



SIMATIC S7-1200, RTD INPUT,  
SB 1231 RTD, 1 AI RTD, 1 CHANNEL,  
PT 100 AND PT1000

|   |                                    |
|---|------------------------------------|
| <b>Supply voltage</b>   |                                    |
| 24 V DC   | Yes                                |
| <b>Input current</b>  |                                    |
| Current consumption, typ.   | 5 mA                               |
| from backplane bus 5 V DC, typ.                                       | 20 mA                              |
| <b>Power loss</b>   |                                    |
| Power loss, typ.  | 0.5 W                              |
| <b>Analog inputs</b>  |                                    |
| Number of analog inputs   | 1 ; Resistance thermometer         |
| permissible input voltage for current input (destruction limit), max. | ± 35 V                             |
| Technical unit for temperature measurement adjustable                 | Degrees Celsius/degrees Fahrenheit |
| <b>Input ranges</b>   |                                    |
| Thermocouple  | No                                 |
| Resistance thermometer  | Yes ; Platinum (Pt)                |
| Resistance  | Yes ; 150 Ω, 300 Ω, 600 Ω          |
| <b>Input ranges (rated values), voltages</b>                          |                                    |
| Input resistance (-80 mV to +80 mV)                                   | >= 10 MOhm                         |
| <b>Input ranges (rated values), resistance thermometers</b>           |                                    |

|  |                                |
|--|--------------------------------|
| Pt 100   | Yes                            |
| Input resistance (Pt 100)  | 100 Ω                          |
| Pt 1000  | Yes                            |
| Input resistance (Pt 1000)   | 1000 Ω                         |
| Pt 200   | Yes                            |
| Input resistance (Pt 200)  | 200 Ω                          |
| Pt 500   | Yes                            |
| Input resistance (Pt 500)  | 500 Ω                          |
| <b>Input ranges (rated values), resistors</b>  |                                |
| 0 to 150 Ohm   | Yes                            |
| 0 to 300 Ohm   | Yes                            |
| 0 to 600 Ohm   | Yes                            |
| <b>Thermocouple (TC)</b>   |                                |
| <b>Temperature compensation</b>  |                                |
| parameterizable  | No                             |
| <b>Analog outputs</b>  |                                |
| Number of analog outputs   | 0                              |
| <b>Analog value generation</b>   |                                |
| Measurement principle  | integrating                    |
| <b>Integration and conversion time/resolution per channel</b>  |                                |
| Resolution with overrange (bit including sign), max.   | 15 bit ; + sign                |
| Integration time, parameterizable  | No                             |
| Interference voltage suppression for interference frequency f1 in Hz   | 85 dB at 10 / 50 / 60 / 400 Hz |
| <b>Errors/accuracies</b>   |                                |
| Repeat accuracy in steady state at 25 °C (relative to output area), (+/-)  | 0.05 %                         |
| <b>Interference voltage suppression for <math>f = n \times (f1 \pm 1 \%)</math>, f1 = interference frequency</b> |                                |
| Common mode interference, min.   | 120 dB                         |
| <b>Interrupts/diagnostics/status information</b>   |                                |
| <b>Alarms</b>  |                                |
| Alarms   | Yes                            |
| Diagnostic alarm   | Yes                            |
| <b>Diagnostic messages</b>   |                                |
| Diagnostic functions   | Yes ; Can be read out          |
| Wire-break   | Yes                            |
| <b>Diagnostics indication LED</b>  |                                |
| for status of the inputs   | Yes                            |
| for maintenance  | Yes                            |

|   |  |
|---|--|
| <b>Degree and class of protection</b>                               |  |
| <b>IP20</b>   | Yes  |
| <b>Standards, approvals, certificates</b>                           |  |
| <b>CE mark</b>  | Yes  |
| <b>RCM (former C-TICK)</b>  | Yes  |
| <b>FM approval</b>  | Yes  |
| <b>Climatic and mechanical conditions for storage and transport</b> |  |
| <b>Climatic conditions for storage and transport</b>                |  |
| <b>Free fall</b>  |  |
| <b>Drop height, max. (in packaging)</b>                             | 0.3 m ; five times, in dispatch package                                    |
| <b>Temperature</b>  |  |
| <b>permissible temperature range</b>                                | -40 °C to +70 °C   |
| <b>Air pressure acc. to IEC 60068-2-13</b>                          |  |
| <b>permissible air pressure</b>                                     | 1080 to 660 hPa  |
| <b>Relative humidity</b>  |  |
| <b>permissible range (without condensation) at 25 °C</b>            | 95 %   |
| <b>Mechanical and climatic conditions during operation</b>          |  |
| <b>Climatic conditions in operation</b>                             |  |
| <b>Temperature</b>  |  |
| <b>permissible temperature range</b>                                | 0 °C to 55 °C horizontal installation, 0 °C to 45 °C vertical installation |
| <b>Air pressure acc. to IEC 60068-2-13</b>                          |  |
| <b>permissible air pressure</b>                                     | 1080 to 795 hPa  |
| <b>Pollutant concentrations</b>                                     |  |
| <b>SO2 at RH &lt; 60% without condensation</b>                      | SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free                 |
| <b>Connection method</b>  |  |
| <b>required front connector</b>                                     | Yes  |
| <b>Mechanics/material</b>   |  |
| <b>Type of housing (front)</b>                                      |  |
| <b>Plastic</b>  | Yes  |
| <b>Dimensions</b>   |  |
| <b>Width</b>  | 38 mm  |
| <b>Height</b>   | 62 mm  |
| <b>Depth</b>  | 21 mm  |
| <b>Weights</b>  |  |
| <b>Weight, approx.</b>  | 35 g   |
| <b>Status</b>   | Jul 28, 2014   |