



spare part SIPLUS HCS4000 I/O module temperature for acquisition of temperatures

| General information | |
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| Product type designation | PM4000 temperature |
| Installation type/mounting | |
| Mounting type | Screw mounting to CIM |
| Mounting position | vertical |
| Type of ventilation | Forced ventilation |
| Supply voltage | |
| Design of the power supply | Power supply via CIM |
| Power | |
| Active power input, max. | 1 W |
| Analog inputs | |
| Number of analog inputs | 4 |
| • for 2-wire system | 4 |
| • for 4-wire system | 2 |
| Sensor current, typ. | 210 μ A |
| Impulse voltage resistance, max. | 15 V |
| Input ranges | |
| • Thermocouple | Yes |
| • Resistance thermometer | Yes |
| Measuring range | |
| • Temperature for type J thermocouple, min. | 0 °C |
| • Temperature for type J thermocouple, max. | 650 °C |
| • Temperature for type K thermocouple, min. | 0 °C |
| • Temperature for type K thermocouple, max. | 440 °C |
| • Temperature for type L thermocouple, min. | 0 °C |
| • Temperature for type L thermocouple, max. | 640 °C |
| • Temperature for Pt 100 according to IEC 60751, min. | 0 °C |
| • Temperature for Pt 100 according to IEC 60751, max. | 410 °C |
| • Temperature for Pt 1000 according to IEC 60751, min. | 0 °C |
| • Temperature for Pt 1000 according to IEC 60751, max. | 850 °C |
| Connection method | |
| • Design of electrical connection for temperature sensors | plug, 8-pole with spring-type terminal, push-in |
| — Connectable conductor cross-sections for AWG cables | 1x (24 ... 16) |
| — Connectable conductor cross-sections, solid | 1x (0.2 ... 1.5 mm ²) |
| — Connectable conductor cross-sections with wire end processing | 1x (0.25 ... 1.5 mm ²) |
| Analog value generation for the inputs | |
| Type of A/D conversion | Sigma Delta |

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| Conversion time | 150 ms |
| Errors/accuracies | |
| Measuring accuracy | ±1 K |
| Temperature drift per °C, typ. | 0.05 %/°C |
| Temperature offset per K, max. | 0.1 K/K |
| Interfaces | |
| Interfaces/bus type | system interface |
| Interrupts/diagnostics/status information | |
| Number of status displays | 2 |
| LED status display | LED green = Ready, LED red = Error display |
| Integrated Functions | |
| Measuring functions | |
| • Current measurement | Yes |
| Measuring inputs for current | |
| — Current measurement range, min. | 0 mA |
| — Current measurement range, max. | 20 mA |
| — Design of electrical connection at the measuring inputs for current | plug, 8-pole with spring-type terminal, push-in |
| — Connectable conductor cross-sections, solid | 1x (0.2 ... 1.5 mm ²) |
| — Connectable conductor cross-sections, finely stranded with wire end processing | 1x (0.25 ... 1.5 mm ²) |
| — Connectable conductor cross-sections for AWG cables | 1x (24 ... 16) |
| Accuracy | |
| — Relative measuring accuracy current | 0.5 % |
| Potential separation | |
| between the channels | No |
| Isolation | |
| Overvoltage category | III |
| Degree of pollution | 2 |
| EMC | |
| EMC interference emission | Limit value in accordance with IEC 61000-6-4:2007 + A1:2011 |
| Electrostatic discharge acc. to IEC 61000-4-2 | 4 kV contact discharge / 8 kV air discharge |
| Field-related interference acc. to IEC 61000-4-3 | 10 V/m (80 ... 1 000 MHz), 3 V/m (1.4 ... 2.0 GHz), 1 V/m (2.0 ... 2.7 GHz) |
| Conducted interference due to burst acc. to IEC 61000-4-4 | 2 kV signal lines |
| Conducted interference due to surge acc. to IEC 61000-4-5 | Not applicable |
| Conducted interference due to high-frequency radiation acc. to IEC 61000-4-6 | 10 V (0.15 ... 80 MHz) |
| Degree and class of protection | |
| IP degree of protection | IP20 |
| Standards, approvals, certificates | |
| CE mark | Yes |
| UL approval | Yes |
| RCM (formerly C-TICK) | Yes |
| KC approval | Yes |
| EAC (formerly Gost-R) | Yes |
| China RoHS compliance | Yes |
| reference designation according to IEC 81346-2 (2009) | K |
| Ambient conditions | |
| Ambient temperature during operation | |
| • min. | 0 °C |
| • max. | 55 °C |
| Ambient temperature during storage/transportation | |
| • Storage, min. | -25 °C |
| • Storage, max. | 70 °C |
| • Transportation, min. | -25 °C |
| • Transportation, max. | 70 °C |
| Air pressure acc. to IEC 60068-2-13 | |
| • Operation, min. | 860 hPa |

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| • Operation, max. | 1 080 hPa |
| • Storage, min. | 660 hPa |
| • Storage, max. | 1 080 hPa |
| Altitude during operation relating to sea level | |
| • Installation altitude above sea level, max. | 2 000 m |
| Relative humidity | |
| • Operation at 25 °C, max. | 95 % |
| • Operation at 50 °C, max. | 50 %; 95 % at 25 °C, decreasing linearly to 50 % at 50 °C |
| Vibrations | |
| • Vibration resistance during operation acc. to IEC 60068-2-6 | 10 ... 58 Hz / 0.075 mm, 58 ... 150 Hz / 1 g |
| • Vibration resistance during storage acc. to IEC 60068-2-6 | 5 ... 8.5 Hz / 3.5 mm, 8.5 ... 500 Hz / 1 g |
| Shock testing | |
| • Shock resistance during operation acc. to IEC 60068-2-27 | 15 g / 11 ms / 3 shocks/axis |
| • Shock resistance during storage acc. to IEC 60068-2-29 | 25 g / 6 ms / 1 000 shocks/axis |

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| Dimensions | |
| Width | 27 mm |
| Height | 141 mm |
| Depth | 110 mm |

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| Classifications | | | |
| | | Version | Classification |
| | eClass | 14 | 27-24-40-02 |
| | eClass | 12 | 27-24-40-02 |
| | eClass | 9.1 | 27-24-40-02 |
| | eClass | 9 | 27-24-40-02 |
| | eClass | 8 | 27-24-26-01 |
| | eClass | 7.1 | 27-24-26-01 |
| | eClass | 6 | 27-24-26-01 |
| | ETIM | 10 | EC002985 |
| | ETIM | 9 | EC002985 |
| | ETIM | 8 | EC002985 |
| | ETIM | 7 | EC002985 |
| | IDEA | 4 | 3562 |
| | UNSPSC | 15 | 32-15-17-05 |

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| Approvals / Certificates | |
| General Product Approval | EMV |



last modified:

7/1/2025