

SIMATIC S7-300, Control Unit FM 355 S, 4 channels, Step and pulse, 4 AI+8 DI+8 DO incl. multi-language configuration package, Manual and Getting Started (de, de, fr, en fr, it) on CD-ROM



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
Input current	
from load voltage L+ (without load), max.	270 mA; typ. 220 mA
from backplane bus 5 V DC, max.	75 mA; typ. 50 mA
Power loss	
Power loss, typ.	5.5 W
Power loss, max.	6.9 W
Digital inputs	
Number of digital inputs	8
Input characteristic curve in accordance with IEC 61131, type 2	Yes
Input voltage	

<ul style="list-style-type: none"> • Rated value (DC) 	24 V
<ul style="list-style-type: none"> • for signal "0" 	-3 to +5V
<ul style="list-style-type: none"> • for signal "1" 	13 to 30V
Input current	
<ul style="list-style-type: none"> • for signal "1", typ. 	7 mA
Cable length	
<ul style="list-style-type: none"> • shielded, max. 	1 000 m
<ul style="list-style-type: none"> • unshielded, max. 	600 m
Digital outputs	
Number of digital outputs	8
Short-circuit protection	Yes; Electronic
Limitation of inductive shutdown voltage to	L+ (-1.5 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
<ul style="list-style-type: none"> • on lamp load, max. 	5 W
Load resistance range	
<ul style="list-style-type: none"> • lower limit 	240 Ω
<ul style="list-style-type: none"> • upper limit 	4 kΩ
Output voltage	
<ul style="list-style-type: none"> • for signal "1", min. 	L+ (-2.5 V)
Output current	
<ul style="list-style-type: none"> • for signal "1" rated value 	100 mA
<ul style="list-style-type: none"> • for signal "1" permissible range for 0 to 60 °C, min. 	5 mA
<ul style="list-style-type: none"> • for signal "1" permissible range for 0 to 60 °C, max. 	150 mA
<ul style="list-style-type: none"> • for signal "0" residual current, max. 	0.5 mA
Parallel switching of two outputs	
<ul style="list-style-type: none"> • for logic links 	Yes
Switching frequency	
<ul style="list-style-type: none"> • with resistive load, max. 	100 Hz
<ul style="list-style-type: none"> • with inductive load, max. 	0.5 Hz
<ul style="list-style-type: none"> • on lamp load, max. 	100 Hz
Total current of the outputs (per group)	
all mounting positions	
<ul style="list-style-type: none"> — up to 60 °C, max. 	400 mA
Cable length	
<ul style="list-style-type: none"> • shielded, max. 	1 000 m
<ul style="list-style-type: none"> • unshielded, max. 	600 m
Analog inputs	
Number of analog inputs	4

permissible input voltage for voltage input (destruction limit), max.	30 V
permissible input current for current input (destruction limit), max.	40 mA
Input ranges	
• Voltage	Yes
• Current	Yes
• Thermocouple	Yes
• Resistance thermometer	Yes
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
• Input resistance (0 to 10 V)	100 k Ω
• -1.75 V to +11.75 V	Yes
• Input resistance (-1.75 V to +11.75 V)	100 k Ω
• -80 mV to +80 mV	Yes
• Input resistance (-80 mV to +80 mV)	10 M Ω
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
• Input resistance (0 to 20 mA)	50 Ω
• 0 to 23.5 mA	Yes
• Input resistance (0 to 23.5 mA)	50 Ω
• -3.5 mA to +23.5 mA	Yes
• Input resistance (-3.5 mA to +23.5 mA)	50 Ω
• 4 mA to 20 mA	Yes
• Input resistance (4 mA to 20 mA)	50 Ω
Input ranges (rated values), thermocouples	
• Type B	Yes
• Input resistance (Type B)	10 M Ω
• Type J	Yes
• Input resistance (type J)	10 M Ω
• Type K	Yes
• Input resistance (Type K)	10 M Ω
• Type R	Yes
• Input resistance (Type R)	10 M Ω
• Type S	Yes
• Input resistance (Type S)	10 M Ω
Input ranges (rated values), resistance thermometer	
• Pt 100	Yes
• Input resistance (Pt 100)	10 M Ω
Thermocouple (TC)	
Temperature compensation	
— internal temperature compensation	Yes

— external temperature compensation with Pt100	Yes
Characteristic linearization	
• parameterizable	Yes
— for thermocouples	Type B, J, K, R, S
— for resistance thermometer	Pt100 (standard)
Cable length	
• shielded, max.	200 m; 50 m at 80 mV and thermocouples
Analog value generation for the inputs	
Measurement principle	integrating
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	14 bit; 12 bit or 14 bit, parameterizable
• Conversion time (per channel)	16.67 ms; for 12 bit: 16 2/3 ms for 60 Hz, 20 ms for 50 Hz; for 14 bit: 100 ms for 50 Hz and 60 Hz
Encoder	
Connection of signal encoders	
• for voltage measurement	Yes
• for current measurement as 4-wire transducer	Yes
Connectable encoders	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.05 %
Temperature error (relative to input range), (+/-)	0.005 %/K
Operational error limit in overall temperature range	
• Voltage, relative to input range, (+/-)	0.6 %; ±0.6 to ±1%
• Current, relative to input range, (+/-)	0.6 %; ±0.6 to ±1%
• Resistance thermometer, relative to input range, (+/-)	0.6 %; ±0.6 to ±1%
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.4 %; 80 mV: ±0.6 %; 250 to 1 000 mV: ±0.4 %; 2.5 to 10 V: ±0.6 %; 3.2 to 20 mA: ±0.5 %
• Current, relative to input range, (+/-)	0.4 %; ±0.4 to ±0.6 %
• Resistance thermometer, relative to input range, (+/-)	0.4 %; ±0.4 to ±0.6 %
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, f_1 = interference frequency	
• Series mode interference (peak value of interference < rated value of input range), min.	40 dB
• Common mode interference (USS < 2.5 V), min.	70 dB

Interrupts/diagnostics/status information

Substitute values connectable	Yes; Parameterizable
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Integrated Functions

Control technology

• Number of closed-loop controllers	4
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Potential separation

Potential separation controller

• between the channels	No
• between the channels and backplane bus	Yes; Optocoupler

Permissible potential difference

Between the inputs and MANA (UCM)	2.5 V DC
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Isolation

Isolation tested with	500 V DC
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Connection method

required front connector	2x 20-pin
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Dimensions

Width	80 mm
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Height	125 mm
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Depth	120 mm
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Weights

Weight, approx.	470 g
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last modified:	08/30/2019
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