

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 ISOCHRON MODE, MEASUREMENT MODE INCL. CONFIG. PACKAGE ON CD



Supply voltage	
Auxiliary voltage 1L+, load voltage 2L+	
• Rated value (DC)	24 V
Permissible range (ripple included)	
— dynamic, lower limit (DC)	18.5 V
— dynamic, upper limit (DC)	30.2 V
— static, lower limit (DC)	20.4 V
— static, upper limit (DC)	28.8 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 +/-2%

• Output current, max.	300 mA
<b>24 V encoder supply</b>	
• 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  $\Omega$
- 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  $\mu$ s

#### 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

#### Permissible potential difference

between different circuits 75 V DC/60 V AC

#### Isolation

Isolation tested with 500 V

#### Connection method

required front connector 1x 20-pin

#### Dimensions

Width 40 mm  
 Height 125 mm  
 Depth 120 mm

#### Weights

Weight, approx. 250 g

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