



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

<b>Supply voltage</b>	
Aux. voltage 1L+, load voltage 2 L+	
<b>Rated value (DC)</b>	24 V
<b>Permissible range (ripple included)</b>	
<b>dynamic, lower limit (DC)</b>	18.5 V
<b>dynamic, upper limit (DC)</b>	30.2 V
<b>static, lower limit (DC)</b>	20.4 V
<b>static, upper limit (DC)</b>	28.8 V
<b>non-periodic skip</b>	
<b>Duration</b>	500 ms
<b>Recovery time</b>	50 s
<b>Value</b>	35 V
<b>Input current</b>	
<b>from load voltage 1L+ (without load), max.</b>	40 mA
<b>from backplane bus 5 V DC, max.</b>	160 mA
<b>Encoder supply</b>	
<b>5 V encoder supply</b>	
<b>5 V</b>	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 losses</b>	
Power loss, typ.	4.5 W
<b>Digital inputs</b>	
Number/binary 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 to +5 V
for signal "1"	+11 to +28.8 V
<b>Input current</b>	
for signal "1", typ.	9 mA
<b>Digital outputs</b>	
Number/binary outputs	2
Functionality/short-circuit strength	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 to +5 V
Input voltage, for signal "1"	+11 to +28.8 V
Input current, for signal "1", typ.	9 mA
Counting frequency, max.	200 kHz
Minimum pulse width	2.5 μs
<b>Parameter</b>	
Remark	assigned binary addresses: 16 bytes
<b>Galvanic isolation</b>	
<b>Galvanic isolation digital inputs</b>	
between the channels and the backplane bus	Yes ; Optocoupler
<b>Galvanic isolation digital outputs</b>	
between the channels and the backplane bus	Yes ; Optocoupler
<b>Galvanic isolation counter</b>	
between the channels and the backplane bus	Yes ; Optocoupler
<b>Permissible potential difference</b>	
between different circuits	75 VDC / 60 VAC
<b>Isolation</b>	
Isolation checked 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>Weight</b>	
Weight, approx.	250 g
Status	Jul 1, 2013