



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

- Incremental encoder (symmetrical)
- Incremental encoder (asymmetrical)
- 24 V initiator
- 24 V directional element

Yes; With 2 pulse trains offset by 90°
 Yes
 Yes
 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 μ 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

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

Classifications

	Version	Classification
eClass	14	27-24-22-05
eClass	12	27-24-22-05
eClass	9.1	27-24-22-05
eClass	9	27-24-22-05
eClass	8	27-24-22-05
eClass	7.1	27-24-22-05
eClass	6	27-24-22-05
ETIM	9	EC001422
ETIM	8	EC001422
ETIM	7	EC001422
IDEA	4	3567
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

EMV

[Manufacturer Declaration](#)



For use in hazardous locations



Miscellaneous

[CCC-Ex](#)

Marine / Shipping



[NK / Nippon Kaiji Kyokai](#)



Marine / Shipping



[CCS \(China Classification Society\)](#)

last modified:

4/7/2025

ماکان کنترول