

➤ Alpais Battery Monitoring System Technical Specifications

Control Module - CONMOD	
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% - 95% 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
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 a 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
Enclosure	Metal
Color	Grey

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

String Module - STRMOD	
Current Monitoring	
Current Range	0-2000A
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% - 95% 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 – BATMOD**	
Compatibility	
Battery Type & Capacity	VRLA, VLA, NiCd; 10-6000Ah
Battery Voltage Monitoring	
1.2V/2V Voltage Range	0.8-3 VDC
6V Voltage Range	4.5-7.5 VDC
12V 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 Charge 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 the address during installation or replacement
Voltage Balancing Accuracy (optional)	Voltage balancing feature on string ±0.05 V
SOC & SOH	Yes
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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