

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"> <li>Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>for signal "0"</li> </ul>	-3 to +5V
<ul style="list-style-type: none"> <li>for signal "1"</li> </ul>	13 to 30V
<b>Input current</b>	
<ul style="list-style-type: none"> <li>for signal "1", typ.</li> </ul>	7 mA
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>shielded, max.</li> </ul>	1 000 m
<ul style="list-style-type: none"> <li>unshielded, max.</li> </ul>	600 m
<b>Digital outputs</b>	
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
<b>Switching capacity of the outputs</b>	
<ul style="list-style-type: none"> <li>on lamp load, max.</li> </ul>	5 W
<b>Load resistance range</b>	
<ul style="list-style-type: none"> <li>lower limit</li> </ul>	240 Ω
<ul style="list-style-type: none"> <li>upper limit</li> </ul>	4 kΩ
<b>Output voltage</b>	
<ul style="list-style-type: none"> <li>for signal "1", min.</li> </ul>	L+ (-2.5 V)
<b>Output current</b>	
<ul style="list-style-type: none"> <li>for signal "1" rated value</li> </ul>	100 mA
<ul style="list-style-type: none"> <li>for signal "1" permissible range for 0 to 60 °C, min.</li> </ul>	5 mA
<ul style="list-style-type: none"> <li>for signal "1" permissible range for 0 to 60 °C, max.</li> </ul>	150 mA
<ul style="list-style-type: none"> <li>for signal "0" residual current, max.</li> </ul>	0.5 mA
<b>Parallel switching of two outputs</b>	
<ul style="list-style-type: none"> <li>for logic links</li> </ul>	Yes
<b>Switching frequency</b>	
<ul style="list-style-type: none"> <li>with resistive load, max.</li> </ul>	100 Hz
<ul style="list-style-type: none"> <li>with inductive load, max.</li> </ul>	0.5 Hz
<ul style="list-style-type: none"> <li>on lamp load, max.</li> </ul>	100 Hz
<b>Total current of the outputs (per group)</b>	
all mounting positions	
<ul style="list-style-type: none"> <li>— up to 60 °C, max.</li> </ul>	400 mA
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>shielded, max.</li> </ul>	1 000 m
<ul style="list-style-type: none"> <li>unshielded, max.</li> </ul>	600 m
<b>Analog inputs</b>	
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
<b>Input ranges</b>	
• Voltage	Yes
• Current	Yes
• Thermocouple	Yes
• Resistance thermometer	Yes
<b>Input ranges (rated values), voltages</b>	
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	100 k $\Omega$
• -1.75 V to +11.75 V	Yes
— Input resistance (-1.75 V to +11.75 V)	100 k $\Omega$
• -80 mV to +80 mV	Yes
— Input resistance (-80 mV to +80 mV)	10 M $\Omega$
<b>Input ranges (rated values), currents</b>	
• 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	50 $\Omega$
• 0 to 23.5 mA	Yes
— Input resistance (0 to 23.5 mA)	50 $\Omega$
• -3.5 mA to +23.5 mA	Yes
— Input resistance (-3.5 mA to +23.5 mA)	50 $\Omega$
• 4 mA to 20 mA	Yes
— Input resistance (4 mA to 20 mA)	50 $\Omega$
<b>Input ranges (rated values), thermocouples</b>	
• Type B	Yes
— Input resistance (Type B)	10 M $\Omega$
• Type J	Yes
— Input resistance (type J)	10 M $\Omega$
• Type K	Yes
— Input resistance (Type K)	10 M $\Omega$
• Type R	Yes
— Input resistance (Type R)	10 M $\Omega$
• Type S	Yes
— Input resistance (Type S)	10 M $\Omega$
<b>Input ranges (rated values), resistance thermometer</b>	
• Pt 100	Yes
— Input resistance (Pt 100)	10 M $\Omega$
<b>Thermocouple (TC)</b>	
<b>Temperature compensation</b>	
— internal temperature compensation	Yes

— external temperature compensation with Pt100	Yes
<b>Characteristic linearization</b>	
• parameterizable	Yes
— for thermocouples	Type B, J, K, R, S
— for resistance thermometer	Pt100 (standard)
<b>Cable length</b>	
• shielded, max.	200 m; 50 m at 80 mV and thermocouples
<b>Analog value generation for the inputs</b>	
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	14 bit; 12 bit or 14 bit, parameterizable
<b>Encoder</b>	
<b>Connection of signal encoders</b>	
• for voltage measurement	Yes
• for current measurement as 4-wire transducer	Yes
<b>Connectable encoders</b>	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
<b>Errors/accuracies</b>	
<b>Operational error limit in overall temperature range</b>	
• Voltage, relative to input range, (+/-)	0.6 %; $\pm 0.6$ to $\pm 1\%$
• Current, relative to input range, (+/-)	0.6 %; $\pm 0.6$ to $\pm 1\%$
• Resistance thermometer, relative to input range, (+/-)	0.6 %; $\pm 0.6$ to $\pm 1\%$
<b>Basic error limit (operational limit at 25 °C)</b>	
• Voltage, relative to input range, (+/-)	0.4 %; 80 mV: $\pm 0.6\%$ ; 250 to 1 000 mV: $\pm 0.4\%$ ; 2.5 to 10 V: $\pm 0.6\%$ ; 3.2 to 20 mA: $\pm 0.5\%$
• Current, relative to input range, (+/-)	0.4 %; $\pm 0.4$ to $\pm 0.6\%$
• Resistance thermometer, relative to input range, (+/-)	0.4 %; $\pm 0.4$ to $\pm 0.6\%$
<b>Interrupts/diagnostics/status information</b>	
Substitute values connectable	Yes; Parameterizable
<b>Integrated Functions</b>	
Counter	No
<b>Control technology</b>	
• Number of closed-loop controllers	4
<b>Potential separation</b>	
<b>Potential separation controller</b>	
• 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

**last modified:** 09/03/2020