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Data sheet 6AG1350-1AH03-2AY0



spare part SIPLUS S7-300 FM350-1 based on 6ES7350-1AH03-0AE0 with conformal coating, -25…+60 °C, 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-ROM

Supply voltage	
Auxiliary voltage 1L+, load voltage 2L+	
● Rated value (DC)	24 V; A power supply according to EN 50155 shall be used
● 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	
● 5 V	Yes; 5.2 V ±2 %
● Output current, max.	300 mA
24 V encoder supply	
● 24 V	Yes; 1L+ (-3 V)
● 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	
● for signal "0"	-28.8 ... +5V
● for signal "1"	+11 to +28.8V
Input current	
● 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	
● for signal "0", max.	3 V
● for signal "1", min.	2L+ (-1,5 V)
Output current	
● 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
Output delay with resistive load	
● "0" to "1", max.	300 µs
Encoder	

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Connectable encoders	
● 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
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 µs
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	Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request
— to chemically active substances according to EN 60721-3-5	Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *

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— to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 incl. sand, dust; *
Usage in industrial process technology	
— 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)
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

Classifications

	Version	Classification
eClass	16	27-24-22-05
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	10	EC001422
ETIM	9	EC001422
ETIM	8	EC001422
ETIM	7	EC001422
IDEA	4	3567
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

Manufacturer Declaration | Declaration of Conformity | China RoHS

General Product Approval | **EMV** | **For use in hazardous locations**

CCC-Ex

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