

# SIEMENS

## Product data sheet

**6ES7232-4HB30-0XB0**


SIMATIC S7-1200, ANALOG OUTPUT,  
SM 1232, 2 AO, +/-10V,  
14 BIT RESOLUTION, OR 0-20 MA,  
13 BIT RESOLUTION,

|                                 |                        |
|---------------------------------|------------------------|
| Supply voltage                  |                        |
| 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        | 2 ; Current or voltage |
| Output ranges, voltage          |                        |

|                                                                                                    |                                                                |
|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| -10 to +10 V                                                                                       | Yes                                                            |
| Output ranges, current                                                                             |                                                                |
| 0 to 20 mA                                                                                         | Yes                                                            |
| Load impedance (in rated range of output)                                                          |                                                                |
| with voltage outputs, min.                                                                         | 1000 $\Omega$                                                  |
| with current outputs, max.                                                                         | 600 $\Omega$                                                   |
| Analog value creation                                                                              |                                                                |
| Measurement principle                                                                              | Differential                                                   |
| Integrations and conversion time/ resolution per channel                                           |                                                                |
| Resolution (incl. overrange)                                                                       | Voltage: 14 bits; Current : 13 bits                            |
| Integration time, parameterizable                                                                  | Yes                                                            |
| Interference voltage suppression for interference frequency f1 in Hz                               | 40 dB, DC to 60 V for interference frequency 50 / 60 Hz        |
| Errors/accuracies                                                                                  |                                                                |
| Temperature error (relative to output area)                                                        | 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 area                                                                   | +/- 0,3 %                                                      |
| Current, relative to output area                                                                   | +/- 0,3 %                                                      |
| Interference voltage suppression for $f = n \times (f_l \pm 1\%)$ , $f_l$ = interference frequency |                                                                |
| common mode voltage, max.                                                                          | 12 V                                                           |
| Interrupts/diagnostics/status information                                                          |                                                                |
| Alarms                                                                                             |                                                                |
| Alarms                                                                                             | Yes                                                            |
| Diagnostic alarm                                                                                   | Yes                                                            |
| Diagnostic messages                                                                                |                                                                |
| Diagnostic functions                                                                               | Yes                                                            |
| 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                                                                     |                                                                |
| IP20                                                                                               | Yes                                                            |

|                                                              |                                                                                         |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Standards, approvals, certificates                           |                                                                                         |
| CE mark                                                      | Yes                                                                                     |
| C-TICK                                                       | Yes                                                                                     |
| FM approval                                                  | Yes                                                                                     |
| Climatic and mechanical conditions for storage and transport |                                                                                         |
| Climatic conditions for storage and transport                |                                                                                         |
| Free fall                                                    |                                                                                         |
| Drop height, max. (in packaging)                             | 0.3 m ; five times, in dispatch package                                                 |
| Temperature                                                  |                                                                                         |
| Permissible temperature range                                | -40 °C to +70 °C                                                                        |
| Air pressure acc. to IEC 60068-2-13                          |                                                                                         |
| Permissible air pressure                                     | 1080 to 660 hPa                                                                         |
| Mechanical and climatic conditions during operation          |                                                                                         |
| Climatic conditions in operation                             |                                                                                         |
| Temperature                                                  |                                                                                         |
| Permissible temperature range                                | 0 °C to 55 °C horizontal installation<br>0 °C to 45 °C vertical installation            |
| Air pressure acc. to IEC 60068-2-13                          |                                                                                         |
| Permissible air pressure                                     | 1080 to 795 hPa                                                                         |
| Pollutant concentrations                                     |                                                                                         |
| 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%<br>condensation-free |
| Connection method                                            |                                                                                         |
| required front connector                                     | Yes                                                                                     |
| Mechanics/material                                           |                                                                                         |
| Type of housing (front)                                      |                                                                                         |
| Plastic                                                      | Yes                                                                                     |
| Dimensions                                                   |                                                                                         |
| Width                                                        | 45 mm                                                                                   |
| Height                                                       | 100 mm                                                                                  |
| Depth                                                        | 75 mm                                                                                   |
| Weight                                                       |                                                                                         |
| Weight, approx.                                              | 180 g                                                                                   |
| Status                                                       | Jul 17, 2012                                                                            |