

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 | |
| • 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 |

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|-----------------------------------------------------------------------|----------------|
| 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 k Ω |
| • -1.75 V to +11.75 V | Yes |
| — Input resistance (-1.75 V to +11.75 V) | 100 k 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), thermocouples | |
| • Type B | Yes |
| — Input resistance (Type B) | 10 M Ω |
| • Type E | Yes |
| — Input resistance (Type E) | 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 |

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|---------------------------------------------------------------|----------------------------------------|
| Characteristic linearization | |
| • parameterizable | Yes |
| 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 ±0.7% |
| • Current, relative to input range, (+/-) | 0.06 %; ±0.06 to ±0.7% |
| • Resistance thermometer, relative to input range, (+/-) | 0.06 %; ±0.06 to ±0.7% |
| Basic error limit (operational limit at 25 °C) | |
| • Voltage, relative to input range, (+/-) | 0.04 %; ±0.04 to ±0.5 % |
| • Current, relative to input range, (+/-) | 0.04 %; ±0.04 to ±0.5 % |
| • Resistance thermometer, relative to input range, (+/-) | 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 | 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: | 06/09/2020 |