

SIMATIC S7-300, COUNTER MODULE FM 350-1 FOR S7-300, COUNTER FUNCTIONS UP TO 500 KHZ 1 CHANNEL FOR CONNECTION OF 5V AND 24V INCREMENTAL ENCODERS INCL. CONFIG. 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.	300 mA

### Power loss

Power loss, typ.	4.5 W
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### 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

### Digital outputs

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	0,5 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 µs

<b>Potential separation</b>	
<b>Potential separation digital inputs</b>	
• between the channels and backplane bus	Yes; Optocoupler
<b>Potential separation digital outputs</b>	
• between the channels and backplane bus	Yes; Optocoupler
<b>Potential separation counter</b>	
• between the channels and backplane bus	Yes; Optocoupler

**Permissible potential difference**

between different circuits	75 V DC/60 V AC
<b>Isolation</b>	
Isolation tested with	500 V
<b>Connection method</b>	
required front connector	1x 20-pin
<b>Dimensions</b>	
Width	40 mm
Height	125 mm
Depth	120 mm
<b>Weights</b>	
Weight, approx.	250 g
<b>last modified:</b>	03/16/2018