



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

Supply voltage	
Rated value (DC)	Yes
<ul style="list-style-type: none"> 24 V DC 	
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	
<ul style="list-style-type: none"> Voltage 	Yes; ±10V, ±5V, ±2.5V
<ul style="list-style-type: none"> Current 	Yes; 0 to 20 mA
<ul style="list-style-type: none"> Thermocouple 	No
<ul style="list-style-type: none"> Resistance thermometer 	No
<ul style="list-style-type: none"> 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
Errors/accuracies	
Temperature error (relative to input range), (+/-)	25 °C ±0.3%, to 55 °C ±0.6% total measurement range
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	
Degree of protection 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

- Drop height, max. (in packaging) 0.3 m; five times, in dispatch package

Ambient temperature in 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
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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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last modified: 20.04.2015