



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	
• 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
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	10 MΩ
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 to 60 V for interference frequency 50 / 60 Hz
• Conversion time (per channel)	250 μs
Displayable conversion value range	

- bipolar signals
- unipolar signals

-32 000 to +32 000

[0 to 32 000](#)

Errors/accuracies

Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, f_1 = 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. 183 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
--------------------------	--------------------------------	----------------------



EG-Konf.

[Miscellaneous](#)



ATEX

[FM](#)



ABS



BUREAU
VERITAS

Maritime application



DNV



GL



LRS



RMRS

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

last modified: 5/22/2024