

SIMATIC S7-300, Analog module SM 334, isolated, 4 AI/2 AO, 12 bit, 0-10 V f. Pt100 (climatic range -120-155 degrees) and 10 kOhm measuring range, 1x 20-pole



Figure similar

| Supply voltage  |  |
|---|--|
| Load voltage L+   |  |
| • Rated value (DC)  | 24 V   |
| • Reverse polarity protection   | Yes  |
| Input current   |  |
| from supply and load voltage L+ (without load), max.                  | 80 mA  |
| from backplane bus 5 V DC, max.                                       | 60 mA  |
| Power loss  |  |
| Power loss, typ.  | 2 W  |
| Analog inputs   |  |
| Number of analog inputs   | 4  |
| • For voltage measurement   | 2  |
| • For resistance measurement  | 4  |
| permissible input voltage for voltage input (destruction limit), max. | 20 V; continuous; 75 V for max. 1 s (mark to space ratio 1:20) |

|  |  |
|--|--|
| Constant measurement current for resistance-type transmitter, typ.     | 490 µA; at PT100 (490 µA), at 10 kOhm (105 µA) |
| Cycle time (all channels) max.   | 85 ms  |
| <b>Input ranges</b>  |  |
| • Voltage  | Yes  |
| • Current  | No   |
| • Thermocouple   | No   |
| • Resistance thermometer   | Yes  |
| • Resistance   | Yes  |
| <b>Input ranges (rated values), voltages</b>                           |  |
| • 0 to +10 V   | Yes  |
| — Input resistance (0 to 10 V)   | 100 kΩ   |
| <b>Input ranges (rated values), resistance thermometer</b>             |  |
| • Pt 100   | Yes; only climatic range                       |
| <b>Input ranges (rated values), resistors</b>                          |  |
| • 0 to 10000 ohms  | Yes  |
| <b>Characteristic linearization</b>                                    |  |
| • parameterizable  | Yes  |
| — for resistance thermometer   | Pt100 (climate)                                |
| <b>Cable length</b>  |  |
| • shielded, max.   | 100 m  |
| <b>Analog outputs</b>  |  |
| Number of analog outputs   | 2  |
| Voltage output, short-circuit protection                               | Yes  |
| Voltage output, short-circuit current, max.                            | 30 mA  |
| <b>Output ranges, voltage</b>  |  |
| • 0 to 10 V  | Yes  |
| <b>Load impedance (in rated range of output)</b>                       |  |
| • with voltage outputs, min.   | 2.5 kΩ   |
| • with voltage outputs, capacitive load, max.                          | 1 µF   |
| <b>Cable length</b>  |  |
| • shielded, max.   | 100 m  |
| <b>Analog value generation for the inputs</b>                          |  |
| <b>Integration and conversion time/resolution per channel</b>          |  |
| • Resolution with overrange (bit including sign), max.                 | 12 bit   |
| • Integration time, parameterizable                                    | Yes  |
| • Integration time (ms)  | 16,67 / 20 ms                                  |
| • Interference voltage suppression for interference frequency f1 in Hz | 50 / 60 Hz                                     |
| <b>Analog value generation for the outputs</b>                         |  |

| Integration and conversion time/resolution per channel |             |
|--|-------------|
| • Resolution with overrange (bit including sign), max. | 12 bit      |
| • Conversion time (per channel)                        | 500 $\mu$ s |
| Settling time  |             |
| • for resistive load                                   | 0.8 ms      |
| • for capacitive load                                  | 0.8 ms      |

| Encoder   |     |
|---|-----|
| Connection of signal encoders                           |     |
| • for voltage measurement                               | Yes |
| • for resistance measurement with two-wire connection   | Yes |
| • for resistance measurement with three-wire connection | Yes |
| • for resistance measurement with four-wire connection  | Yes |

| Errors/accuracies  |                 |
|--|-----------------|
| Operational error limit in overall temperature range     |                 |
| • Voltage, relative to input range, (+/-)                | 0.7 %; 0 to 10V |
| • Resistance, relative to input range, (+/-)             | 3.5 %; 10 kOhm  |
| • Resistance thermometer, relative to input range, (+/-) | 1 %             |
| • Voltage, relative to output range, (+/-)               | 1 %             |
| Basic error limit (operational limit at 25 °C)           |                 |
| • Voltage, relative to input range, (+/-)                | 0.5 %; 0 to 10V |
| • Resistance, relative to input range, (+/-)             | 2.8 %; 10 kOhm  |
| • Resistance thermometer, relative to input range, (+/-) | 0.8 %           |
| • Voltage, relative to output range, (+/-)               | 0.85 %          |

| Interrupts/diagnostics/status information |    |
|---|----|
| Alarms                                    | No |
| Diagnostics function                      | No |

| Potential separation   |     |
|--|-----|
| Potential separation analog inputs                             |     |
| • between the channels and backplane bus                       | Yes |
| Potential separation analog outputs                            |     |
| • between the channels   | No  |
| • between the channels and backplane bus                       | Yes |
| • between the channels and the power supply of the electronics | Yes |

## Isolation

|                          |            |
|--------------------------|------------|
| Isolation tested with    | 500 V DC   |
| <b>Connection method</b> |            |
| required front connector | 20-pin     |
| <b>Dimensions</b>        |            |
| Width                    | 40 mm      |
| Height                   | 125 mm     |
| Depth                    | 117 mm     |
| <b>Weights</b>           |            |
| Weight, approx.          | 200 g      |
| <b>last modified:</b>    | 09/03/2020 |