

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 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.
- with current outputs, max.

1 000  $\Omega$

600  $\Omega$

| Analog value generation   |   |
|---|---|
| Measurement principle   | Differential  |
| Integration and conversion time/resolution per channel  |   |
| <ul style="list-style-type: none"> <li>Resolution (incl. overrange)</li> <li>Integration time, parameterizable</li> <li>Interference voltage suppression for interference frequency <math>f_1</math> in Hz</li> </ul> | Voltage: 14 bits; Current : 13 bits<br>Yes<br>40 dB, DC to 60 V for interference frequency 50 / 60 Hz |
| 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)  |   |
| <ul style="list-style-type: none"> <li>Voltage, relative to output area, (+/-)</li> <li>Current, relative to output area, (+/-)</li> </ul>  | 0.3 %<br>0.3 %  |
| Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$ , $f_1 =$ interference frequency   |   |
| <ul style="list-style-type: none"> <li>Common mode voltage, max.</li> </ul>   | 12 V  |
| Interrupts/diagnostics/status information   |   |
| Alarms  | Yes   |
| Diagnostic functions  | Yes   |
| Alarms  |   |
| <ul style="list-style-type: none"> <li>Diagnostic alarm</li> </ul>  | Yes   |
| Diagnostic messages   |   |
| <ul style="list-style-type: none"> <li>Monitoring the supply voltage</li> <li>Wire-break</li> <li>Short-circuit</li> </ul>  | Yes<br>Yes<br>Yes   |
| Diagnostics indication LED  |   |
| <ul style="list-style-type: none"> <li>for status of the outputs</li> <li>for maintenance</li> </ul>  | Yes<br>Yes  |
| Degree and class of protection  |   |
| Degree of protection acc. to EN 60529   |   |
| <ul style="list-style-type: none"> <li>IP20</li> </ul>  | Yes   |
| Standards, approvals, certificates  |   |
| CE mark   | Yes   |
| CSA approval  | Yes   |
| FM approval   | Yes   |
| RCM (formerly C-TICK)   | Yes   |
| Highest safety class achievable in safety mode  |   |
| <ul style="list-style-type: none"> <li>SIL acc. to IEC 61508</li> </ul>   | none  |
| Ambient conditions  |   |
| Free fall   |   |
| <ul style="list-style-type: none"> <li>Fall height, max.</li> </ul>   | 0.3 m; five times, in dispatch package  |
| Ambient temperature during operation  |   |

|   |   |
|---|---|
| <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 |
| <ul style="list-style-type: none"> <li>• min.</li> </ul>  | -20 °C  |
| <ul style="list-style-type: none"> <li>• max.</li> </ul>  | 60 °C   |
| <b>Ambient temperature during storage/transportation</b>  |   |
| <ul style="list-style-type: none"> <li>• min.</li> </ul>  | -40 °C  |
| <ul style="list-style-type: none"> <li>• max.</li> </ul>  | 70 °C   |
| <b>Air pressure acc. to IEC 60068-2-13</b>  |   |
| <ul style="list-style-type: none"> <li>• Operation, min.</li> </ul>                                   | 795 hPa   |
| <ul style="list-style-type: none"> <li>• Operation, max.</li> </ul>                                   | 1 080 hPa   |
| <ul style="list-style-type: none"> <li>• Storage/transport, min.</li> </ul>                           | 660 hPa   |
| <ul style="list-style-type: none"> <li>• Storage/transport, max.</li> </ul>                           | 1 080 hPa   |
| <b>Relative humidity</b>  |   |
| <ul style="list-style-type: none"> <li>• permissible range (without condensation) at 25 °C</li> </ul> | 95 %  |
| <b>Extended ambient conditions</b>  |   |
| <b>Pollutant concentrations</b>   |   |
| — SO <sub>2</sub> at RH < 60% without condensation  | SO <sub>2</sub> : < 0.5 ppm; H <sub>2</sub> S: < 0.1 ppm; RH < 60% condensation-free                  |
| <b>Connection method</b>  |   |
| required front connector  | Yes   |
| <b>Mechanics/material</b>   |   |
| <b>Enclosure material (front)</b>   |   |
| <ul style="list-style-type: none"> <li>• Plastic</li> </ul>   | Yes   |
| <b>Dimensions</b>   |   |
| Width   | 45 mm   |
| Height  | 100 mm  |
| Depth   | 75 mm   |
| <b>Weights</b>  |   |
| Weight, approx.   | 180 g   |
| <b>last modified:</b>   | 08.01.2016  |