



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, de, fr, 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	

<ul style="list-style-type: none"> • for signal "I" rated value • for signal "I" permissible range for 0 to 60 °C, min. • for signal "I" permissible range for 0 to 60 °C, max. • for signal "0" residual current, max. 	0.1 A 5 mA 150 mA 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. • with inductive load, max. • on lamp load, max. 	100 Hz 0.5 Hz 100 Hz
Total current of the outputs (per group)	
all mounting positions	
— up to 60 °C, max.	400 mA
Cable length	
<ul style="list-style-type: none"> • shielded, max. • unshielded, max. 	1 000 m 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	
<ul style="list-style-type: none"> • Voltage • Current • Thermocouple • Resistance thermometer 	Yes Yes Yes Yes
Input ranges (rated values), voltages	
<ul style="list-style-type: none"> • 0 to +10 V — Input resistance (0 to 10 V) • -1.75 V to +11.75 V — Input resistance (-1.75 V to +11.75 V) 	Yes 100 kΩ Yes 100 kΩ
Input ranges (rated values), currents	
<ul style="list-style-type: none"> • 0 to 20 mA — Input resistance (0 to 20 mA) • 0 to 23.5 mA — Input resistance (0 to 23.5 mA) • -3.5 mA to +23.5 mA — Input resistance (-3.5 mA to +23.5 mA) • 4 mA to 20 mA — Input resistance (4 mA to 20 mA) 	Yes 50 Ω Yes 50 Ω Yes 50 Ω Yes 50 Ω
Input ranges (rated values), thermocouples	
<ul style="list-style-type: none"> • Type B — Input resistance (Type B) • Type E — Input resistance (Type E) • Type J — Input resistance (type J) • Type K — Input resistance (Type K) • Type R — Input resistance (Type R) • Type S — Input resistance (Type S) 	Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ
Input ranges (rated values), resistance thermometer	
<ul style="list-style-type: none"> • Pt 100 — Input resistance (Pt 100) 	Yes 10 MΩ
Thermocouple (TC)	
Temperature compensation	

— internal temperature compensation	Yes
— external temperature compensation with Pt100	Yes
Characteristic linearization	
• parameterizable	Yes
— for thermocouples	Type B, E, 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	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	14 bit
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	
Operational error limit in overall temperature range	
• Voltage, relative to input range, (+/-)	0.06 %; ± 0.06 to $\pm 0.7\%$
• Current, relative to input range, (+/-)	0.06 %; ± 0.06 to $\pm 0.7\%$
• Resistance thermometer, relative to input range, (+/-)	0.06 %; ± 0.06 to $\pm 0.7\%$
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.04 %; ± 0.04 to $\pm 0.5\%$
• Current, relative to input range, (+/-)	0.04 %; ± 0.04 to $\pm 0.5\%$
• Resistance thermometer, relative to input range, (+/-)	0.04 %; ± 0.04 to $\pm 0.5\%$
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	No
• between the channels and backplane bus	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
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