



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

Supply voltage

Rated value (DC)

- 24 V DC

Yes

Input current

Current consumption, typ.

5 mA

from backplane bus 5 V DC, typ.

20 mA

Power loss

Power loss, typ.

0.5 W

Analog inputs

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

Input ranges

- Thermocouple
- Resistance thermometer
- Resistance

No

Yes; Platinum (Pt)

Yes; 150 Ω , 300 Ω , 600 Ω

Input ranges (rated values), voltages

- Input resistance (-80 mV to +80 mV)

≥ 10 M Ω

Input ranges (rated values), resistance thermometer

- Pt 100
- Input resistance (Pt 100)
- Pt 1000

Yes

100 Ω

Yes

• Input resistance (Pt 1000)	1 000 Ω
• Pt 200	Yes
• Input resistance (Pt 200)	200 Ω
• Pt 500	Yes
• Input resistance (Pt 500)	500 Ω
Input ranges (rated values), resistors	
• 0 to 150 ohms	Yes
• 0 to 300 ohms	Yes
• 0 to 600 ohms	Yes
Thermocouple (TC)	
Temperature compensation	
— Parameterizable	No
Analog outputs	
Number of analog outputs	0
Analog value generation	
Measurement principle	integrating
Integration and conversion time/resolution per channel	
• 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
Errors/accuracies	
Temperature error (relative to input range), (+/-)	25 °C $\pm 0.1\%$, to 55 °C $\pm 0.2\%$ total measurement range
Repeat accuracy in steady state at 25 °C (relative to output area), (+/-)	0.05 %
Interference voltage suppression for $f = n \times (f1 \pm 1 \%)$, f1 = interference frequency	
• Common mode interference, min.	120 dB
Interrupts/diagnostics/status information	
Alarms	
• Alarms	Yes
• Diagnostic alarm	Yes
Diagnostic messages	
• Diagnostic functions	Yes; Can be read out
• Wire-break	Yes
Diagnostics indication LED	
• for status of the inputs	Yes
• for maintenance	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
Ambient temperature during operation	
• permissible temperature range	0 °C to 55 °C horizontal installation, 0 °C to 45 °C vertical installation
• min.	0 °C
• max.	55 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	
• Operation, min.	795 hPa
• Operation, max.	1 080 hPa
• Storage/transport, min.	660 hPa
• Storage/transport, max.	1 080 hPa
Relative humidity	
• permissible range (without condensation) at 25 °C	95 %
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
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