



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	
• Voltage	Yes
• Current	Yes; for channels 6 and 7 only
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
Input ranges (rated values), voltages	
• 0 to +5 V	Yes
— Input resistance (0 to 5 V)	10 MΩ
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	10 MΩ
• -2.5 V to +2.5 V	Yes
— Input resistance (-2.5 V to +2.5 V)	10 MΩ
• -5 V to +5 V	Yes
— Input resistance (-5 V to +5 V)	10 MΩ
• -80 mV to +80 mV	No
Input ranges (rated values), currents	
• 0 to 20 mA	Yes; for channels 6 and 7 only
— Input resistance (0 to 20 mA)	10 MΩ
Input ranges (rated values), thermocouples	
• Type E	No
• Type J	No
• Type K	No
• Type N	No
• Type R	No
• Type S	No
• Type T	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		
Input ranges (rated values), resistors			
• 0 to 150 ohms	No		
• 0 to 300 ohms	No		
• 0 to 600 ohms	No		
Thermocouple (TC)			
Temperature compensation			
— parameterizable	No		
Cable length			
• shielded, max.	100 m; to the sensor		
Analog value generation for the inputs			
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	0 to 32 000		
Errors/accuracies			
Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency			
• Common mode voltage, max.	12 V		
Interrupts/diagnostics/status information			
Diagnostics indication LED			
• external fault EXTf (red)	Yes		
Potential separation			
Potential separation analog inputs			
• Potential separation analog inputs	No		
connection method			
Plug-in I/O terminals	No		
Dimensions			
Width	71.2 mm		
Height	80 mm		
Depth	62 mm		
Weights			
Weight, approx.	190 g		
Classifications			
		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	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	Maritime application
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[Miscellaneous](#)



[FM](#)



Maritime application



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

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