



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+	
<ul style="list-style-type: none"> Rated value (DC) 	24 V
<ul style="list-style-type: none"> permissible range, lower limit (DC) 	20.4 V
<ul style="list-style-type: none"> permissible range, upper limit (DC) 	28.8 V
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	
<ul style="list-style-type: none"> Rated value 	120 mA
<ul style="list-style-type: none"> permissible range, lower limit 	0 mA
<ul style="list-style-type: none"> permissible range, upper limit 	150 mA
Power loss	
Power loss, typ.	5 W
Digital inputs	
Number of digital inputs	16
Number of simultaneously controllable inputs	
<ul style="list-style-type: none"> Number of simultaneously controllable inputs 	16
Input voltage	
<ul style="list-style-type: none"> Type of input voltage 	DC
<ul style="list-style-type: none"> Rated value (DC) 	24 V
<ul style="list-style-type: none"> for signal "0" 	-30 V DC to +5 V DC
<ul style="list-style-type: none"> for signal "1" 	11 V DC to 30 V DC
Input current	
<ul style="list-style-type: none"> for signal "0", min. 	6 mA; < 6 mA
<ul style="list-style-type: none"> for signal "1", typ. 	6 mA; 6 to 8 mA
Input delay (for rated value of input voltage)	
for standard inputs	
<ul style="list-style-type: none"> parameterizable 	Yes
<ul style="list-style-type: none"> at "0" to "1", min. 	3 μs; 0.05 / 0.1 / 0.5 / 3 ms
Encoder connection	
<ul style="list-style-type: none"> Fixed current limitation for wire-break monitoring, 	10 kΩ

min.	
• Fixed current limitation for wire-break monitoring, max.	18 kΩ
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
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
last modified:	1/16/2021 