

SIPLUS S7-300 FM350-1 -25...+60 °C according to EN 50155 based on 6ES7350-1AH03-0AE0. 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 auf CD-ROM



Supply voltage	
Auxiliary voltage 1L+, load voltage 2L+	
<ul style="list-style-type: none"> Rated value (DC) 	24 V; A power supply according to EN 50155 shall be used
<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" for signal "1" 	-28.8 ... +5V +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. for signal "1", min. 	3 V 2L+ (-1,5 V)
Output current	
<ul style="list-style-type: none"> for signal "1" rated value for signal "1" permissible range for 0 to 60 °C, min. for signal "1" permissible range for 0 to 60 °C, max. 	0.5 A 5 mA 0.6 A
Output delay with resistive load	
<ul style="list-style-type: none"> "0" to "1", max. 	300 µs
Encoder	
Connectable encoders	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Type Terminating resistor Differential input voltage Counting frequency, max. 	RS 422 220 Ω 1,3 V 500 kHz
Counter input 24 V	
<ul style="list-style-type: none"> Input voltage for signal "0" Input voltage for signal "1" Input current for signal "1", typ. Counting frequency, max. 	-28.8 ... +5V +11 to +28.8V 9 mA 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
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes; File E239877
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
Railway application	
• EN 50155	Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B, EN 50155:2007
Ambient conditions	
Ambient temperature during operation	
• min.	-25 °C; = Tmin
• max.	60 °C; = Tmax; the rated temperature range of -25 ... +55 °C (T1) applies for the use on railway vehicles according to EN50155
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 land craft, rail vehicles and special-purpose vehicles	

- to biologically active substances according to EN 60721-3-5
- to chemically active substances according to EN 60721-3-5
- to mechanically active substances according to EN 60721-3-5

Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request

Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *

Yes; Class 5S3 incl. sand, dust; *

Usage in industrial process technology

- Against chemically active substances acc. to EN 60654-4
- Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04

Yes; Class 3 (excluding trichlorethylene)

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)

Remark

- 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!

Connection method

required front connector

1x 20-pin

Dimensions

Width

40 mm

Height

125 mm

Depth

120 mm

Weights

Weight, approx.

250 g

last modified:

10/13/2020