



SIMATIC S7-300, CONTROL MODULE FM 355 S, 4 CHANNELS, STEP AND PULSE, 4 AI + 8 DI + 8 DO INCL. MULTI-LANG CONFIG. PACK., MANUAL AND GETTING STARTED (GER/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 losses	
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	
<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 k Ω
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 2 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
Aggregate current of outputs (per group)	
all mounting positions	
— 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	
<ul style="list-style-type: none"> Voltage 	Yes
<ul style="list-style-type: none"> Current 	Yes
<ul style="list-style-type: none"> Thermocouple 	Yes
<ul style="list-style-type: none"> 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), thermoelements	
• 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 creation

Measurement principle	integrating
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none">Resolution with overrange (bit including sign), max.Conversion time (per channel)	14 bit; 12 or 14 bit, parameterizable 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 and 60 Hz
Settling time	
<ul style="list-style-type: none">for resistive loadfor capacitive loadfor inductive load	0.1 ms 3.3 ms 0.5 ms

Encoder

Connection of signal encoders	
<ul style="list-style-type: none">for voltage measurementfor current measurement as 4-wire transducer	Yes Yes
Connectable encoders	
<ul style="list-style-type: none">2-wire sensor — Permissible quiescent current (2-wire sensor), max.	Yes 1.5 mA

Errors/accuracies

Linearity error (relative to input range), (+/-)	0.05 %
Temperature error (relative to input range), (+/-)	0.005 %/K
Operational limit in overall temperature range	
<ul style="list-style-type: none">Voltage, relative to input area, (+/-)Current, relative to input area, (+/-)Resistance thermometer, relative to input area, (+/-)	0.6 %; +/-0.6 to +/-1% 0.6 %; +/-0.6 to +/-1% 0.6 %; +/-0.6 to +/-1%
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none">Voltage, relative to input area, (+/-)Current, relative to input area, (+/-)Resistance thermometer, relative to input area, (+/-)	0.4 %; 80 mV: +/-0.6%; 250 to 1000 mV: +/-0.4%; 2.5 to 10 V: +/-0.6%; 3.2 to 20 mA: +/-0.5% 0.4 %; +/-0.4 to +/-0.6 % 0.4 %; +/-0.4 to +/-0.6 %
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, f_1 = interference frequency	
<ul style="list-style-type: none">Series mode interference (peak value of interference < rated value of input range), min.common mode voltage (USS < 2.5 V) , min.	40 dB 70 dB

Interrupts/diagnostics/status information

Substitute values connectable	Yes; Parameterizable
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Control technology

Number of closed-loop controllers	4
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Galvanic isolation	
Galvanic isolation controller	
• between the channels	No
• between the channels and the backplane bus	Yes; Optocoupler
Permissible potential difference	
between inputs and MANA (UCM)	2.5 V DC
between M internally and the inputs	75V DC/60V AC
Isolation	
Isolation checked 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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