

SIMATIC S7-1200, ANALOG OUTPUT, SM 1232, 4 AO, +/-10V, 14 BIT RESOLUTION, OR 0 - 20 MA/4 - 20 MA, 13 BIT RESOLUTION



### Supply voltage

Rated value (DC)

- 24 V DC

Yes

### Input current

Current consumption, typ.

45 mA

from backplane bus 5 V DC, typ.

80 mA

### Power losses

Power loss, typ.

1.5 W

### Analog inputs

Number of analog inputs

0

Thermocouple (TC)

Temperature compensation

- Parameterizable

No

### 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.
- with current outputs, max.

1 000  $\Omega$

600  $\Omega$

### Analog value creation

Measurement principle	Differential
<b>Integration and conversion time/resolution per channel</b>	
<ul style="list-style-type: none"> <li>• Resolution (incl. overrange)</li> <li>• Integration time, parameterizable</li> <li>• Interference voltage suppression for interference frequency f1 in Hz</li> </ul>	Voltage: 14 bits; Current : 13 bits Yes 40 dB, DC to 60 V for interference frequency 50 / 60 Hz
<b>Errors/accuracies</b>	
Temperature error (relative to output range), (+/-)	25 °C ±0.3%, to 55 °C ±0.6% total measurement range
<b>Basic error limit (operational limit at 25 °C)</b>	
<ul style="list-style-type: none"> <li>• Voltage, relative to output area, (+/-)</li> <li>• Current, relative to output area, (+/-)</li> </ul>	0.3 % 0.3 %
<b>Interference voltage suppression for <math>f = n \times (f_1 \pm 1 \%)</math>, <math>f_1 =</math> interference frequency</b>	
<ul style="list-style-type: none"> <li>• common mode voltage, max.</li> </ul>	12 V
<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
<ul style="list-style-type: none"> <li>• Alarms</li> <li>• Diagnostic alarm</li> </ul>	Yes Yes
<b>Diagnostic messages</b>	
<ul style="list-style-type: none"> <li>• Diagnostic functions</li> <li>• Monitoring the supply voltage</li> <li>• Wire break</li> <li>• Short circuit</li> </ul>	Yes Yes Yes Yes
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>• For status of the outputs</li> <li>• for maintenance</li> </ul>	Yes Yes
<b>Degree and class of protection</b>	
Degree of protection to EN 60529	
<ul style="list-style-type: none"> <li>• IP20</li> </ul>	Yes
<b>Standards, approvals, certificates</b>	
CE mark	Yes
CSA approval	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
<b>Highest safety class achievable in safety mode</b>	
<ul style="list-style-type: none"> <li>• SIL acc. to IEC 61508</li> </ul>	none
<b>Ambient conditions</b>	
<b>Free fall</b>	
<ul style="list-style-type: none"> <li>• Drop height, max. (in packaging)</li> </ul>	0.3 m; five times, in dispatch package
<b>Ambient temperature in operation</b>	
<ul style="list-style-type: none"> <li>• Permissible temperature range</li> </ul>	-20 °C to +60 °C horizontal mounting, -20 °C to 50 °C vertical mounting, 95% humidity, non-condensing

• Min.	-20 °C
• max.	60 °C
<b>Ambient temperature during storage/transportation</b>	
• Min.	-40 °C
• max.	70 °C
<b>Air pressure acc. to IEC 60068-2-13</b>	
• Operation, min.	795 hPa
• Operation, max.	1 080 hPa
• Storage/transport, min.	660 hPa
• Storage/transport, max.	1 080 hPa
<b>Relative humidity</b>	
• Permissible range (without condensation) at 25 °C	95 %
<b>Pollutant concentrations</b>	
— SO2 at RH < 60% without condensation	SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
<b>Connection method</b>	
required front connector	Yes
<b>Mechanics/material</b>	
Type of housing (front)	
• plastic	Yes
<b>Dimensions</b>	
Width	45 mm
Height	100 mm
Depth	75 mm
<b>Weights</b>	
Weight, approx.	180 g
<b>last modified:</b>	20.04.2015