

PowerShield8



Battery management system

PowerShield8システムは、大規模なバッテリーシステムと小規模なバッテリーシステムの両方を対象としたハードウェアオプションにより、無制限の数のバッテリーを監視することができます。ハードウェアのオプションは、大規模および小規模のバッテリーシステムを対象としています。ハードウェアとソフトウェアの完全なソリューションは、バックアップバッテリーがIEEE/IECガイドラインの範囲内で動作していることを確認するために必要な情報を得ることを保証します。バックアップバッテリーがIEEE/IECガイドラインの範囲内で動作していることを確認するために必要な情報を得ることができます。

System specifications

	Controller LX	Controller MX		Controller LX	Controller MX
Capability	up to 512 blocks up to 8 strings*	up to 200 blocks up to 4 strings*	Interfaces	Link Battery Management Software Controller Web Interface 16 x 2 character LCD & keypad	–
Battery system information	Block : 電圧、リップル電圧、Ω、温度 String : 電圧、電流、リップル電流 Environment : 周囲温度、湿度		Communication ports	2 x 1000Base-T Ethernet 2 x Expansion ports - RS485 (optional)	1 x 1000 Base-T Ethernet 1 x USB 1 x Expansion ports - RS485 (optional)
Battery types		鉛酸 (2V, 4V, 6V, 8V, 12V & 16V) Ni-Cd (1.2V, 3.6V)	Protocols	ModbusTCP, SNMP and HTTP ModbusRTU when RS485 card is fitted	
Battery charging regime		Float and Intermittent	Relay outputs	4	1
Thermal runaway management		String breaker or charger step down signalling	Digital inputs	up to 10 2 via Controller, up to 8 via Hubs	up to 4 via Hubs*
Environment		Operating temperature: 0 to 50°C / 32 – 122°F Storage temperature: -10 to 70°C / 14 – 158°F 10 to 90% RH non condensing Altitude: 2000m max., Indoor use only.	Certifications		

Controller

	Controller LX	Controller MX		Controller LX	Controller MX
Service port	Front Ethernet port (1000Base-T)	USB 2.0 (Type B)	Dimensions	1U High 19" rack mount 430mm / 16.9 inches	250mm / 9.84 inches
Port 1		Back Ethernet port (1000Base-T)	Width	265mm / 10.4 inches	155mm / 6.1 inches
Port 2		Expansion port - optional RS485	Depth	45mm / 1.8 inches	36mm / 1.4 inches
Port 3	Expansion port - optional RS485	–	Power supply	AC Model: 90 – 260V 50/60Hz 24V DC Model: 18 – 30V 48V DC Model: 35 – 60V 110V DC Model: 80 – 150V	AC Model: 90 – 260V 50/60Hz 48 DC Model: 18 – 60V 110 DC Model: 80 – 150V
Display	16 x 2 character LCD	–	Power consumption	5W + 1.2W per Hub	1.5W + 1.2W per Hub
Front	USB data storage	SD Card data storage	Digital inputs	2 (Voltage free / Dry contact)	–
Relay outputs	4 SPDT	1 SPDT	Rating	1A (Q 30VDC, resistive*) Any relay configurable to any alarm	
Configuration interface		Web browser	Memory	2GB RAM 4GB Flash	512MB RAM 4GB Flash
Minimum version	Chrome 50, Firefox 45, Safari 6.1, Internet Explorer 10, Edge 12				

*Contact PowerShield for further details.

Link battery management software

Minimum PC system requirements¹

Processor	Intel i3-6100 or faster	RAM	8GB
Operating system	Windows 10 Windows Server 2012, 2012 R2, 2016	Storage	20GB available hard disk space
		Monitor	1024 x 768 or 1366 x 768

¹最大5台までのコントローラ接続、シングルシート操作を推奨。より大規模な構成については、PowerShieldを参照してください。

mSensor

Dual and Single Input

Battery type	鉛酸 (2V, 4V, 6V, 8V, 12V & 16V) Ni-Cd (1.2V, 3.6V)			
Nominal voltage¹	NiCad ²	2V	6V	12V
Operating range	0.8V-1.9V	1.6V-2.6V	4.8V-7.8V	9.6V-15.6V
Maximum input voltage	±5V	±6V	±25V	±65V
DC resolution / accuracy	1mV / ±0.3%	1mV / ±0.3%	5mV / ±0.2%	5mV / ±0.2%
AC resolution	1mV	1mV	1mV	1mV
Ohmic measurement range	0.10-5mΩ	0.10-5mΩ	0.50-20mΩ	1.00-40.00mΩ
Resolution / accuracy	1uΩ / ±2.5% + ±15uΩ	1uΩ / ±2.5% + ±15uΩ	1uΩ / ±2.5% + ±25uΩ	1uΩ / ±2.5% + ±25uΩ
Temperature³				
Range	-10 to 70°C / 14 to 158°F			
Resolution / accuracy	0.1°C / ±1°C			
Power supply current⁴	50mA	30mA	18mA	18mA

¹Most common models, other models available on request

³Operating temperature -10 to 50°C / 14 to 122°F

Design rated to 750VDC. UL certified to 600Vdc

²Ni-Cd single 1V mSensor cannot perform ohmic measurement

⁴Power by block being monitored

The mSensor communicates via Modbus, meaning it can be easily integrated with other Modbus based site management systems. Contact PowerShield for further details.

Hub

Powered	24Vdc supplied by Controller	Power consumption	1.2W
Digital inputs	1, voltage free	Relay outputs	1
DC current¹	0 - 2000A (Hall Effect sensor)	Temperature	-10 to 80°C / 14 to 176°F
Typical resolution	0.05A	Resolution	0.1°C / 0.18°F
Accuracy	±1% + CT accuracy	Accuracy	±1°C / 1.8°F
Ripple current (AC)¹	True RMS	Relative humidity	0 - 100%
Typical resolution	0.5A	Resolution	1.0%
Accuracy	±1% + CT accuracy	Accuracy	20% - 80% ±3% at 25°C / 77°F
Frequency range	10 - 1000Hz		

¹Resolution dependent on CT model used, typical values are based on 400A CT

*Contact PowerShield for further details.

Installation Dimensions

Dimension	Maximum		Factory sizes	
	Metres	Feet	Metres	Feet
A	75	246	-	-
B	50	164	3, 5, 10, 15	10, 16, 33, 49
C	25	82	-	-
D	15	49	3	10
E	-	-	0.2, 0.4, 0.7, 1.0	8, 16, 28, 39 inches

