



SIMATIC S7-1200, ANALOG INPUT,  
SM 1231 RTD, 4 X AI RTD MODULE

<b>Supply voltage</b>	
24 V DC	Yes
<b>Input current</b>	
Current consumption, typ.	40 mA
from backplane bus 5 V DC, typ.	80 mA
<b>Power losses</b>	
Power loss, typ.	1.5 W
<b>Analog inputs</b>	
Number of analog inputs	4 ; Resistance thermometer
permissible input frequency for current input (destruction limit), max.	± 35 V
Technical unit for temperature measurement adjustable	Degrees Celsius/degrees Fahrenheit
<b>Input ranges</b>	
Resistance thermometer	Yes ; Resistance-type transmitter: Pt10, Pt50, Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni200, Ni500, Ni1000, Cu10, Cu50, Cu100, LG-Ni1000
Resistance	Yes ; 150 Ω, 300 Ω, 600 Ω
<b>Input ranges (rated values), resistance thermometers</b>	
Cu 10	Yes
Input resistance (Cu 10)	10 Ω

Ni 100	Yes
Input resistance (Ni 100)	100 $\Omega$
Ni 1000	Yes
Input resistance (Ni 1000)	1000 $\Omega$
LG-Ni 1000	Yes
Input resistance (LG-Ni 1000)	1000 $\Omega$
Ni 120	Yes
Input resistance (Ni 120)	120 $\Omega$
Ni 200	Yes
Input resistance (Ni 200)	200 $\Omega$
Ni 500	Yes
Input resistance (Ni 500)	500 $\Omega$
Pt 100	Yes
Input resistance (Pt 100)	100 $\Omega$
Pt 1000	Yes
Input resistance (Pt 1000)	1000 $\Omega$
Pt 200	Yes
Input resistance (Pt 200)	200 $\Omega$
Pt 500	Yes
Input resistance (Pt 500)	500 $\Omega$
<b>Input ranges (rated values), resistors</b>	
0 to 150 ohms	Yes
0 to 300 ohms	Yes
0 to 600 ohms	Yes
<b>Thermocouple (TC)</b>	
<b>Temperature compensation</b>	
Parameterizable	No
<b>Analog value creation</b>	
Measurement principle	integrating
<b>Integrations 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 50 / 60 / 400 Hz
<b>Errors/accuracies</b>	
Temperature error (relative to input area)	25 °C $\pm$ 0.1 % to 55 °C $\pm$ 0.2 % total measurement range
<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>	
<b>Alarms</b>	Yes
<b>Diagnostic alarm</b>	Yes
<b>Diagnostic messages</b>	
<b>Diagnostic functions</b>	Yes ; Can be read out
<b>Monitoring the supply voltage</b>	Yes
<b>Wire break</b>	Yes
<b>Diagnostics indication LED</b>	
<b>for status of the inputs</b>	Yes
<b>for maintenance</b>	Yes
<b>Degree and class of protection</b>	
<b>IP20</b>	Yes
<b>Standards, approvals, certificates</b>	
<b>CE mark</b>	Yes
<b>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>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>	45 mm
<b>Height</b>	100 mm
<b>Depth</b>	75 mm
<b>Weight</b>	
<b>Weight, approx.</b>	220 g
Status	Apr 5, 2013