

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
non-periodic skip	
— Duration	500 ms
— Recovery time	50 s
— Value	35 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
<b>Power loss</b>	
Power loss, typ.	4.5 W
<b>Digital inputs</b>	
Number of digital inputs	3
Functions	1 for gate start, 1 for gate stop, 1 for setting the counter
<b>Input voltage</b>	
• for signal "0"	-28.8 ... +5V
• for signal "1"	+11 to +28.8V
<b>Input current</b>	
• for signal "1", typ.	9 mA
<b>Digital outputs</b>	
Number of digital outputs	2
Short-circuit protection	Yes; Clocked electronically
Limitation of inductive shutdown voltage to	2L+ (-39 V)
<b>Output voltage</b>	
• for signal "0", max.	3 V
• for signal "1", min.	2L+ (-1,5 V)
<b>Output current</b>	
• 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
<b>Output delay with resistive load</b>	
• "0" to "1", max.	300 µs
<b>Encoder</b>	
<b>Connectable encoders</b>	
• 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
<b>Counter</b>	
Number of counter inputs	1
Counting range, description	32 bit or ±31 bit
Minimum pulse width, adjustable	Yes; 2.5 or 25 µs
<b>Counter input 5 V</b>	
• Type	RS 422
• Terminating resistor	220 Ω
• Differential input voltage	1,3 V

• Counting frequency, max.	500 kHz
<b>Counter input 24 V</b>	
• 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 $\mu$ s

### Potential separation

#### Potential separation digital inputs

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

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

• between the channels and backplane bus	Yes; Optocoupler
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### Isolation

Isolation tested with	500 V
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### Connection method

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:** 06/19/2019