



Figure similar

\*\*\* spare part \*\*\* SIMATIC S7-200, analog input EM 231, only for S7-22X CPU, 8 AI, 0-10V DC, max 2 AI 0..20 mA 12/11-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	8; Difference
permissible input voltage for voltage input (destruction limit), max.	30 V
permissible input current for current input (destruction limit), max.	40 mA
Input ranges	
<ul style="list-style-type: none"> <li>• Voltage</li> <li>• Current</li> <li>• Thermocouple</li> <li>• Resistance thermometer</li> <li>• Resistance</li> </ul>	Yes Yes; for channels 6 and 7 only No No No
Input ranges (rated values), voltages	
<ul style="list-style-type: none"> <li>• 0 to +5 V — Input resistance (0 to 5 V)</li> <li>• 0 to +10 V — Input resistance (0 to 10 V)</li> <li>• -2.5 V to +2.5 V — Input resistance (-2.5 V to +2.5 V)</li> <li>• -5 V to +5 V — Input resistance (-5 V to +5 V)</li> <li>• -80 mV to +80 mV</li> </ul>	Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ Yes 10 MΩ No
Input ranges (rated values), currents	
<ul style="list-style-type: none"> <li>• 0 to 20 mA — Input resistance (0 to 20 mA)</li> </ul>	Yes; for channels 6 and 7 only 10 MΩ
Input ranges (rated values), thermocouples	
<ul style="list-style-type: none"> <li>• Type E</li> <li>• Type J</li> <li>• Type K</li> <li>• Type N</li> <li>• Type R</li> <li>• Type S</li> <li>• Type T</li> </ul>	No No No No No No No
Input ranges (rated values), resistance thermometer	

• Cu 10	No
• Ni 10	No
• Ni 1000	No
• Ni 120	No
• Pt 100	No
• Pt 1000	No
• Pt 10000	No
• Pt 200	No
• Pt 500	No
<b>Input ranges (rated values), resistors</b>	
• 0 to 150 ohms	No
• 0 to 300 ohms	No
• 0 to 600 ohms	No
<b>Thermocouple (TC)</b>	
Temperature compensation	
— parameterizable	No
<b>Cable length</b>	
• shielded, max.	100 m; to the sensor
<b>Analog value generation for the inputs</b>	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	12 bit
• Interference voltage suppression for interference frequency f1 in Hz	40 dB, DC up to 60 V for interference frequency
• Conversion time (per channel)	250 µs
Displayable conversion value range	
• bipolar signals	-32 000 to +32 000
• unipolar signals	<a href="#">0 to 32 000</a>
<b>Errors/accuracies</b>	
Interference voltage suppression for $f = n \times (f1 \pm 1 \%)$ , f1 = interference frequency	
• Common mode voltage, max.	12 V
<b>Interrupts/diagnostics/status information</b>	
Diagnostics indication LED	
• external fault EXTf (red)	Yes
<b>Potential separation</b>	
Potential separation analog inputs	
• Potential separation analog inputs	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.	190 g
<b>Classifications</b>	

	Version	Classification
eClass	14	27-24-22-01
eClass	12	27-24-22-01
eClass	9.1	27-24-22-01
eClass	9	27-24-22-01
eClass	8	27-24-22-01
eClass	7.1	27-24-22-01
eClass	6	27-24-22-01
ETIM	10	EC001420
ETIM	9	EC001420
ETIM	8	EC001420
ETIM	7	EC001420

IDEA	4	3562
UNSPSC	15	32-15-17-05

**Approvals / Certificates**

General Product Approval For use in hazardous locations



[Miscellaneous](#)



[China RoHS](#)



[EM](#)

**Maritime application**



**Maritime application**

[CCS \(China Classification Society\)](#)

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