



***** Replacement part ***** SIMATIC S7-400, Function module FM 450-1 for counter function with 2 channels, incl. configuration package on CD

Supply voltage	
Auxiliary voltage 1L+, load voltage 2L+	
<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; Dynamic 18.5 V
<ul style="list-style-type: none"> permissible range, upper limit (DC) 	28.8 V; dynamic 30.2 V
Input current	
from load voltage 1L+ (without load), max.	40 mA
from backplane bus 5 V DC, max.	450 mA
Encoder supply	
5 V encoder supply	
<ul style="list-style-type: none"> 5 V 	Yes; 5.2 V \pm 2 %
<ul style="list-style-type: none"> Short-circuit protection 	Yes
<ul style="list-style-type: none"> Output current, max. 	300 mA
24 V encoder supply	
<ul style="list-style-type: none"> 24 V 	Yes; 1L+ (-3 V)
<ul style="list-style-type: none"> Short-circuit protection 	Yes
<ul style="list-style-type: none"> Output current, max. 	300 mA
Power loss	
Power loss, typ.	9 W
Digital inputs	
Number of digital inputs	6
Functions	1 for gate start, 1 for gate stop, 1 for setting the counter
Input voltage	
<ul style="list-style-type: none"> for signal "0" 	-28.8 ... +5V
<ul style="list-style-type: none"> for signal "1" 	+11 to +28.8V
Input current	
<ul style="list-style-type: none"> for signal "1", typ. 	9 mA
Input delay (for rated value of input voltage)	
<ul style="list-style-type: none"> Input frequency (with a time delay of 0.1 ms), max. 	200 kHz
for standard inputs	
<ul style="list-style-type: none"> — parameterizable 	Yes
<ul style="list-style-type: none"> — at "0" to "1", max. 	2.5 μ s; \geq 2.5 μ s (200 kHz); \leq 25 μ s (20 kHz)
Digital outputs	
Number of digital outputs	4
Short-circuit protection	Yes; Clocked electronically
Limitation of inductive shutdown voltage to	2L+ (-39 V)
Output voltage	

<ul style="list-style-type: none"> for signal "0", max. for signal "1", min. 	3 V 2L+ (-1,5 V)
Output current	
<ul style="list-style-type: none"> for signal "1" rated value for signal "1" permissible range for 0 to 60 °C, min. for signal "1" permissible range for 0 to 60 °C, max. 	0.5 A 5 mA 0.6 A
Output delay with resistive load	
<ul style="list-style-type: none"> "0" to "1", max. 	300 µs
Encoder	
Connectable encoders	
<ul style="list-style-type: none"> Incremental encoder (symmetrical) Incremental encoder (asymmetrical) 24 V initiator 24 V directional element 	Yes; With 2 pulse trains offset by 90° Yes Yes Yes; 1 pulse train, 1 direction level
Interrupts/diagnostics/status information	
Status indicator	Yes; 14 green LEDs for status of CR, DIR, inputs and outputs
Diagnostics function	Yes
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm Hardware interrupt 	Yes; Parameterizable Yes; Parameterizable
Diagnoses	
<ul style="list-style-type: none"> Diagnostic information readable 	Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> internal fault INTF (red) external fault EXTf (red) Status indicator digital input (green) Status indicator digital output (green) 	Yes Yes Yes Yes
Counter	
Number of counter inputs	2; 32 bit or ±31 bit
Counter input 5 V	
<ul style="list-style-type: none"> Type Terminating resistor Differential input voltage Counting frequency, max. 	RS 422 220 Ω min. 0.5 V 500 kHz
Counter input 24 V	
<ul style="list-style-type: none"> Input voltage for signal "0" Input voltage for signal "1" Input current for signal "1", typ. Counting frequency, max. Minimum pulse width 	-30 to +5 V +11 to +30V 9 mA 200 kHz ≥ 2.5 µs (200 kHz); ≥ 25 µs (20 kHz) (parameterizable)
Potential separation	
Potential separation digital inputs	
<ul style="list-style-type: none"> between the channels and backplane bus 	Yes; Optocoupler
Potential separation digital outputs	
<ul style="list-style-type: none"> between the channels and backplane bus 	Yes; Optocoupler
Potential separation counter	
<ul style="list-style-type: none"> between the channels and backplane bus 	Yes; Optocoupler
Isolation	
Isolation tested with	500 V
Connection method	
required front connector	1x 48-pin
Dimensions	
Width	25 mm
Height	290 mm
Depth	210 mm
Weights	
Weight, approx.	650 g

last modified:

2/16/2021 