



spare part SIMATIC S7-300, temperature Control Unit FM 355-2S, 4 channels, step and pulse, 4 AI+8 DI+8 DO incl. multi-language configuration package, manual and Getting Started (de, en, it) on CD-ROM

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	
• Rated value (DC)	24 V
• for signal "0"	-3 to +5V
• for signal "1"	13 to 30V
Input current	
• for signal "1", typ.	7 mA
Cable length	
• shielded, max.	1 000 m
• 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	
• on lamp load, max.	5 W
Load resistance range	
• lower limit	240 Ω
• upper limit	4 kΩ
Output voltage	
• for signal "1", min.	L+ (-2.5 V)
Output current	
• for signal "1" rated value	0.1 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.	150 mA

• for signal "0" residual current, max.	0.5 mA
Parallel switching of two outputs	
• for logic links	Yes
Switching frequency	
• with resistive load, max.	100 Hz
• with inductive load, max.	0.5 Hz
• on lamp load, max.	100 Hz
Total current of the outputs (per group)	
all mounting positions	
— up to 60 °C, max.	400 mA
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Analog inputs	
Number of analog inputs	4
permissible input voltage for voltage input (destruction limit), max.	20 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 kΩ
• -1.75 V to +11.75 V	Yes
— Input resistance (-1.75 V to +11.75 V)	100 kΩ
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 MΩ
• Type E	Yes
— Input resistance (Type E)	10 MΩ
• Type J	Yes
— Input resistance (type J)	10 MΩ
• Type K	Yes
— Input resistance (Type K)	10 MΩ
• Type R	Yes
— Input resistance (Type R)	10 MΩ
• Type S	Yes
— Input resistance (Type S)	10 MΩ
Input ranges (rated values), resistance thermometer	
• Pt 100	Yes
— Input resistance (Pt 100)	10 MΩ
Thermocouple (TC)	
Temperature compensation	
— internal temperature compensation	Yes
— external temperature compensation with Pt100	Yes
Characteristic linearization	

• parameterizable — for thermocouples — for resistance thermometer	Yes Type B, E, J, K, R, S Pt100 (standard)		
Cable length			
• shielded, max.	200 m; 50 m at 80 mV and thermocouples		
Analog value generation for the inputs			
Integration and conversion time/resolution per channel			
• Resolution with overrange (bit including sign), max.	14 bit		
Encoder			
Connection of signal encoders			
• for voltage measurement • for current measurement as 4-wire transducer	Yes Yes		
Connectable encoders			
• 2-wire sensor — permissible quiescent current (2-wire sensor), max.	Yes 1.5 mA		
Errors/accuracies			
Operational error limit in overall temperature range			
• Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-)	0.06 %; ±0.06 to ±0.7% 0.06 %; ±0.06 to ±0.7% 0.06 %; ±0.06 to ±0.7%		
Basic error limit (operational limit at 25 °C)			
• Voltage, relative to input range, (+/-) • Current, relative to input range, (+/-) • Resistance thermometer, relative to input range, (+/-)	0.04 %; ±0.04 to ±0.5 % 0.04 %; ±0.04 to ±0.5 % 0.04 %; ±0.04 to ±0.5 %		
Interrupts/diagnostics/status information			
Substitute values connectable	Yes; Parameterizable		
Integrated Functions			
Counter	No		
Control technology			
• Number of closed-loop controllers	4		
Potential separation			
Potential separation controller			
• between the channels • between the channels and backplane bus	No Yes; Optocoupler		
Isolation			
Isolation tested with	500 V DC		
Connection method			
required front connector	2x 20-pin		
Dimensions			
Width	80 mm		
Height	125 mm		
Depth	120 mm		
Weights			
Weight, approx.	470 g		
Classifications			
		Version	Classification
	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

[TUEV](#)

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