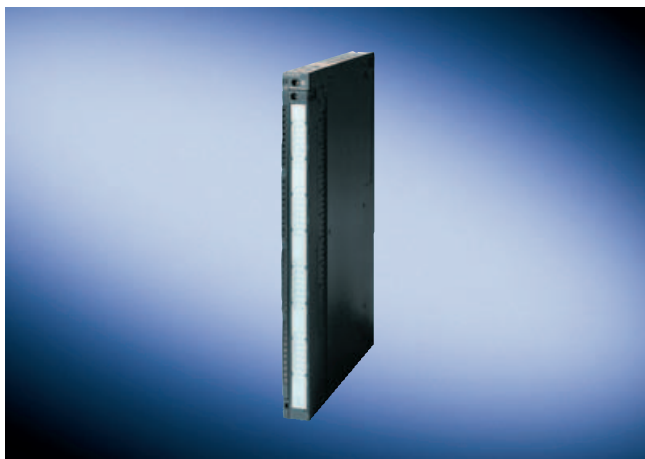


SIMATIC S7-400

Digital modules

SM 421 digital input module

Overview



- Digital inputs for the SIMATIC S7-400
- For connecting standard switches and two-wire proximity switches (BERO)

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Technical specifications

	6ES7 421-7BH01-0AB0	6ES7 421-1BL01-0AA0	6ES7 421-1EL00-0AA0	6ES7 421-1FH20-0AA0	6ES7 421-7DH00-0AB0
Voltages and currents					
Load voltage L+					
• Rated value (DC)	24 V				
• permissible range, lower limit (DC)	20.4 V				
• permissible range, upper limit (DC)	28.8 V				
Current consumption					
from backplane bus DC 5 V, max.	130 mA	20 mA	200 mA	80 mA	150 mA
from supply voltage L+, max.	120 mA				
Power loss, max.	5 W	6 W	16 W	12 W	8 W
Digital inputs					
Number of digital inputs	16	32	32	16	16
Number of simultaneously controllable inputs					
• Number of simultaneously controllable inputs, up to 40 °C	16	32	32	16	16
• Number of simultaneously controllable inputs, up to 60 °C	16	32	32	16	16
Cable length					
• Cable length, shielded, max.	1,000 m; 1000 m/3 ms; 70 m/0.5 ms; 30 m/0.1 ms; 30 m/0.05 ms	1,000 m	1,000 m	1,000 m	1,000 m
• Cable length unshielded, max.	600 m; 600 m/3 ms; 50 m/0.5 ms; 20 m/0.1 ms; 20 m/0.05 ms	600 m	600 m	600 m	600 m; 600m / 3, 10, 20 ms; 100m / 0.5ms

Technical specifications (continued)

	6ES7 421-7BH01-0AB0	6ES7 421-1BL01-0AA0	6ES7 421-1EL00-0AA0	6ES7 421-1FH20-0AA0	6ES7 421-7DH00-0AB0
Input voltage					
• Rated value, DC	24 V	24 V			
• Rated value, UC			120 V	230 V; UC 120/230 V	24 V; UC 24 to 60 V
• for signal "0"	-30 to 5 V DC	-30 to 5 V DC	UC 0 to 20 V	0 to 40 V AC / -40 to +40 V DC	-6 to V DC; 0 to 5 V AC
• for signal "1"	11 to 30 V DC	13 to 30 V DC	79 to 132 V AC; 80 to 132 V DC	74 to 264 V AC; 80 to 264 V DC, -80 to -264 V	DC 15...72 V;DC -15...-72 V; AC 15...60 V
• Frequency range			47 to 63 Hz	47 to 63 Hz	47 to 63 Hz AC / DC
Input current					
• for signal "0", max. (permissible quiescent current)		1.3 mA	1 mA	6 mA; AC: 6 mA, DC: 2 mA	
• for signal "1", typ.	6 mA; 6 to 8 mA	7 mA	2 mA; 2 to 5 mA	10 mA; at 120 V: 10 mA AC, 1.8 mA DC at 230 V: 14 mA AC, 2 mA DC	4 mA; 4 to 10 mA
Input delay (for rated value of input voltage)					
• for standard inputs - programmable - Rated value	Yes				Yes 0.5 ms; 0.5 / 3 / 10 / 20 ms
Encoder					
Connectable encoders					
• 2-wire BEROS	Yes	Yes	Yes	Yes	Yes
• permissible quiescent current (2-wire BEROS), max.	3 mA	1.5 mA	1 mA	5 mA; AC: 5 mA	0.5 mA; 0.5 to 2 mA
Status information/ alarms/diagnostics					
Alarms					
• Diagnostic alarm	Yes; parameterizable				Yes; parameterizable
• Process alarm	Yes; parameterizable				Yes; parameterizable
Diagnoses					
• Diagnostics	Yes; internal/ external fault				Yes; internal/ external fault
Isolation					
Isolation checked with	500 V DC	500 V DC	1500 V AC	1500 V AC	1500 V AC
Isolation					
Galvanic isolation, digital inputs					
• between the channels, in groups of	8	32	8	4	1
• between the channels and the backplane bus	Yes	Yes	Yes	Yes	Yes
Dimensions and weight					
Width	25 mm	25 mm	25 mm	25 mm	25 mm
Height	290 mm	290 mm	290 mm	290 mm	290 mm
Depth	210 mm	210 mm	210 mm	210 mm	210 mm
Weights					
Weight, approx.	600 g	500 g	600 g	650 g	600 g