



Figure similar

SIMATIC S7-1200, Analog output, SM 1232, 4 AO, +/-10 V, 14-bit resolution, or 0-20 mA/4-20 mA, 13-bit resolution

General information	
Product type designation	SM 1232, AQ 4x14 bit
Supply voltage	
Rated value (DC)	24 V
Input current	
Current consumption, typ.	45 mA
from backplane bus 5 V DC, typ.	80 mA
Power loss	
Power loss, typ.	1.5 W
Analog outputs	
Number of analog outputs	4; Current or voltage
Output ranges, voltage	
• -10 V to +10 V	Yes
Output ranges, current	
• 0 to 20 mA	Yes
Load impedance (in rated range of output)	
• with voltage outputs, min.	1 000 Ω
• with current outputs, max.	600 Ω
Cable length	
• shielded, max.	100 m; shielded, twisted pair
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	14 bit; Voltage: 14 bit; Current : 13 bit
Errors/accuracies	
Temperature error (relative to output range), (+/-)	25 °C ±0.3%, to 55 °C ±0.6% total measurement range
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to output range, (+/-)	0.3 %
• Current, relative to output range, (+/-)	0.3 %
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	
Alarms	Yes
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire-break	Yes
• Short-circuit	Yes

Diagnostics indication LED		
• for status of the outputs	Yes	
• for maintenance	Yes	
Degree and class of protection		
IP degree of protection	IP20	
Standards, approvals, certificates		
CE mark	Yes	
CSA approval	Yes	
UL approval	Yes	
cULus	Yes	
FM approval	Yes	
RCM (formerly C-TICK)	Yes	
KC approval	Yes	
Marine approval	Yes	
Ecological footprint		
• environmental product declaration	Yes	
Global warming potential		
— global warming potential, (total) [CO2 eq]	36.4 kg	
— global warming potential, (during production) [CO2 eq]	7.46 kg	
— global warming potential, (during operation) [CO2 eq]	29.1 kg	
— global warming potential, (after end of life cycle) [CO2 eq]	-0.18 kg	
Ambient conditions		
Free fall		
• Fall height, max.	0.3 m; five times, in product package	
Ambient temperature during operation		
• min.	-20 °C	
• max.	60 °C	
• horizontal installation, min.	-20 °C	
• horizontal installation, max.	60 °C	
• vertical installation, min.	-20 °C	
• vertical installation, max.	50 °C	
Ambient temperature during storage/transportation		
• min.	-40 °C	
• max.	70 °C	
Air pressure acc. to IEC 60068-2-13		
• Operation, min.	795 hPa	
• Operation, max.	1 080 hPa	
• Storage/transport, min.	660 hPa	
• Storage/transport, max.	1 080 hPa	
Relative humidity		
• Operation at 25 °C without condensation, max.	95 %	
Pollutant concentrations		
• SO2 at RH < 60% without condensation	SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free	
connection method		
required front connector	Yes	
Mechanics/material		
Enclosure material (front)		
• Plastic	Yes	
Dimensions		
Width	45 mm	
Height	100 mm	
Depth	75 mm	
Weights		
Weight, approx.	180 g	
Classifications		
	eClass	Version 14
		Classification 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



[Manufacturer Declaration](#)



[Metrological Approval](#)



EMVFor use in hazardous locations



[EM](#)



For use in hazardous locationsMarine / Shipping

[CCC-Ex](#)



[NK / Nippon Kaiji Kyokai](#)



Marine / ShippingEnvironment



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



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