

Data sheet
SM 331S - SPEED-Bus (331-7BF70)
Technical data

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|---|---|
| Order no. | 331-7BF70 |
| Type | SM 331S - SPEED-Bus |
| General information | |
| Note | - |
| Features | 8x fast AI 16 Bit Voltage +/- 10 V Potential isolation between the channels 25µs...1000µs sampling rate (parameterizable) Memory: 8192 value/channel Oscilloscope-/FIFO-Function Alarm parameterizable |
| SPEED-Bus | yes |
| Current consumption/power loss | |
| Current consumption from backplane bus | 530 mA |
| Power loss | 4 W |
| Technical data analog inputs | |
| Number of inputs | 8 |
| Cable length, shielded | 50 m |
| Rated load voltage | DC 24 V |
| Current consumption from load voltage L+ (without load) | 62 mA |
| Voltage inputs | yes |
| Min. input resistance (voltage range) | 120 kOhm |
| Input voltage ranges | -10 V ... +10 V |
| Operational limit of voltage ranges | +/-0.6% |
| Operational limit of voltage ranges with SFU | - |
| Basic error limit voltage ranges | +/-0.4% |
| 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 | - |
| Grundfehlergrenze Strombereiche | - |
| Radical error limit current ranges with SFU | - |
| Destruction limit current inputs (electrical current) | - |
| Destruction limit current inputs (voltage) | - |
| 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 | - |

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| Resistance thermometer inputs | - |
| Resistance thermometer ranges | - |
| 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 | 25 µs all channels |
| Noise suppression for frequency | - |
| Initial data size | 16 Byte |

Status information, alarms, diagnostics

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|----------------------------------|----------------------|
| Status display | none |
| Interrupts | yes |
| Process alarm | yes, parameterizable |
| Diagnostic interrupt | yes, parameterizable |
| Diagnostic functions | yes |
| Diagnostics information read-out | possible |
| Supply voltage display | none |
| Group error display | red SF LED |
| Channel error display | none |

Isolation

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| Between channels | yes |
| Between channels of groups to | 1 |
| Between channels and backplane bus | yes |
| Between channels and power supply | yes |
| Max. potential difference between circuits | - |
| Max. potential difference between inputs (Ucm) | DC 30 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 | 16 |
| Output bytes | 0 |
| Parameter bytes | 41 |
| Diagnostic bytes | 16 |

Housing

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| Material | PPE |
| Mounting | DIN rail SPEED-Bus |

Mechanical data

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|------------------------------|-------------------------|
| Dimensions (WxHxD) | 40 mm x 125 mm x 120 mm |
| Net weight | 210 g |
| Weight including accessories | - |
| Gross weight | - |

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 | yes |
| KC certification | - |