SIEMENS

Data sheet

6ES7352-5AH01-0AE0



SIMATIC S7-300, FM352-5 with NPN output, High Speed Boolean Processor, for high-speed linking, 12 DI, 8 DO, 1 encoder interface for RS422 incr./SSI encoder

Figure similar

Supply voltage	
Load voltage L+	
 Rated value (DC) 	24 V
 permissible range, lower limit (DC) 	20.4 V
permissible range, upper limit (DC)	28.8 V
 Reverse polarity protection 	Yes
Input current	
from load voltage1L+, max.	150 mA; typ. 60 mA
from load voltage 2L+ (without load), max.	200 mA; typ. 60 mA, DI/DO supply
from load voltage 3L+ (with encoder), max.	600 mA; typ. 80 mA plus encoder supply
from load voltage 3L+ (without load), max.	200 mA; typ. 80 mA
from backplane bus 5 V DC, typ.	135 mA
Encoder supply	
5 V encoder supply	
• 5 V	Yes
Short-circuit protection	Yes; Electronic overload protection; no protection on applying a normal or counter voltage.
Output current, max.	250 mA
24 V encoder supply	
• 24 V	Yes
Short-circuit protection	Yes; Overvoltage and overheating protection if overloaded; diagnostics if output reaches temperature limit; no protection on applying a normal or counter voltage
 Output current, max. 	400 mA
Power loss	
Power loss, typ.	6.5 W
Memory	
Type of memory	RAM
Memory size	128 kbyte; required for operation, MMC
Digital inputs	
Number of digital inputs	8; Standard and up to 12 with 24 V DC encoder inputs as digital inputs
Input voltage	
Rated value (DC)	24 V
• for signal "0"	-30 to +5 V
• for signal "1"	+11 to +30V
Input current	
• for signal "0", max. (permissible quiescent current)	1.5 mA
● for signal "1", typ.	3.8 mA
Input delay (for rated value of input voltage)	

	000 141-
 Input frequency (with a time delay of 0.1 ms), max. 	200 kHz
programmable digital filter delay	None, 5 µs, 10 µs, 15 µs, 20 µs, 50 µs, 1.6 ms
Minimum pulse width for program reactions	1 µs, 5 µs, 10 µs, 15 µs, 20 µs, 50 µs, 1,6 ms
for standard inputs	2 year hay 4.5 year
— at "0" to "1", max.	3 μs; typ. 1.5 μs
Cable length	600 m
• shielded, max.	
unshielded, max.	100 m; Shielded cable recommended if filtering delay is set to less than 1.6 ms
Digital outputs	
Number of digital outputs	8
Current-sinking	Yes
Current-sourcing	No
Short-circuit protection	Yes; Overvoltage protection, thermal protection
Response threshold, typ.	1.7 to 3.5 A
Limitation of inductive shutdown voltage to	2M -45 V typ., (-40 V to -55 V); comment: no protection against inductive kickback >55 mJ
Controlling a digital input	No
Switching capacity of the outputs	
on lamp load, max.	5 W
Output voltage	
Rated value (DC)	24 V
• for signal "0", max.	28.8 V
• for signal "1", max.	0.5 V
Output current	
for signal "1" rated value	0.5 A; At 60 °C
• for signal "1" permissible range for 0 to 60 °C, min.	5 mA
• for signal "1" permissible range for 0 to 60 °C, max.	600 mA
for signal "0" residual current, max.	1 mA
Output delay with resistive load	
• "0" to "1", max.	1 μs; 0.6 μs 50 mA / 1.0 μs 0.5 A
• "1" to "0", max.	1.5 μs; 1.7 μs 50 mA / 1.5 μs 0.5 A
Parallel switching of two outputs	
for uprating	Yes; 2
Switching frequency	
with resistive load, max.	100 kHz; 20 kHz at 0.5 A; 100 kHz at 0.25 A
with inductive load, max.	2 Hz; 2 Hz at 0.5 A with external commutator diodes; 0.5 Hz at 0.5 A without external commutator diodes
on lamp load, max.	10 Hz
Cable length	
shielded, max.	600 m
unshielded, max.	100 m
Encoder	
Connectable encoders	
 Incremental encoder (symmetrical) 	Yes
 Incremental encoder (asymmetrical) 	Yes
 Absolute encoder (SSI) 	Yes
• 2-wire sensor	Yes
 permissible quiescent current (2-wire sensor), max. 	1.5 mA
Encoder signals, incremental encoder (symmetrical)	
Trace mark signals	A, notA, B, notB
Zero mark signal	N, notN
Input voltage	5 V difference signal (phys. RS 422)
Input frequency, max.	500 kHz
Cable length, shielded, max.	100 m; 100 m with 24 V supply and 500 kHz; 32 m with 5 V supply and 500 kHz
Encoder signals, incremental encoder (asymmetrical)	
Trace mark signals	A, B
Zero mark signal	N
Input voltage	24 V

overload; differential wire break; parameterization errror; SSI mess frame overflow Yes; 8 available; for generation by user program Diagnoses • Wire-break in signal transmitter cable Overflowfunderflow missing load voltage Pes Diagnostics indication LED • RUNSTOP LED • Module supply 5 V DC (green) • I/O status IoF (red) • Micro Memory Card error MCF (red) • Status indicator digital input (green) • Status indicator digital output (green) • Overload encoder supply voltage 24 V F (red) • Overload encoder supply voltage 5 V F (red) • Overload encoder supply voltage 5 V F (red) Counting range, description Counting range, lower limit Counting range, upper limit Counting mode • Counting mode, individual • Counting mode, individual • Counting mode, periodic • Counting mode, periodic • Potential separation between 1L and 2L and 3L Potential separation digital inputs		
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Encoder signals, absolute encoder (SSI) Data signal Clock signal Cloc	Cable length, shielded, max.	4: 50 kHz, 25 m shielded, max., 25 kHz, 50 m shielded, max.
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Clock frequency, max. Cable length, shielded, shi	 Clock signal 	CK, notCK
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 Potential separation digital inputs Ambient conditions Ambient temperature during operation ● min. ● max. O °C 60 °C 	between 1L and 2L and 3L	Yes
Ambient conditions Ambient temperature during operation • min. • max. 0 °C 60 °C	Potential separation digital inputs	
Ambient temperature during operation	 Potential separation digital inputs 	Yes; Yes CPU, I/O and sensor units are isolated
 min. max. 0 °C 60 °C 	Ambient conditions	
 min. max. 0 °C 60 °C 	Ambient temperature during operation	
		0 °C
	• max.	60 °C
Ambient temperature during storage/transportation	Ambient temperature during storage/transportation	
		-40 °C

• max.	70 °C
configuration / header	
configuration / programming / header	
 Program cycle time (scan) 	1 μs
connection method / header	
required front connector	1x 40-pin
Dimensions	
Width	80 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	434 g; Module weight: approx. 434 g (with 1L connection and without I/O connection or MMC); shipping weight: approx. 500 g (with bus and 1L connection and without I/O connection or MMC)
last modified:	1/17/2021 🗗