

SIPLUS S7-300 FM350-1 -25...+60 °C with conformal coating based on 6ES7350-1AH03-0AE0. Counter module 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 auf CD-ROM



### Supply voltage

Auxiliary voltage 1L+, load voltage 2L+

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|---------------------------------------|------------------------|
| • 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

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|------------------------|----------------------|
| • 5 V                  | Yes; 5.2 V $\pm$ 2 % |
| • Output current, max. | 300 mA               |

24 V encoder supply

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|------------------------|-----------------|
| • 24 V                 | Yes; 1L+ (-3 V) |
| • Output current, max. | 400 mA          |

### Power loss

Power loss, typ.	4.5 W
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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> <li>for signal "1"</li> </ul>	-28.8 ... +5V +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> <li>for signal "1", min.</li> </ul>	3 V 2L+ (-1,5 V)
Output current	
<ul style="list-style-type: none"> <li>for signal "1" rated value</li> <li>for signal "1" permissible range for 0 to 60 °C, min.</li> <li>for signal "1" permissible range for 0 to 60 °C, max.</li> </ul>	0.5 A 5 mA 0.6 A
Output delay with resistive load	
<ul style="list-style-type: none"> <li>"0" to "1", max.</li> </ul>	300 µs
Encoder	
Connectable encoders	
<ul style="list-style-type: none"> <li>Incremental encoder (symmetrical)</li> <li>Incremental encoder (asymmetrical)</li> <li>24 V initiator</li> <li>24 V directional element</li> </ul>	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	
<ul style="list-style-type: none"> <li>Type</li> <li>Terminating resistor</li> <li>Differential input voltage</li> <li>Counting frequency, max.</li> </ul>	RS 422 220 Ω 1,3 V 500 kHz
Counter input 24 V	
<ul style="list-style-type: none"> <li>Input voltage for signal "0"</li> <li>Input voltage for signal "1"</li> <li>Input current for signal "1", typ.</li> <li>Counting frequency, max.</li> </ul>	-28.8 ... +5V +11 to +28.8V 9 mA 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

### Isolation

Isolation tested with	500 V
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### Standards, approvals, certificates

CE mark	Yes
UL approval	Yes; File E239877
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes

### Ambient conditions

Ambient temperature during operation	
• min.	-25 °C; = Tmin
• max.	60 °C; = Tmax
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Use in stationary industrial systems	
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *

— to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
<b>Usage in industrial process technology</b>	
— Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)
— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
<b>Remark</b>	
— Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!

<b>Connection method</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

**last modified:** 10/13/2020