




SIMATIC S7-1200, Analog output, SM 1232, 4 AO, +/-10 V, 14-bit resolution, or 0-20 mA/4-20 mA, 13-bit resolution

Figure similar

| General information   |   |
|---|---|
| Product type designation  | SM 1232, AQ 4x14 bit                                |
| Supply voltage  |   |
| Rated value (DC)  | 24 V  |
| Input current   |   |
| Current consumption, typ.   | 45 mA   |
| from backplane bus 5 V DC, typ.   | 80 mA   |
| Power loss  |   |
| Power loss, typ.  | 1.5 W   |
| Analog outputs  |   |
| Number of analog outputs  | 4; Current or voltage                               |
| Output ranges, voltage  |   |
| • -10 V to +10 V  | Yes   |
| Output ranges, current  |   |
| • 0 to 20 mA  | Yes   |
| Load impedance (in rated range of output)   |   |
| • with voltage outputs, min.  | 1 000 Ω   |
| • with current outputs, max.  | 600 Ω   |
| Cable length  |   |
| • shielded, max.  | 100 m; shielded, twisted pair                       |
| Analog value generation for the outputs   |   |
| Integration and conversion time/resolution per channel  |   |
| • Resolution with overrange (bit including sign), max.  | 14 bit; Voltage: 14 bit; Current : 13 bit           |
| Errors/accuracies   |   |
| Temperature error (relative to output range), (+/-)   | 25 °C ±0.3%, to 55 °C ±0.6% total measurement range |
| Basic error limit (operational limit at 25 °C)  |   |
| • Voltage, relative to output range, (+/-)  | 0.3 %   |
| • Current, relative to output range, (+/-)  | 0.3 %   |
| Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$ , $f_1 =$ interference frequency |   |
| • Common mode voltage, max.   | 12 V  |
| Interrupts/diagnostics/status information   |   |
| Alarms  | Yes   |
| Diagnostics function  | Yes   |
| Alarms  |   |
| • Diagnostic alarm  | Yes   |
| Diagnoses   |   |
| • Monitoring the supply voltage   | Yes   |
| • Wire-break  | Yes   |

|  |   |
|--|---|
| • Short-circuit  | Yes   |
| <b>Diagnostics indication LED</b>                        |   |
| • for status of the outputs                              | Yes   |
| • for maintenance  | Yes   |
| <b>Degree and class of protection</b>                    |   |
| IP degree of protection                                  | IP20  |
| <b>Standards, approvals, certificates</b>                |   |
| CE mark  | Yes   |
| CSA approval   | Yes   |
| UL approval  | Yes   |
| cULus  | Yes   |
| FM approval  | Yes   |
| RCM (formerly C-TICK)                                    | Yes   |
| KC approval  | Yes   |
| Marine approval  | Yes   |
| <b>Ambient conditions</b>                                |   |
| <b>Free fall</b>   |   |
| • Fall height, max.                                      | 0.3 m; five times, in product package   |
| <b>Ambient temperature during operation</b>              |   |
| • min.   | -20 °C  |
| • max.   | 60 °C   |
| • horizontal installation, min.                          | -20 °C  |
| • horizontal installation, max.                          | 60 °C   |
| • vertical installation, min.                            | -20 °C  |
| • vertical installation, max.                            | 50 °C   |
| <b>Ambient temperature during storage/transportation</b> |   |
| • min.   | -40 °C  |
| • max.   | 70 °C   |
| <b>Air pressure acc. to IEC 60068-2-13</b>               |   |
| • Operation, min.  | 795 hPa   |
| • Operation, max.  | 1 080 hPa   |
| • Storage/transport, min.                                | 660 hPa   |
| • Storage/transport, max.                                | 1 080 hPa   |
| <b>Relative humidity</b>                                 |   |
| • Operation at 25 °C without condensation, max.          | 95 %  |
| <b>Pollutant concentrations</b>                          |   |
| • SO2 at RH < 60% without condensation                   | SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free                                    |
| <b>connection method / header</b>                        |   |
| required front connector                                 | Yes   |
| <b>Mechanics/material</b>                                |   |
| Enclosure material (front)                               |   |
| • Plastic  | Yes   |
| <b>Dimensions</b>  |   |
| Width  | 45 mm   |
| Height   | 100 mm  |
| Depth  | 75 mm   |
| <b>Weights</b>   |   |
| Weight, approx.  | 180 g   |
| <b>last modified:</b>                                    | 3/11/2021  |