

**6AT8007-1AA10-0AA0****SM1281\_Condition\_Monitoring****Technical data**

SIPLUS CMS1200 SM1281 Condition monitoring for SIMATIC S7-1200 "4 IEPE vibration channels;" 1 digital input for rotational speed acquisition

| General information                                                               |                                                                                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Product type designation                                                          | SM1281                                                                                                                                              |
| Product description                                                               | S7-1200 module for the monitoring of vibrations on mechanical components based on parameters and frequency-selective analysis functions             |
| Installation type/mounting                                                        |                                                                                                                                                     |
| Mounting type                                                                     | Rail or wall mounting                                                                                                                               |
| Mounting position                                                                 | Horizontal, vertical                                                                                                                                |
| Recommended mounting position                                                     | Horizontal                                                                                                                                          |
| Supply voltage                                                                    |                                                                                                                                                     |
| Rated value (DC)                                                                  | 24 V                                                                                                                                                |
| permissible range, lower limit (DC)                                               | 20.4 V                                                                                                                                              |
| permissible range, upper limit (DC)                                               | 28.8 V                                                                                                                                              |
| Input current                                                                     |                                                                                                                                                     |
| Current consumption, typ.                                                         | 200 mA                                                                                                                                              |
| Current consumption, max.                                                         | 250 mA                                                                                                                                              |
| from backplane bus 5 V DC, typ.                                                   | 80 mA                                                                                                                                               |
| from backplane bus 5 V DC, max.                                                   | 85 mA                                                                                                                                               |
| Power loss                                                                        |                                                                                                                                                     |
| Power loss, typ.                                                                  | 4.8 W                                                                                                                                               |
| Memory                                                                            |                                                                                                                                                     |
| Total memory capacity                                                             | 1 Gbyte                                                                                                                                             |
| Hardware configuration                                                            |                                                                                                                                                     |
| Design of hardware configuration                                                  | Modular, up to 7 modules per CPU                                                                                                                    |
| Speed input                                                                       |                                                                                                                                                     |
| Number of speed inputs                                                            | 1                                                                                                                                                   |
| Input voltage                                                                     |                                                                                                                                                     |
| • 24 V DC digital                                                                 | Yes                                                                                                                                                 |
| Sensor input                                                                      |                                                                                                                                                     |
| Number of IEPE sensor inputs                                                      | 4                                                                                                                                                   |
| Sampling frequency, max.                                                          | 46 875 Hz                                                                                                                                           |
| Interfaces                                                                        |                                                                                                                                                     |
| Type of data transmission                                                         | Export of raw data as WAV file for further analysis (e.g. using CMS X-Tools) can be downloaded via browser/FTP, online data transfer to CMS X-Tools |
| Ethernet interface                                                                | Yes                                                                                                                                                 |
| Protocols                                                                         |                                                                                                                                                     |
| Bus communication                                                                 | Yes                                                                                                                                                 |
| Web server                                                                        |                                                                                                                                                     |
| • HTTP                                                                            | Yes                                                                                                                                                 |
| Interrupts/diagnostics/status information                                         |                                                                                                                                                     |
| Alarms                                                                            |                                                                                                                                                     |
| • Diagnostic alarm                                                                | Yes                                                                                                                                                 |
| Diagnostics indication LED                                                        |                                                                                                                                                     |
| • for status of the inputs                                                        | Yes                                                                                                                                                 |
| • for maintenance                                                                 | Yes                                                                                                                                                 |
| • Status indicator digital input (green)                                          | No                                                                                                                                                  |
| Integrated Functions                                                              |                                                                                                                                                     |
| Monitoring functions                                                              |                                                                                                                                                     |
| • Monitoring of the sensor inputs                                                 | Yes; Cable break and short-circuit                                                                                                                  |
| • Vibration characteristic monitoring via RMS value of the vibration speed        | Yes                                                                                                                                                 |
| • Vibration characteristic monitoring via RMS value of the vibration acceleration | Yes                                                                                                                                                 |
| • Vibration characteristic monitoring via diagnostic characteristic value         | Yes                                                                                                                                                 |
| • Frequency-selective monitoring via vibration speed spectrum                     | Yes                                                                                                                                                 |

|                                                                      |                                                                            |
|----------------------------------------------------------------------|----------------------------------------------------------------------------|
| • Frequency-selective monitoring via vibration acceleration spectrum | Yes                                                                        |
| • Frequency-selective monitoring via envelope curve analysis         | Yes                                                                        |
| <b>Measuring functions</b>                                           |                                                                            |
| • Physical measuring principle                                       | Vibration acceleration                                                     |
| <b>Measuring range</b>                                               |                                                                            |
| — Measurement range vibration frequency, min.                        | 0.1 Hz                                                                     |
| — Measurement range vibration frequency, max.                        | 10 000 Hz                                                                  |
| <b>Standards, approvals, certificates</b>                            |                                                                            |
| Certificate of suitability                                           | CE                                                                         |
| CE mark                                                              | Yes                                                                        |
| EAC (formerly Gost-R)                                                | Yes                                                                        |
| China RoHS compliance                                                | Yes                                                                        |
| <b>Ambient conditions</b>                                            |                                                                            |
| <b>Free fall</b>                                                     |                                                                            |
| • Fall height, max.                                                  | 0.3 m; five times, in product package                                      |
| <b>Ambient temperature during operation</b>                          |                                                                            |
| • horizontal installation, min.                                      | -20 °C                                                                     |
| • horizontal installation, max.                                      | 60 °C                                                                      |
| • vertical installation, min.                                        | -20 °C                                                                     |
| • vertical installation, max.                                        | 45 °C                                                                      |
| <b>Ambient temperature during storage/transportation</b>             |                                                                            |
| • Storage, min.                                                      | -40 °C                                                                     |
| • Storage, max.                                                      | 70 °C                                                                      |
| • Transportation, min.                                               | -40 °C                                                                     |
| • Transportation, 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>                                             |                                                                            |
| • Operation, min.                                                    | 5 %                                                                        |
| • Operation, max.                                                    | 95 %                                                                       |
| • Condensation permissible                                           | No                                                                         |
| <b>Software</b>                                                      |                                                                            |
| Browser software required                                            | Web browser Mozilla Firefox (ESR31) or Microsoft Internet Explorer (10/11) |
| <b>Connection method</b>                                             |                                                                            |
| required front connector                                             | Yes                                                                        |
| Design of electrical connection                                      | Screw connection                                                           |
| <b>Mechanics/material</b>                                            |                                                                            |
| Material of housing                                                  | Plastic: polycarbonate, abbreviation: PC- GF 10 FR                         |
| <b>Dimensions</b>                                                    |                                                                            |
| Width                                                                | 70 mm                                                                      |
| Height                                                               | 112 mm                                                                     |
| Depth                                                                | 75 mm                                                                      |
| <b>Weights</b>                                                       |                                                                            |
| Weight, approx.                                                      | 260 g                                                                      |
| <b>last modified:</b>                                                | 12/18/2020                                                                 |