

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

S7-300

6ES7352-5AH01-0AE0

FM 352-5 NPN BOOLEAN PROCESSOR

Applicable product family: SIMATIC S7-300 function modules

OFFICIAL SOURCE

6ES7352-5AH01-0AE0.pdf

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Figure similar

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

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 voltage 1L+, 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)	
• Input frequency (with a time delay of 0.1 ms), max.	200 kHz

- programmable digital filter delay - Minimum pulse width for program reactions	None, 5 μ s, 10 μ s, 15 μ s, 20 μ s, 50 μ s, 1.6 ms 1 μ s, 5 μ s, 10 μ s, 15 μ s, 20 μ s, 50 μ s, 1.6 ms
for standard inputs	
— at "0" to "1", max.	3 μ s; typ. 1.5 μ s
Cable length	
- shielded, max. - unshielded, max.	600 m 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) - for signal "0", max. - for signal "1", max.	24 V 28.8 V 0.5 V
Output current	
- 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. - for signal "0" residual current, max.	0.5 A; At 60 °C 5 mA 600 mA 1 mA
Output delay with resistive load	
"0" to "1", max. "1" to "0", max.	1 μ s; 0.6 μ s 50 mA / 1.0 μ s 0.5 A 1.5 μ s; 1.7 μ s 50 mA / 1.5 μ s 0.5 A
Parallel switching of two outputs	
for uprating	Yes; 2
Switching frequency	
- with resistive load, max. - with inductive load, max. - on lamp load, max.	100 kHz; 20 kHz at 0.5 A; 100 kHz at 0.25 A 2 Hz; 2 Hz at 0.5 A with external commutator diodes; 0.5 Hz at 0.5 A without external commutator diodes 10 Hz
Cable length	
- shielded, max. - unshielded, max.	600 m 100 m
Encoder	
Connectable encoders	
- Incremental encoder (symmetrical) - Incremental encoder (asymmetrical) - Absolute encoder (SSI) 2-wire sensor — permissible quiescent current (2-wire sensor), max.	Yes Yes Yes Yes 1.5 mA
Encoder signals, incremental encoder (symmetrical)	
- Trace mark signals - Zero mark signal - Input voltage - Input frequency, max. - Cable length, shielded, max.	A, notA, B, notB N, notN 5 V difference signal (phys. RS 422) 500 kHz 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 - Zero mark signal - Input voltage - Input frequency, max. - Cable length, shielded, max.	A, B N 24 V 200 kHz 50 m; Cable length, HTL incremental encoder, Siemens, type 6FX2001-4: 50 kHz, 25 m shielded, max., 25 kHz, 50 m shielded, max.
Encoder signals, absolute encoder (SSI)	