

Spare part SIMATIC S7-1200, Analog output, SM 1232, 2 AO, +/-10 V, 14-bit resolution, or 0-20 mA, 13-bit resolution



General information

Product type designation	SM 1232, AO 2x14 bit
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Supply voltage

Rated value (DC)	24 V
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Input current

Current consumption, typ.	45 mA
from backplane bus 5 V DC, typ.	80 mA

Power loss

Power loss, typ.	1.5 W
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Analog outputs

Number of analog outputs	2; Current or voltage
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Output ranges, voltage

• -10 V to +10 V	Yes
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Output ranges, current

• 0 to 20 mA	Yes
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Load impedance (in rated range of output)

• with voltage outputs, min.	1 000 Ω
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- with current outputs, max.

600 Ω

Analog value generation for the outputs

Integration and conversion time/resolution per channel

- Resolution (incl. overrange)

Voltage: 14 bit; Current : 13 bit

Errors/accuracies

Temperature error (relative to output range), (+/-)

25 °C $\pm 0.3\%$, to 55 °C $\pm 0.6\%$ total measurement range

Basic error limit (operational limit at 25 °C)

- Voltage, relative to output range, (+/-)
- Current, relative to output range, (+/-)

0.3 %

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

Diagnostic messages

- Monitoring the supply voltage
- Wire-break
- Short-circuit

Yes

Yes

Yes

Diagnostics indication LED

- for status of the outputs
- for maintenance

Yes

Yes

Degree and class of protection

IP degree of protection

IP20

Standards, approvals, certificates

CE mark

Yes

FM approval

Yes

RCM (formerly C-TICK)

Yes

Ambient conditions

Free fall

- Fall height, max.

0.3 m; five times, in product package

Ambient temperature during operation

- min.
- max.
- horizontal installation, min.
- horizontal installation, max.
- vertical installation, min.
- vertical installation, max.

0 °C

55 °C

0 °C

55 °C

0 °C

45 °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
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