

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
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 µs
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
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

required front connector	1x 20-pin
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Dimensions

Width	40 mm
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Height	125 mm
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Depth	120 mm
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Weights

Weight, approx.	250 g
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last modified:	09/24/2020
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