



Figure similar

\*\*\*spare part\*\*\* 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, en, fr, 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	100 mA
• 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
<b>Parallel switching of two outputs</b>	
• for logic links	Yes
<b>Switching frequency</b>	
• with resistive load, max.	100 Hz
• with inductive load, max.	0.5 Hz
• on lamp load, max.	100 Hz
<b>Total current of the outputs (per group)</b>	
all mounting positions	
— up to 60 °C, max.	400 mA
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	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>	
Temperature compensation	
— internal temperature compensation	Yes
— external temperature compensation with Pt100	Yes

<b>Characteristic linearization</b>	
<ul style="list-style-type: none"> <li>• Parameterizable</li> <li>— for thermocouples</li> <li>— for resistance thermometer</li> </ul>	Yes Type B, J, K, R, S Pt100 (standard)
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	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>	
<ul style="list-style-type: none"> <li>• Resolution with overrange (bit including sign), max.</li> </ul>	14 bit; 12 bit or 14 bit, parameterizable
<b>Encoder</b>	
<b>Connection of signal encoders</b>	
<ul style="list-style-type: none"> <li>• for voltage measurement</li> <li>• for current measurement as 4-wire transducer</li> </ul>	Yes Yes
<b>Connectable encoders</b>	
<ul style="list-style-type: none"> <li>• 2-wire sensor</li> <li>— permissible quiescent current (2-wire sensor), max.</li> </ul>	Yes 1.5 mA
<b>Errors/accuracies</b>	
<b>Operational error limit in overall temperature range</b>	
<ul style="list-style-type: none"> <li>• Voltage, relative to input range, (+/-)</li> <li>• Current, relative to input range, (+/-)</li> <li>• Resistance thermometer, relative to input range, (+/-)</li> </ul>	0.6 %; $\pm 0.6$ to $\pm 1\%$ 0.6 %; $\pm 0.6$ to $\pm 1\%$ 0.6 %; $\pm 0.6$ to $\pm 1\%$
<b>Basic error limit (operational limit at 25 °C)</b>	
<ul style="list-style-type: none"> <li>• Voltage, relative to input range, (+/-)</li> <li>• Current, relative to input range, (+/-)</li> <li>• Resistance thermometer, relative to input range, (+/-)</li> </ul>	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: $\pm 0.5$ % 0.4 %; $\pm 0.4$ to $\pm 0.6$ % 0.4 %; $\pm 0.4$ to $\pm 0.6$ %
<b>Interrupts/diagnostics/status information</b>	
Substitute values connectable	Yes; Parameterizable
<b>Integrated Functions</b>	
<b>Control technology</b>	
<ul style="list-style-type: none"> <li>• Number of closed-loop controllers</li> </ul>	4
<b>Potential separation</b>	
<b>Potential separation controller</b>	
<ul style="list-style-type: none"> <li>• between the channels</li> <li>• between the channels and backplane bus</li> </ul>	No Yes; Optocoupler
<b>Isolation</b>	
Isolation tested with	500 V DC
<b>Connection method</b>	
required front connector	2x 20-pin
<b>Dimensions</b>	
Width	80 mm
Height	125 mm
Depth	120 mm
<b>Weights</b>	
Weight, approx.	470 g

	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



[Manufacturer Declaration](#)

[Miscellaneous](#)



[Metrological Approval](#)

General Product Approval | EMV | For use in hazardous locations



[China RoHS](#)

[Manufacturer Declaration](#)



For use in hazardous locations | Maritime application



[Miscellaneous](#)



[CCC-Ex](#)



Maritime application



[NK / Nippon Kaiji Kyokai](#)



Maritime application

[CCS \(China Classification Society\)](#)

last modified:

4/7/2025