



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+	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>permissible range, lower limit (DC)</li> </ul>	20.4 V; Dynamic 18.5 V
<ul style="list-style-type: none"> <li>permissible range, upper limit (DC)</li> </ul>	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	
<ul style="list-style-type: none"> <li>5 V</li> </ul>	Yes; 5.2 V $\pm$ 2 %
<ul style="list-style-type: none"> <li>Output current, max.</li> </ul>	300 mA
24 V encoder supply	
<ul style="list-style-type: none"> <li>24 V</li> </ul>	Yes; 1L+ (-3 V)
<ul style="list-style-type: none"> <li>Output current, max.</li> </ul>	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	
<ul style="list-style-type: none"> <li>for signal "0"</li> </ul>	-28.8 ... +5V
<ul style="list-style-type: none"> <li>for signal "1"</li> </ul>	+11 to +28.8V
Input current	
<ul style="list-style-type: none"> <li>for signal "1", typ.</li> </ul>	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	
<ul style="list-style-type: none"> <li>for signal "0", max.</li> </ul>	3 V
<ul style="list-style-type: none"> <li>for signal "1", min.</li> </ul>	2L+ (-1,5 V)
Output current	
<ul style="list-style-type: none"> <li>for signal "1" rated value</li> </ul>	0.5 A
<ul style="list-style-type: none"> <li>for signal "1" permissible range for 0 to 60 °C, min.</li> </ul>	5 mA
<ul style="list-style-type: none"> <li>for signal "1" permissible range for 0 to 60 °C, max.</li> </ul>	0.6 A
Output delay with resistive load	
<ul style="list-style-type: none"> <li>"0" to "1", max.</li> </ul>	300 $\mu$ s
Encoder	

<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; 32 bit or ±31 bit
<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 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
<b>Isolation</b>	
Isolation tested with	500 V
<b>connection method / header</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>	1/16/2021 