



SIMATIC S7-1200, ANALOG INPUT SB 1231,
1 AI,
+/- 10V DC (12 BIT RES.) OR 0 - 20 MA

| Supply voltage | |
|---|--|
| 24 V DC | Yes |
| Input current | |
| from backplane bus 5 V DC, typ. | 55 mA |
| Power losses | |
| Power loss, typ. | 0.4 W |
| Analog inputs | |
| Number of analog inputs | 1 ; Current or voltage differential inputs |
| permissible input frequency for current input (destruction limit), max. | ± 35 V |
| permissible input voltage for voltage input (destruction limit), max. | 35 V |
| permissible input current for voltage input (destruction limit), max. | 40 mA |
| permissible input current for current input (destruction limit), max. | 40 mA |
| Cycle time (all channels) max. | 156.25 μs ; 400 Hz suppression |
| Input ranges | |
| Voltage | Yes ; ±10 V, ±5 V, ±2.5 V |
| Current | Yes ; 0 to 20 mA |
| Thermocouple | No |
| Resistance thermometer | No |

| | |
|--|--------------------|
| Resistance | No |
| Input ranges (rated values), voltages | |
| -10 V to +10 V | Yes |
| Input resistance (-10 V to +10 V) | ≥9 MOhm |
| -2.5 V to +2.5 V | Yes |
| Input resistance (-2.5 V to +2.5 V) | ≥9 MOhm |
| -5 V to +5 V | Yes |
| Input resistance (-5 V to +5 V) | ≥9 MOhm |
| Input ranges (rated values), currents | |
| 0 to 20 mA | Yes |
| Input resistance (0 to 20 mA) | ≥ 250 Ohm |
| Analog outputs | |
| Number of analog outputs | 0 |
| Analog value creation | |
| Measurement principle | integrating |
| Integration and conversion time/resolution per channel | |
| Resolution with overrange (bit including sign), max. | 11 bit ; + sign |
| Integration time, parameterizable | Yes |
| Interference voltage suppression for interference frequency f1 in Hz | 40 dB, DC to 60 Hz |
| Smoothing of measured values | |
| Parameterizable | Yes |
| Step: None | Yes |
| Step: low | Yes |
| Step: Medium | Yes |
| Step: High | Yes |
| Interrupts/diagnostics/status information | |
| Alarms | |
| Alarms | Yes |
| Diagnostic alarm | Yes |
| Diagnostic messages | |
| Diagnostic functions | Yes |
| Wire break | No |
| Diagnostics indication LED | |
| for status of the inputs | Yes |
| for maintenance | Yes |
| Degree and class of protection | |
| IP20 | Yes |

| | |
|---|--|
| Standards, approvals, certificates | |
| CE mark | Yes |
| RCM (formerly C-TICK) | Yes |
| FM approval | Yes |
| Climatic and mechanical conditions for storage and transport | |
| Climatic conditions for storage and transport | |
| Free fall | |
| Drop height, max. (in packaging) | 0.3 m ; five times, in dispatch package |
| Relative humidity | |
| Permissible range (without condensation) at 25 °C | 95 % |
| Mechanical and climatic conditions during operation | |
| Climatic conditions in operation | |
| Temperature | |
| Permissible temperature range | 0 °C to 55 °C horizontal installation, 0 °C to 45 °C vertical installation |
| Pollutant concentrations | |
| SO2 at RH < 60% without condensation | SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free |
| Connection method | |
| required front connector | Yes |
| Mechanics/material | |
| Type of housing (front) | |
| plastic | Yes |
| Dimensions | |
| Width | 38 mm |
| Height | 62 mm |
| Depth | 21 mm |
| Weights | |
| Weight, approx. | 35 g |
| Status | Dec 11, 2014 |