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Data sheet 6ES7421-7BH01-0AB0



SIMATIC S7-400, digital input SM 421, isolated 16 DI; 24 V DC with 0.05 ms input delay alarm, diagnostics

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
● Reverse polarity protection	Yes
Input current	
from supply voltage L+, max.	120 mA
from backplane bus 5 V DC, max.	130 mA
Encoder supply	
Number of outputs	2
Type of output voltage	L+ (-2.5 V)
Short-circuit protection	Yes; Electronic
additional (redundant) feed	Yes; possible
Output current	
● Rated value	120 mA
● permissible range, lower limit	0 mA
● permissible range, upper limit	150 mA
Power loss	
Power loss, typ.	5 W
Digital inputs	
Number of digital inputs	16
Input characteristic according to IEC 61131	Type 2
Number of simultaneously controllable inputs	
● Number of simultaneously controllable inputs	16
Input voltage	
● Type of input voltage	DC
● Rated value (DC)	24 V
● for signal "0"	-30 V DC to +5 V DC
● for signal "1"	11 V DC to 30 V DC
Input current	
● for signal "0", min.	6 mA; < 6 mA
● for signal "1", typ.	6 mA; 6 to 8 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes
— at "0" to "1", min.	3 µs; 0.05 / 0.1 / 0.5 / 3 ms
Encoder connection	
● Fixed current limitation for wire-break monitoring, min.	10 kΩ
● Fixed current limitation for wire-break monitoring, max.	18 kΩ

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Cable length	
● shielded, max.	1 000 m; 1 000 m: 3 ms, 70 m: 0.5 ms, 30 m: 0.1 ms, 30 m: 0.05 ms
● unshielded, max.	600 m; 600 m: 3 ms; 50 m: 0,5 ms; 20 m: 0,1 ms; 20 m: 0,05 ms
Encoder	
Connectable encoders	
● 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	3 mA
Interrupts/diagnostics/status information	
Diagnostics function	Yes; Parameterizable
Alarms	
● Diagnostic alarm	Yes; Parameterizable
● Hardware interrupt	Yes; Parameterizable
Diagnoses	
● Diagnostic information readable	Yes
● Monitoring the supply voltage	Yes
● Wire-break	Yes; I < 1 mA
Diagnostics indication LED	
● Rated load voltage PWR (green)	Yes; Per group
● internal fault INTF (red)	Yes
● external fault EXTF (red)	Yes
● Status indicator digital input (green)	Yes
● Channel fault indicator F (red)	No
Potential separation	
Potential separation digital inputs	
● between the channels	Yes
● between the channels, in groups of	8
● between the channels and backplane bus	Yes
Isolation	
Isolation tested with	500 V DC
Dimensions	
Width	25 mm
Height	290 mm
Depth	210 mm
Weights	
Weight, approx.	600 g

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