

\*\*\*Spare part\*\*\* SIMATIC S7-200, Analog input EM 231, only for S7-22X CPU, 4 AI, 0-10V DC, 12 bit converter



Input current	
from load voltage L+ (without load), max.	60 mA
from backplane bus 5 V DC, max.	20 mA
Power loss	
Power loss, typ.	2 W
Analog inputs	
Number of analog inputs	4; Difference
permissible input voltage for voltage input (destruction limit), max.	30 V
permissible input current for current input (destruction limit), max.	32 mA
Input ranges	
• Voltage	Yes
• Current	Yes
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
Input ranges (rated values), voltages	

<ul style="list-style-type: none"> <li>• 0 to +5 V <ul style="list-style-type: none"> <li>— Input resistance (0 to 5 V)</li> </ul> </li> <li>• 0 to +10 V <ul style="list-style-type: none"> <li>— Input resistance (0 to 10 V)</li> </ul> </li> <li>• -2.5 V to +2.5 V <ul style="list-style-type: none"> <li>— Input resistance (-2.5 V to +2.5 V)</li> </ul> </li> <li>• -5 V to +5 V <ul style="list-style-type: none"> <li>— Input resistance (-5 V to +5 V)</li> </ul> </li> </ul>	<p>Yes</p> <p>10 MΩ</p> <p>Yes</p> <p>10 MΩ</p> <p>Yes</p> <p>10 MΩ</p> <p>Yes</p> <p>10 MΩ</p>
<b>Input ranges (rated values), currents</b>	
<ul style="list-style-type: none"> <li>• 0 to 20 mA <ul style="list-style-type: none"> <li>— Input resistance (0 to 20 mA)</li> </ul> </li> </ul>	<p>Yes</p> <p>10 MΩ</p>
<b>Thermocouple (TC)</b>	
<b>Temperature compensation</b>	
<ul style="list-style-type: none"> <li>— parameterizable</li> </ul>	No
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	100 m; to the sensor
<b>Analog value generation for the inputs</b>	
<b>Integration and conversion time/resolution per channel</b>	
<ul style="list-style-type: none"> <li>• Resolution with overrange (bit including sign), max.</li> <li>• Interference voltage suppression for interference frequency f1 in Hz</li> <li>• Conversion time (per channel)</li> </ul>	<p>12 bit</p> <p>40 dB, DC to 60 V for interference frequency 50 / 60 Hz</p> <p>250 μs</p>
<b>Displayable conversion value range</b>	
<ul style="list-style-type: none"> <li>• bipolar signals</li> <li>• unipolar signals</li> </ul>	<p>-32 000 to +32 000</p> <p>0 to 32 000</p>
<b>Errors/accuracies</b>	
<b>Interference voltage suppression for <math>f = n \times (f1 \pm 1 \%)</math>, f1 = interference frequency</b>	
<ul style="list-style-type: none"> <li>• Common mode voltage, max.</li> </ul>	12 V
<b>Interrupts/diagnostics/status information</b>	
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>• external fault EXTf (red)</li> </ul>	Yes
<b>Potential separation</b>	
<b>Potential separation analog inputs</b>	
<ul style="list-style-type: none"> <li>• Potential separation analog inputs</li> </ul>	No
<b>Connection method</b>	
Plug-in I/O terminals	No
<b>Dimensions</b>	
Width	71.2 mm
Height	80 mm

Depth	62 mm
<b>Weights</b>	
Weight, approx.	183 g
<b>last modified:</b>	09/03/2020