

Data sheet

SM 031 (031-1CD35)

Technical data

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| Order no. | 031-1CD35 |
| Type | SM 031 |
| Module ID | 0413 15C4 |

General information

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|----------|------------------------------------|
| Note | - |
| Features | 4 inputs 16Bit Voltage 0...10 V |

Current consumption/power loss

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|--|-------|
| Current consumption from backplane bus | 65 mA |
| Power loss | 0.9 W |

Technical data analog inputs

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| Number of inputs | 4 |
| Cable length, shielded | 200 m |
| Rated load voltage | DC 24 V |
| Current consumption from load voltage L+ (without load) | 25 mA |
| Voltage inputs | yes |
| Min. input resistance (voltage range) | 200 kOhm |
| Input voltage ranges | 0 V ... +10 V |
| Operational limit of voltage ranges | +/-0.2% |
| Operational limit of voltage ranges with SFU | - |
| Basic error limit voltage ranges | +/-0.1% |
| Basic error limit voltage ranges with SFU | - |
| Destruction limit voltage | max. 30V |
| Current inputs | - |
| Max. input resistance (current range) | - |
| Input current ranges | - |
| Operational limit of current ranges | - |
| Operational limit of current ranges with SFU | - |
| Basic error limit current ranges | - |
| Radical error limit current ranges with SFU | - |
| Destruction limit current inputs (voltage) | - |
| Destruction limit current inputs (electrical current) | - |
| Resistance inputs | - |
| Resistance ranges | - |
| Operational limit of resistor ranges | - |
| Operational limit of resistor ranges with SFU | - |
| Basic error limit | - |
| Basic error limit with SFU | - |
| Destruction limit resistance inputs | - |
| Resistance thermometer inputs | - |
| Resistance thermometer ranges | - |

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| Operational limit of resistance thermometer ranges | - |
| Operational limit of resistance thermometer ranges with SFU | - |
| Basic error limit thermoresistor ranges | - |
| Basic error limit thermoresistor ranges with SFU | - |
| Destruction limit resistance thermometer inputs | - |
| Thermocouple inputs | - |
| Thermocouple ranges | - |
| Operational limit of thermocouple ranges | - |
| Operational limit of thermocouple ranges with SFU | - |
| Basic error limit thermoelement ranges | - |
| Basic error limit thermoelement ranges with SFU | - |
| Destruction limit thermocouple inputs | - |
| Programmable temperature compensation | - |
| External temperature compensation | - |
| Internal temperature compensation | - |
| Temperature error internal compensation | - |
| Technical unit of temperature measurement | - |
| Resolution in bit | 16 |
| Measurement principle | successive approximation |
| Basic conversion time | 480 µs all channels |
| Noise suppression for frequency | >80dB at 50Hz (UCM<9V) |

Status information, alarms, diagnostics

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|----------------------------------|---------------------|
| Status display | yes |
| Interrupts | no |
| Process alarm | no |
| Diagnostic interrupt | no |
| Diagnostic functions | yes |
| Diagnostics information read-out | possible |
| Module state | green LED |
| Module error display | red LED |
| Channel error display | red LED per channel |

Isolation

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| Between channels | - |
| Between channels of groups to | - |
| Between channels and backplane bus | yes |
| Between channels and power supply | yes |
| Max. potential difference between circuits | - |
| Max. potential difference between inputs (Ucm) | DC 9 V |
| Max. potential difference between Mana and Mintern (Uiso) | - |
| Max. potential difference between inputs and Mana (Ucm) | - |
| Max. potential difference between inputs and Mintern (Uiso) | DC 75 V/ AC 50 V |
| Max. potential difference between Mintern and outputs | - |
| Insulation tested with | DC 500 V |

Datasizes

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|-----------------|---|
| Input bytes | 8 |
| Output bytes | 0 |
| Parameter bytes | 9 |

Diagnostic bytes 20

Housing

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| Material | PPE / PPE GF10 |
| Mounting | Profile rail 35 mm |

Mechanical data

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| Dimensions (WxHxD) | 12.9 mm x 109 mm x 76.5 mm |
| Weight | 60 g |

Environmental conditions

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| Operating temperature | 0 °C to 60 °C |
| Storage temperature | -25 °C to 70 °C |

Certifications

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| UL certification | in preparation |
| KC certification | yes |