



SIMATIC S7, ANALOG INPUT/OUTPUT SM 334,  
NON-ISOLATED, 4 AI/2 AO, 1 X 20 PIN,  
REMOVE AND INSERT WITH BACKPLAIN BUS

|   |        |
|---|--------|
| <b>Supply voltage</b>   |        |
| Load voltage L+   |        |
| Rated value (DC)  | 24 V   |
| <b>Input current</b>  |        |
| from load voltage L+ (without load), max.                             | 110 mA |
| from backplane bus 5 V DC, max.                                       | 55 mA  |
| <b>Power loss</b>   |        |
| Power loss, typ.  | 3 W    |
| <b>Analog inputs</b>  |        |
| Number of analog inputs   | 4      |
| Number of analog inputs for voltage measurement                       | 4      |
| permissible input voltage for voltage input (destruction limit), max. | 20 V   |
| permissible input current for current input (destruction limit), max. | 40 mA  |
| Cycle time (all channels) max.  | 5 ms   |
| <b>Input ranges</b>   |        |
| Voltage   | Yes    |
| Current   | Yes    |
| Resistance thermometer  | No     |
| Resistance  | No     |

|   |                |
|---|----------------|
| <b>Input ranges (rated values), voltages</b>                  |                |
| 0 to +10 V  | Yes            |
| Input resistance (0 to 10 V)                                  | 100 k $\Omega$ |
| <b>Input ranges (rated values), currents</b>                  |                |
| 0 to 20 mA  | Yes            |
| Input resistance (0 to 20 mA)                                 | 50 $\Omega$    |
| <b>Analog outputs</b>   |                |
| Number of analog outputs                                      | 2              |
| Voltage output, short-circuit protection                      | Yes            |
| Voltage output, short-circuit current, max.                   | 11 mA          |
| Current output, no-load voltage, max.                         | 15 V           |
| <b>Output ranges, voltage</b>                                 |                |
| 0 to 10 V   | Yes            |
| <b>Output ranges, current</b>                                 |                |
| 0 to 20 mA  | Yes            |
| <b>Load impedance (in rated range of output)</b>              |                |
| with voltage outputs, min.                                    | 5 k $\Omega$   |
| with voltage outputs, capacitive load, max.                   | 1 $\mu$ F      |
| with current outputs, max.                                    | 300 $\Omega$   |
| with current outputs, inductive load, max.                    | 1 mH           |
| <b>Cable length</b>   |                |
| Cable length, shielded, max.                                  | 200 m          |
| <b>Analog value generation</b>                                |                |
| <b>Integration and conversion time/resolution per channel</b> |                |
| Resolution with overrange (bit including sign), max.          | 8 bit          |
| <b>Settling time</b>  |                |
| for resistive load  | 0.3 ms         |
| for capacitive load   | 3 ms           |
| for inductive load  | 0.3 ms         |
| <b>Encoder</b>  |                |
| <b>Connection of signal encoders</b>                          |                |
| for current measurement as 4-wire transducer                  | Yes            |
| <b>Errors/accuracies</b>                                      |                |
| <b>Operational error limit in overall temperature range</b>   |                |
| Voltage, relative to input area, (+/-)                        | 0.9 %          |
| Current, relative to input area, (+/-)                        | 0.8 %          |
| Voltage, relative to output area, (+/-)                       | 0.6 %          |
| Current, relative to output area, (+/-)                       | 1 %            |

|   |              |
|---|--------------|
| <b>Basic error limit (operational limit at 25 °C)</b> |              |
| <b>Voltage, relative to input area, (+/-)</b>         | 0.7 %        |
| <b>Current, relative to input area, (+/-)</b>         | 0.6 %        |
| <b>Voltage, relative to output area, (+/-)</b>        | 0.5 %        |
| <b>Current, relative to output area, (+/-)</b>        | 0.5 %        |
| <b>Interrupts/diagnostics/status information</b>      |              |
| <b>Alarms</b>   |              |
| <b>Alarms</b>   | No           |
| <b>Diagnostic messages</b>                            |              |
| <b>Diagnostic functions</b>                           | No           |
| <b>Galvanic isolation</b>                             |              |
| <b>Galvanic isolation analog inputs</b>               |              |
| <b>between the channels and the backplane bus</b>     | No           |
| <b>Galvanic isolation analog outputs</b>              |              |
| <b>between the channels and the backplane bus</b>     | No           |
| <b>Isolation</b>                                      |              |
| <b>Isolation tested with</b>                          | 500 V DC     |
| <b>Connection method</b>                              |              |
| <b>required front connector</b>                       | 20-pin       |
| <b>Dimensions</b>                                     |              |
| <b>Width</b>  | 40 mm        |
| <b>Height</b>   | 125 mm       |
| <b>Depth</b>  | 120 mm       |
| <b>Weights</b>  |              |
| <b>Weight, approx.</b>                                | 285 g        |
| Status  | Jul 14, 2014 |