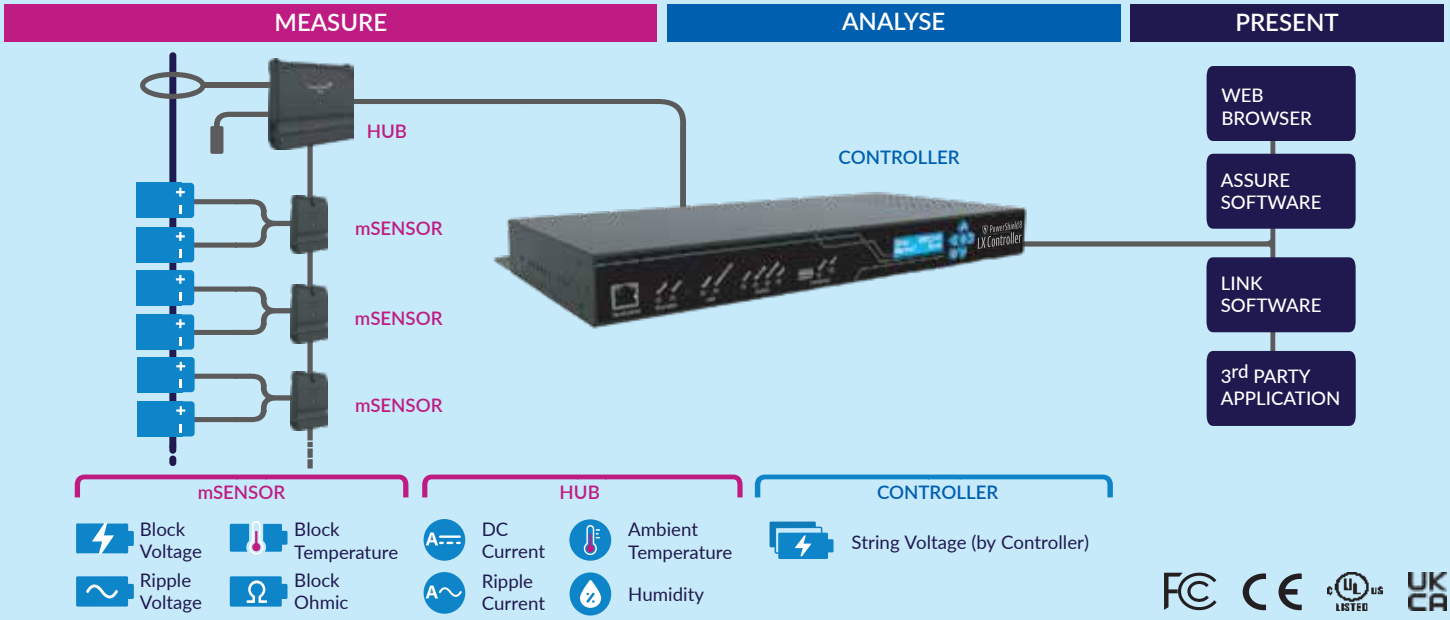
PowerShield8
CRITICAL BATTERY PERFORMANCE

LX | MX DATA SHEET

The PowerShield8 system provides monitoring for an unlimited number of batteries, with hardware options suited to both large and small critical power battery installations.

Larger battery banks use the LX Controller and small to mid-sized installations the MX Controller. A complete PowerShield8 installation will help your team conform to IEEE/IEC battery management guidelines and help ensure that your batteries are primed and ready to perform when you need them.



SYSTEM

Battery system information	Block: Voltage, Ripple Voltage, Ohmic, Temperature String: Voltage, Current, Ripple Current Environment: Ambient Temperature, Humidity
Battery types	Lead Acid (2V, 4V, 6V, 8V, 12V & 16V), Ni-Cd (1.2V, 3.6V)
Battery charging regime	Float and Intermittent
Thermal Runaway Protection	String Breaker or charger step down signalling
Environment	Operating temp: 0° to 50° C / 32° -122° F Storage temp: -10° C to 70± C / 14° - 158° F 10 - 90% RH non-condensing Altitude: 2000m Max. Indoor use only

LINK BATTERY MONITORING SOFTWARE

Minimum PC system requirements[1]	
Processor	Intel i5-13500 or faster
Operating System	Windows 10 or 11, Windows server 2019 or later
Disk	16GB
Storage	20GB available hard disk space
Monitor	1980 x 1020 (FHD)

CONTROLLER

Model	LX Controller	MX Controller
Capability	Up to 512 blocks, Up to 8 strings[9]	Up to 200 blocks Up to 4 strings[9]
Memory	2 Gb RAM, 16 GB Flash	1 GB RAM, 8 GB Flash
Configuration interface	Web browser - Chrome 51, Edge 15, Firefox 54, Safari 10.0 or newer	Web browser - Chrome 51, Edge 15, Firefox 54, Safari 10.0 or newer
Display	16 x 2 character LCD & keypad	
Communication Ports Service Port [Front] Port 1 Port 2 Port 3	 Ethernet port (1000Base-T) Ethernet port (1000Base-T) Expansion port - optional RS485 Expansion port - optional RS485 or WiFi[2] or 4G cellular	 USB 2.0 (Type B) Ethernet port (1000Base-T) Expansion port - optional RS485 Wifi or 4G cellular optional [factory fitted only][2]
Protocols	ModBusTCP, SNMP, HTTP and HTTPS, ModBusRTU when RS485 card is fitted	ModBusTCP, SNMP, HTTP and HTTPS, ModBusRTU when RS485 card is fitted
Offline data transfer	USB data storage	SD Card Storage
Relay outputs	4 SPDT, 1A @ 30V DC, resistive load Any relay configurable to any alarm	1 SPDT, 1A @ 30V DC, resistive load Any relay configurable to any alarm
Digital Inputs	2 (Voltage free / Dry contact)	
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 50/60 Hz 24/48V DC Model: 18 - 60V 110V DC Model: 80 -150V
Power consumption	5W + 1.2W per Hub	1.5W + 1.2W per Hub
Dimensions Width Depth Height Weight	1U High 19" rack mountable 430mm / 16.9 inches 265mm / 10.4 inches 45mm / 1.8 inches 3.0kg / 6.6 lb	1U High 19" rack mountable 250mm / 9.84 inches 155mm / 6.1 inches 36mm / 1.4 inches 1.2 kg / 2.7 lb

PowerShield8
CRITICAL BATTERY PERFORMANCE

LX | MX DATA SHEET

HUB

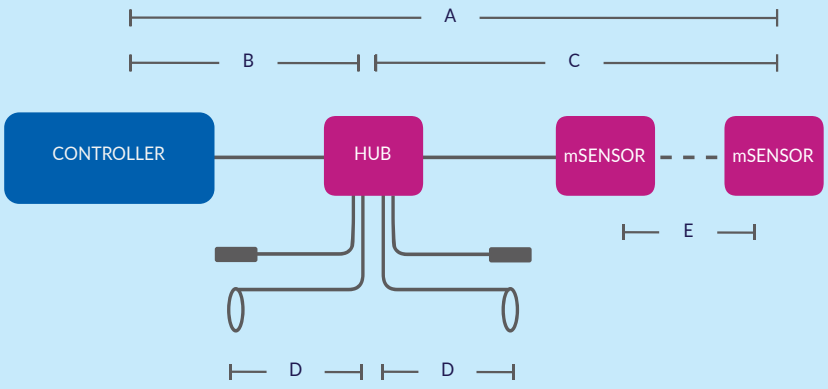
Powered	24V DC supplied by Controller	Ambient temperature inputs	2
Power Consumption[3]	1.2W	Temperature Resolution Accuracy	-10° to 80° C / 14° to 176° F 0.1° C / 0.18° F ± 1° C / 1.8° F
Current transducer inputs	2	Relative humidity	0 - 100%
DC current	0 - 2000A	Resolution Accuracy	1.00% ± 3% @ 25° C / ° F, 20% to 80% RH
Typical resolution[4] Accuracy	0.1A ± 1% + CT accuracy	Relay outputs	1 SPDT, 1A @ 30V DC, resistive load Configurable to any alarm
Ripple current (AC)	True RMS		
Typical resolution Accuracy Frequency range	0.1A ± 1% + CT accuracy 45 - 100Hz	Digital Inputs	1 (Voltage free / Dry contact)
		Dimensions	120mm x 25mm x 107mm (W x D x H)
		Weight	180g / 0.40 lb

mSENSOR Dual & Single Input

Nominal voltage[5]	12V	6V	2V	NiCad[6]
Operating range Maximum input voltage DC resolution /accuracy	9.6V - 15.6V ± 65V 5mV / ±0.2%	4.8V - 7.8V ± 25V 5mV / ±0.2%	1.6V - 2.6V ± 6V 1mV / ±0.3%	0.8V - 1.9V ± 5V 1mV / ±0.3%
AC resolution	All mSensors 1mV			
Ohmic range Resolution / accuracy	1.00 - 40.0mΩ 1uΩ / ± 2.5% + ± 25uΩ	0.5 - 20mΩ 1uΩ / ± 2.5% + ± 25uΩ	0.10 - 5mΩ 1uΩ / ± 2.5% + ±15uΩ	0.10 - 5mΩ 1uΩ / ± 2.5% + ±15uΩ
Temperature measurement range[7] Resolution / accuracy	All mSensors -10°- 80° C / 14° - 176° F All mSensors 0.1° C / ± 1° C			
Power supply current[8]	20mA	20mA	30mA	50mA
Voltage isolation	All mSensors Design rated to 750VDC. UL certified to 600VDC			
Dimensions	All mSensors 76mm x 26mm x 106mm (W x D x H)			
Weight	All mSensors 110g / 0.24 lb			

INSTALLATION DIMENSIONS

Dimension	Maximum		Factory sizes	
	Meters	Feet	Meters	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 in



[1] Recommended for up to 5 Controller connections, with single seat operation. Refer to PowerShield for larger configurations. Maximum of 75 systems per Link instance recommended, contact PowerShield for more information.
[2] Wi-Fi 802.11 dual band 2.4/5 GHz a/ac/b/g/n, security WPA2.
[3] With 1 CT connected.
[4] Resolution dependent on CT model used, typical values are based on 400A CT.
[5] Most common models, other models available on request.
[6] Ni-Cd single 1V mSensor cannot perform ohmic measurement.
[7] Operating temperature -10 to 50°C / 14 to 122°F.
[8] Power by block being monitored.
[9] Contact PowerShield for further details.

Specifications are subject to change without notice, images shown may vary slightly.