



SIMATIC S7-300, Counter module FM 350-1 for S7-300, Counter functions up to 500 kHz 1 channel for connection of 5 V and 24 V incremental encoders Isochronous mode; Measuring range types incl. configuration package on CD

Supply voltage

Auxiliary voltage 1L+, load voltage 2L+

• Rated value (DC)	24 V
• permissible range, lower limit (DC)	20.4 V; Dynamic 18.5 V
• 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.	160 mA

Encoder supply

5 V encoder supply

• 5 V	Yes; 5.2 V $\pm 2\%$
• Output current, max.	300 mA

24 V encoder supply

• 24 V	Yes; 1L+ (-3 V)
• Output current, max.	400 mA

Power loss

Power loss, typ.

4.5 W

Digital inputs

Number of digital inputs

3

Functions

1 for gate start, 1 for gate stop, 1 for setting the counter

Input voltage

• for signal "0"	-28.8 ... +5V
• for signal "1"	+11 to +28.8V

Input current

• for signal "1", typ.	9 mA
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Digital outputs

Number of digital outputs

2

Short-circuit protection

Yes; Clocked electronically

Limitation of inductive shutdown voltage to

2L+ (-39 V)

Output voltage

• for signal "0", max.	3 V
• for signal "1", min.	2L+ (-1,5 V)

Output current

• for signal "1" rated value	0.5 A
• for signal "1" permissible range for 0 to 60 °C, min.	5 mA
• for signal "1" permissible range for 0 to 60 °C, max.	0.6 A

Output delay with resistive load

• "0" to "1", max.	300 μ s
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Encoder

Connectable encoders

• Incremental encoder (symmetrical)	Yes; With 2 pulse trains offset by 90°
• Incremental encoder (asymmetrical)	Yes
• 24 V initiator	Yes
• 24 V directional element	Yes; 1 pulse train, 1 direction level

Counter

Number of counter inputs	1; 32 bit or ±31 bit
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Counter input 5 V

• Type	RS 422
• Terminating resistor	220 Ω
• Differential input voltage	1,3 V
• Counting frequency, max.	500 kHz

Counter input 24 V

• Input voltage for signal "0"	-28.8 ... +5V
• Input voltage for signal "1"	+11 to +28.8V
• Input current for signal "1", typ.	9 mA
• Counting frequency, max.	200 kHz
• Minimum pulse width	2.5 µs

Potential separation

Potential separation digital inputs	
• between the channels and backplane bus	Yes; Optocoupler

Potential separation digital outputs	
• between the channels and backplane bus	Yes; Optocoupler

Potential separation counter	
• between the channels and backplane bus	Yes; Optocoupler

Isolation

Isolation tested with	500 V
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connection method / header

required front connector	1x 20-pin
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Dimensions

Width	40 mm
Height	125 mm
Depth	120 mm

Weights

Weight, approx.	250 g
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last modified: 1/16/2021 