

SIMATIC S7-1200, Analog output, SB 1232, 1 AO, +/-10 V DC (12 bit resol.) or 0-20mA (11 bit resol.)



| General information              |                                                                                        |
|----------------------------------|----------------------------------------------------------------------------------------|
| Product type designation         | SB 1232, AQ 1x12 bit                                                                   |
| Input current                    |                                                                                        |
| from backplane bus 5 V DC, typ.  | 15 mA                                                                                  |
| Output voltage                   |                                                                                        |
| Power supply to the transmitters |                                                                                        |
| • Supply current, max.           | 25 mA                                                                                  |
| Power loss                       |                                                                                        |
| Power loss, typ.                 | 1.5 W                                                                                  |
| Analog inputs                    |                                                                                        |
| Number of analog inputs          | 0                                                                                      |
| Analog outputs                   |                                                                                        |
| Number of analog outputs         | 1                                                                                      |
| Cycle time (all channels) max.   | Voltage: 300 $\mu$ S (R), 750 $\mu$ S (1 $\mu$ F) Current: 600 ms (1 mH); 2 ms (10 mH) |
| 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 $\Omega$                         |
| • with current outputs, max.                           | 600 $\Omega$                           |
| Cable length                                           |                                        |
| • shielded, max.                                       | 100 m; shielded, twisted pair          |
| Analog value generation for the outputs                |                                        |
| Conversion principle                                   | Differential                           |
| Integration and conversion time/resolution per channel |                                        |
| • Resolution with overrange (bit including sign), max. | 12 bit                                 |
| Errors/accuracies                                      |                                        |
| Temperature error (relative to output range), (+/-)    | 25 °C $\pm 0.5\%$ , to 55 °C $\pm 1\%$ |
| Interrupts/diagnostics/status information              |                                        |
| Alarms                                                 | Yes                                    |
| Diagnostic functions                                   | Yes                                    |
| Diagnostics indication LED                             |                                        |
| • for status of the outputs                            | Yes                                    |
| Degree and class of protection                         |                                        |
| Degree of protection acc. to EN 60529                  |                                        |
| • IP20                                                 | Yes                                    |
| Standards, approvals, certificates                     |                                        |
| CE mark                                                | Yes                                    |
| CSA approval                                           | Yes                                    |
| FM approval                                            | Yes                                    |
| RCM (formerly C-TICK)                                  | Yes                                    |
| Ambient conditions                                     |                                        |
| Free fall                                              |                                        |
| • Fall height, max.                                    | 0.3 m; five times, in product package  |
| Ambient temperature during operation                   |                                        |
| • 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                                  |
| Ambient temperature during storage/transportation      |                                        |
| • min.                                                 | -40 °C                                 |
| • max.                                                 | 70 °C                                  |

|                                                 |                                                            |
|-------------------------------------------------|------------------------------------------------------------|
| Air pressure acc. to IEC 60068-2-13             |                                                            |
| • Storage/transport, min.                       | 660 hPa                                                    |
| • Storage/transport, max.                       | 1 080 hPa                                                  |
| Relative humidity                               |                                                            |
| • Operation at 25 °C without condensation, max. | 95 %                                                       |
| Pollutant concentrations                        |                                                            |
| • SO2 at RH < 60% without condensation          | SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free |
| Mechanics/material                              |                                                            |
| Enclosure material (front)                      | Yes                                                        |
| • Plastic                                       |                                                            |
| Dimensions                                      |                                                            |
| Width                                           | 38 mm                                                      |
| Height                                          | 62 mm                                                      |
| Depth                                           | 21 mm                                                      |
| Weights                                         |                                                            |
| Weight, approx.                                 | 40 g                                                       |
| last modified:                                  | 07/30/2018                                                 |