PowerShield8

Battery management system

The PowerShield8 system provides monitoring for an unlimited number of batteries, with hardware options targeting both large and small battery systems. A complete solution of hardware and software ensures you get the information you need to confirm your backup batteries are operating within IEEE/IEC guidelines.

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: Voltage, Ripple Voltage, Ohmic, Temperature String: Voltage, Current, Ripple Current Environment: Ambient Temperature, Humidity		**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	Lead Acid (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**	FC CE c UL us LISTED	

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	
			Width	430mm / 16.9 inches	250mm / 9.84 inches
Port 1	Back Ethernet port (1000Base-T)		**Depth**	265mm / 10.4 inches	155mm / 6.1 inches
Port 2	Expansion port - optional RS485		**Height**	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	–			
Front	USB data storage	SD Card data storage	**Power consumption**	5W + 1.2W per Hub	1.5W + 1.2W per Hub
Relay outputs	4 SPDT	1 SPDT	**Digital inputs**	2 (Voltage free / Dry contact)	–
Rating **Selectable**	1A @ 30VDC, resistive* Any relay configurable to any alarm				
Configuration interface **Minimum version**	Web browser Chrome 50, Firefox 45, Safari 6.1, Internet Explorer 10, Edge 12		**Memory**	2GB RAM 4GB Flash	512MB RAM 4GB Flash

*Contact PowerShield for further details.

Link battery management software

Minimum PC system requirements[1]

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

[1] Recommended for up to 5 Controller connections, with single seat operation. Refer to PowerShield for larger configurations.

mSensor
Dual and Single Input

Battery type	Lead Acid (2V, 4V, 6V, 8V, 12V & 16V)			
	Ni-Cd (1.2V, 3.6V)			
Nominal voltage[1]	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
Temperature[3]				
Range	-10 to 70°C / 14 to 158°F			
Resolution / accuracy	0.1°C / ±1°C			
Power supply current[4]	50mA	30mA	18mA	18mA

[1] Most common models, other models available on request
[2] Ni-Cd single 1V mSensor cannot perform ohmic measurement
[3] Operating temperature -10 to 50°C / 14 to 122°F
[4] Power by block being monitored
Design rated to 750VDC. UL certified to 600Vdc

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 current[1]	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		

[1] Resolution 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

PowerShield.

powershield.com