

➤ Alpais Battery Monitoring System Technical Specifications

| Control Module | |
|---------------------------------|---|
| Operating Condition | |
| Operating Temperature | -10°C ~ +70°C (14°F ~ 158°F) |
| Storage Temperature | -20°C ~ +70°C (-4°F ~ 158°F) |
| Relative Humidity Ratio | 5% - 90% RH |
| Atmospheric Pressure | 80 - 110 kPa |
| Power Input | 12VDC @1.5-2A |
| Max. Power Consumption | 20 Watt |
| Communication Interface | |
| RS-485 | Modbus RTU |
| Ethernet | SNMP, MODBUS TCP/IP (optional) |
| Features | |
| Number of String | 4 Strings can be monitored |
| Number of String Module | 1 String Module at each String |
| Number of Battery Module* | 120 Battery Module at string, 480 Battery Modules in total |
| Battery Nominal Voltage | 1,2V - 12V Batteries |
| String Voltage | 1,2V - 2500VDC |
| Input/ Output | |
| Relay Output | 2 x Dry Contact Output, 400V (AC-DC) 120mA (optionally digital) |
| Digital Input | 2 x 12-24VDC |
| Electrical Isolation | 2000 V |
| Physical Characteristics | |
| Dimensions (H x W x D) | 40,5 x 200 x 95,5 mm or 40,5 x 145 x 95,5 mm |
| Enclosure | Metal |
| Color | Grey |

*Optionally, up to 480 cells on 1 string for 1.2V/2V

| String Module | |
|---------------------------------------|---------------------------------|
| Current Monitoring | |
| Current Range | 0-500A |
| Resolution | 10 mA |
| Accuracy | 1% |
| Current Sensor | Hall Effect Sensor |
| Ambient Temperature Monitoring | |
| Temperature Range | -10°C ~ +100°C (14°F ~ 212°F) |
| Resolution | 0.1°C |
| Accuracy | ±2 °C |
| String Voltage Monitoring | |
| Voltage Range | 1-2500 VDC |
| Resolution | 10 mV |
| Accuracy | 0.1% |
| Humidity Monitoring | |
| Humidity Range | 5% - 90% RH |
| Resolution | 1% RH |
| Accuracy | 5% |
| Protection | |
| Isolation | 2000 V Opto Isolation |
| Short Circuit Protection | Max. 3.5A (Internal Fuse) |
| Operating Conditions | |
| Operating Temperature | -10°C ~ +70°C (14°F ~ 158°F) |
| Storage Temperature | -20°C ~ +70°C (-4°F ~ 158°F) |
| Relative Humidity Ratio | 5%-90% RH |
| Atmospheric Pressure | 80-110kPa |
| Power | |
| Power Consumption | 1.2 Watt |
| Operating Current | |
| Nominal Operation | 100 mA |
| Communication | |
| Data Trans.Interface | Serial Modbus Protocol |
| Physical Characteristics | |
| Dimensions (H x W x D) | 29 x 63 x 91 mm |
| Enclosure | ABS |
| Color | Semi-Transparent |

| Battery Module | |
|--|---|
| Compatibility | |
| Battery Type | VRLA, VLA, NiCd |
| Battery Voltage Monitoring | |
| 1.2 V Type Voltage Range | 0.9-3 VDC |
| 2 V Type Voltage Range | 1.5-3 VDC |
| 6 V Type Voltage Range | 4.5-7.5 VDC |
| 12 V Type Voltage Range | 9-15 VDC |
| Resolution | 1 mV |
| Accuracy | 0.05 % ± 6 mV |
| Internal Resistance Monitoring | |
| Resistance Range | 0.1 - 64m ohms |
| Resolution | 1µOhm |
| Accuracy | ±2 % |
| Temperature Monitoring | |
| Temperature Range | -10°C ~ +100°C (14°F ~ 212°F) |
| Resolution | 0.1°C |
| Accuracy | ±2 °C |
| State of Health Monitoring (optional) | |
| State of Health Range | 0 - 100 % |
| Resolution | 1 % |
| Accuracy | ±5 % |
| Protection | |
| Isolation | 2000 V Opto Isolation |
| Short Circuit Protection | Max. 3.5A (Internal Fuse) |
| Reverse Polarity Protection | Provides protection at rated voltage against reverse connection |
| Operating Conditions | |
| Operating Temperature | -10°C ~ +70°C (14°F ~ 158°F) |
| Storage Temperature | -20°C ~ +70°C (-4°F ~ 158°F) |
| Relative Humidity Ratio | 5%-90% RH |
| Atmospheric Pressure | 80-110kPa |
| Power | |
| Power Consumption | 50mA @2V Battery 10mA @12V Battery |
| Operating Current | |
| Nominal Operation | 10mA - 50mA |
| Internal Resistance Measurement During Test | 0.167 A/dk |
| Sleep mode | <10 mA |
| Communication | |
| Data Transmission Interface | Serial Modbus Protocol |
| Features | |
| Automatic Addressing | Automatically obtain address during installation or replacement |
| Voltage Balancing Accuracy (optional) | Voltage balancing feature on string ±0.05 V |
| Physical Characteristics | |
| Dimensions (H x W x D) | 29 x 63 x 91 mm |
| Enclosure | ABS |
| Color | Semi-Transparent |

Alpais Software

Minimum system requirements (if it's not Embedded Software)

- ❖ Core speed of 1.3 GHz or faster
- ❖ Min 2 core CPU
- ❖ Min 4 GB RAM
- ❖ Min 25 GB of free hard disk space

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