

Data sheet
SM 231 (231-1BD70)
Technical data

| | |
|---|---|
| Order no. | 231-1BD70 |
| Type | SM 231 |
| General information | |
| Note | - |
| Features | 4x AI 12 Bit Spannung +/- 10 V Potential separated per channel |
| Current consumption/power loss | |
| Current consumption from backplane bus | 280 mA |
| Power loss | 1.4 W |
| Technical data analog inputs | |
| Number of inputs | 4 |
| Cable length, shielded | 200 m |
| Rated load voltage | - |
| Current consumption from load voltage L+ (without load) | - |
| Voltage inputs | yes |
| Min. input resistance (voltage range) | 83 kOhm |
| Input voltage ranges | -10 V ... +10 V |
| Operational limit of voltage ranges | - |
| Operational limit of voltage ranges with SFU | - |
| Basic error limit voltage ranges | - |
| 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 | - |
| 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 | 12 |
| Measurement principle | successive approximation |
| Basic conversion time | - |
| Noise suppression for frequency | - |
| Initial data size | 8 Byte |

Status information, alarms, diagnostics

| | |
|----------------------------------|------|
| Status display | none |
| Interrupts | no |
| Process alarm | no |
| Diagnostic interrupt | no |
| Diagnostic functions | no |
| Diagnostics information read-out | none |
| Supply voltage display | none |
| Group error display | none |
| Channel error display | none |

Isolation

| | |
|---|------------------|
| 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 | DC 75 V/ AC 50 V |
| Max. potential difference between inputs (Ucm) | DC 75 V/ AC 50 V |
| Max. potential difference between Mana and Mintern (Uiso) | DC 75 V/ AC 50 V |
| 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

| | |
|-----------------|---|
| Input bytes | 8 |
| Output bytes | 0 |
| Parameter bytes | 3 |

| | |
|---------------------------------|-------------------------|
| Diagnostic bytes | 0 |
| Housing | |
| Material | PPE / PA 6.6 |
| Mounting | Profile rail 35 mm |
| Mechanical data | |
| Dimensions (WxHxD) | 25.4 mm x 76 mm x 88 mm |
| Net weight | 90 g |
| Weight including accessories | - |
| Gross weight | - |
| Environmental conditions | |
| Operating temperature | 0 °C to 60 °C |
| Storage temperature | -25 °C to 70 °C |
| Certifications | |
| UL certification | yes |
| KC certification | - |