

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

Type of supply voltage	DC
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
<b>Power loss</b>	
Power loss, typ.	4.8 W
<b>Memory</b>	
Total memory capacity	1 Gbyte
<b>Hardware configuration</b>	
Design of hardware configuration	Modular, up to 7 modules per CPU
<b>Speed input</b>	
Number of speed inputs	1
<b>Input voltage</b>	
• 24 V DC digital	Yes
<b>Sensor input</b>	
Number of IEPE sensor inputs	4
Sampling frequency, max.	46 875 Hz
<b>Interfaces</b>	
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
<b>Protocols</b>	
Bus communication	Yes
<b>Web server</b>	
• HTTP	Yes
<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
• Diagnostic alarm	Yes
<b>Diagnostics indication LED</b>	
• for status of the inputs	Yes
• for maintenance	Yes
• Status indicator digital input (green)	No
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• 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
UL approval	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

## Software

Browser software required	Web browser Mozilla Firefox (ESR31) or Microsoft Internet Explorer (10/11)
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## Connection method

required front connector	Yes
Design of electrical connection	Screw connection

## Mechanics/material

Material of housing	Plastic: polycarbonate, abbreviation: PC- GF 10 FR
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## Dimensions

Width	70 mm
Height	112 mm
Depth	75 mm

## Weights

Weight, approx.	260 g
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**last modified:** 05/28/2020