

SIMATIC S7-300, Control Unit FM 355 C, 4 channels, continuous, 4 AI+8 DI+4 AO 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. | 310 mA; Typ. 260 mA |
| from backplane bus 5 V DC, max. | 75 mA; typ. 50 mA |
| Power loss | |
| Power loss, typ. | 6.5 W |
| Power loss, max. | 7.8 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"> • Rated value (DC) | 24 V |
| <ul style="list-style-type: none"> • for signal "0" | -3 to +5V |
| <ul style="list-style-type: none"> • for signal "1" | 13 to 30V |
| Input current | |
| <ul style="list-style-type: none"> • for signal "1", typ. | 7 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 | |
| <ul style="list-style-type: none"> • 0 to +10 V | Yes |
| <ul style="list-style-type: none"> • Input resistance (0 to 10 V) | 100 k Ω |
| <ul style="list-style-type: none"> • -1.75 V to +11.75 V | Yes |
| <ul style="list-style-type: none"> • Input resistance (-1.75 V to +11.75 V) | 100 k Ω |
| <ul style="list-style-type: none"> • -80 mV to +80 mV | Yes |
| <ul style="list-style-type: none"> • Input resistance (-80 mV to +80 mV) | 10 M Ω |
| Input ranges (rated values), currents | |
| <ul style="list-style-type: none"> • 0 to 20 mA | Yes |
| <ul style="list-style-type: none"> • Input resistance (0 to 20 mA) | 50 Ω |
| <ul style="list-style-type: none"> • 0 to 23.5 mA | Yes |
| <ul style="list-style-type: none"> • Input resistance (0 to 23.5 mA) | 50 k Ω |
| <ul style="list-style-type: none"> • -3.5 mA to +23.5 mA | Yes |
| <ul style="list-style-type: none"> • Input resistance (-3.5 mA to +23.5 mA) | 50 Ω |
| <ul style="list-style-type: none"> • 4 mA to 20 mA | Yes |
| <ul style="list-style-type: none"> • Input resistance (4 mA to 20 mA) | 50 k Ω |
| Input ranges (rated values), thermocouples | |
| <ul style="list-style-type: none"> • Type B | Yes |
| <ul style="list-style-type: none"> • Input resistance (Type B) | 10 M Ω |
| <ul style="list-style-type: none"> • Type J | Yes |
| <ul style="list-style-type: none"> • Input resistance (type J) | 10 M Ω |
| <ul style="list-style-type: none"> • Type K | Yes |
| <ul style="list-style-type: none"> • 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 outputs | |
| Number of analog outputs | 4 |
| Voltage output, short-circuit protection | Yes |
| Voltage output, short-circuit current, max. | 25 mA |
| Current output, no-load voltage, max. | 18 V |
| Output ranges, voltage | |
| • 0 to 10 V | Yes |
| • -10 V to +10 V | Yes |
| Output ranges, current | |
| • 0 to 20 mA | Yes |
| • 4 mA to 20 mA | Yes |
| Connection of actuators | |
| • for voltage output two-wire connection | Yes |
| • for current output two-wire connection | Yes |
| Load impedance (in rated range of output) | |
| • with voltage outputs, min. | 1 k Ω |
| • with voltage outputs, capacitive load, max. | 1 μ F |
| • with current outputs, max. | 500 Ω |
| • with current outputs, inductive load, max. | 1 mH |
| Cable length | |
| • shielded, max. | 200 m; 50 m at 80 mV and thermocouples |
| Analog value generation for the inputs | |
| Measurement principle | integrating |

| Integration and conversion time/resolution per channel | |
|--|--|
| <ul style="list-style-type: none"> Resolution with overrange (bit including sign), max. | 14 bit; 12 bit or 14 bit, parameterizable |
| <ul style="list-style-type: none"> Conversion time (per channel) | 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 Hz and 60 Hz |

| Analog value generation for the outputs | |
|---|--------|
| Settling time | |
| <ul style="list-style-type: none"> for resistive load | 0.1 ms |
| <ul style="list-style-type: none"> for capacitive load | 3.3 ms |
| <ul style="list-style-type: none"> for inductive load | 0.5 ms |

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

| Errors/accuracies | |
|---|--|
| Linearity error (relative to input range), (+/-) | 0.05 % |
| Temperature error (relative to input range), (+/-) | 0.005 %/K |
| Linearity error (relative to output range), (+/-) | 0.05 % |
| Temperature error (relative to output range), (+/-) | 0.02 %/K |
| Operational error limit in overall temperature range | |
| <ul style="list-style-type: none"> Voltage, relative to input range, (+/-) | 0.6 %; ± 0.6 to $\pm 1\%$ |
| <ul style="list-style-type: none"> Current, relative to input range, (+/-) | 0.6 %; ± 0.6 to $\pm 1\%$ |
| <ul style="list-style-type: none"> Resistance thermometer, relative to input range, (+/-) | 0.6 %; ± 0.6 to $\pm 1\%$ |
| <ul style="list-style-type: none"> Voltage, relative to output range, (+/-) | 0.5 % |
| <ul style="list-style-type: none"> Current, relative to output range, (+/-) | 0.6 % |
| Basic error limit (operational limit at 25 °C) | |
| <ul style="list-style-type: none"> Voltage, relative to input range, (+/-) | 0.4 %; 80 mV: ± 0.6 %; 250 to 1 000 mV: ± 0.4 %; 2.5 to 10 V: ± 0.6 %; 3.2 to 20 mA: ± 0.5 % |
| <ul style="list-style-type: none"> Current, relative to input range, (+/-) | 0.4 %; ± 0.4 to ± 0.6 % |
| <ul style="list-style-type: none"> Resistance thermometer, relative to input range, (+/-) | 0.4 %; ± 0.4 to ± 0.6 % |
| <ul style="list-style-type: none"> Voltage, relative to output range, (+/-) | 0.3 % |
| <ul style="list-style-type: none"> Current, relative to output range, (+/-) | 0.5 % |
| 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. | 40 dB |

• Common mode interference (USS < 2.5 V) ,
min. 70 dB

Interrupts/diagnostics/status information

Substitute values connectable Yes; Parameterizable

Integrated Functions

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

Permissible potential difference

Between the inputs and MANA (UCM) 2.5 V DC

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: 12/14/2018