SCAP

ZX Super Capacitor

Graphene-based Power Modules

Econolite's ZX1000 and ZX2000 Graphene-based Super Capacitor power modules are an innovative and extremely durable approach to providing battery backup power for traffic intersections and are a great alternative to chemical batteries. Paired with Econolite's DBLMXU 36V, or 48V series double conversion Uninterruptable Power Supply (UPS) system, the ZX Super Capacitor provides scalable "green" energy that will last years beyond lead-acid batteries in the same application. They do not contain any chemical batteries, so they are virtually unaffected in their capacity at extremely low or high temperatures unlike lead-acid batteries. They also cannot be damaged by storage at low charge and can take hundreds of thousands of charge/discharge cycles. Therefore, ZX Super Capacitor power modules cannot be worn out by frequent outages.

The ZX1000-36 power module is very compact and works with other 36V systems and holds 1000Whr of energy at full charge. This is enough to provide a typical sized intersection with approximately 2-4 hours of backup power. The ZX2000 -24, -36, -48, and -72 are 24V, 36V, and 48V power modules with the same characteristics as above for 24V/36V/48V/72V systems. However, they have double the capacity at 2000Whr providing 4-6 hours of full color for a typical intersection load.

Key features

- Zero environmental impact
- Zero maintenance
- 100,000's of discharge cycles
- 20+ years of service life
- Retains 85-90% charge after storage for 1 year, no storage limit, no damage
- Connect multiple units in parallel for scalable capacity• No cooling or heating pads needed
- Operating range -30°C to +65°C without derating or energy loss
- 10-year limited warranty

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ZX Series Super Capacitors: Power storage modules

The ingenuity of the system's design is its scalability and reliability. ZX Super Capacitor power modules can connect in parallel, allowing the user to deploy as many as required for the application (up to 10). A unique feature is that they are able to recharge very fast, allowing a depleted module to be pulled from service and be fully charged in only two hours, (on a 1000W charger) and be ready for service before a swapped unit is depleted. By adding the optional Hot Swap Switch to the system, users can swap out depleted modules for fresh ones during a power outage without going dark.

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Modules	ZX2000-24*	ZX1000-36*	ZX2000-36*	ZX2000-48*	ZX2000-48F*	ZX2000-72***
Rating	2000WHr	1000WHr	2000WHr	2000WHr	2000WHr	2000WHr
VDC Nominal	24V	36V	36V	48V	48V	72V
AH Rating C3	105*	34*	58*	60*	60*	39*
Max VDC	28.5	42	42	57.6	57.6	82.7
Minimum VDC	20.0	31.0	31.0	41.2	41.2	73.7
Max Discharge Amp***	105	66	66	66	66	36
Max Charge Current	100A	60A	60A	100A	100A	40
CMS/BMS	Active with current and VDC control	Active with current and VDC control	Active with current and VDC control	Active with current and VDC control	Active with current and VDC control	Active with current and VDC control
Display	• LCD: Capacity, VDC, & AH • Charge & discharge amp • Cell: VDC cell temp, alarm, & parallel status	• LCD: Capacity, VDC, & AH • Charge & discharge amp • Cell: VDC cell temp, alarm, & parallel status	• LCD: Capacity, VDC, & AH • Charge & discharge amp • Cell: VDC cell temp, alarm, & parallel status	• LCD: Capacity, VDC, & AH • Charge & discharge amp • Cell: VDC cell temp, alarm, & parallel status	• LCD: Capacity, VDC, & AH • Charge & discharge amp • Cell: VDC cell temp, alarm, & parallel status	• LCD: Capacity, VDC, & AH • Charge & discharge amp • Cell: VDC cell temp, alarm, & parallel status
Indicators	LED: 25%, 50%, 75%, & 100% charge/discharge, run, alarm	LED: 25%, 50%, 75%, & 100% charge/discharge, run, alarm	LED: 25%, 50%, 75%, & 100% charge/discharge, run, alarm	LED: 25%, 50%, 75%, & 100% charge/discharge, run, alarm	LED: 25%, 50%, 75%, & 100% charge/discharge, run, alarm	LED: 25%, 50%, 75%, & 100% charge/discharge, run, alarm
Control Buttons	Menu, Enter, Down, Esc.	Menu, Enter, Down, Esc.	Menu, Enter, Down, Esc.	Menu, Enter, Down, Esc.	Menu, Enter, Down, Esc.	Menu, Enter, Down, Esc.
Communication	Parallel RS485 x 2	Parallel RS485 x 2	Parallel RS485 x 2	Parallel RS485 x 2	Parallel RS485 x 2	Parallel RS485 x 2
Parallel Dip Switch	6x ON/OFF setting	6x ON/OFF setting	6x ON/OFF setting	6x ON/OFF setting	6x ON/OFF setting	6x ON/OFF setting
ON/OFF Control	Rocker switch with DC breaker 2 pole/w-finger guard	Rocker switch with DC breaker 2 pole/w-finger guard	Rocker switch with DC breaker 2 pole/w-finger guard	Rocker switch with DC breaker 2 pole/w-finger guard	Rocker switch with DC breaker 2 pole/w-finger guard	Rocker switch with DC breaker 2 pole/w-finger guard
DC Connections	Anderson 2 x SB Series black or grey	Anderson PP75 Series 2 x red/black	Anderson PP75 Series 2 x red/black	Anderson SB 50 Series 2 x red molded	Anderson SB 50 Series 2 x red molded	Anderson SB 50 Series 2 x blue molded
Dimensions (in.)	17.25W x 5.25H x 14.25D	15.0W x 5.25H x 9.35D	17.25W x5.25H x 14.5D	17.25W x 5.25H x 14.25D	16W x 7.0H x 10.25D	17.25W x 5.25H x 14.75D
Weight	23kG/50.6lbs	16kG/32lbs	22.27kG/49lbs	22.2kG/48lbs	22.2kG/48lbs	24.5kG/54lbs

** Back up time is based on load divided into the actual rating. Back up time will not derate during temperature variations of -30c to +65c.

** Dimensions and weight are the maximums during the writing of this document. The dimensions and weight may be reduced during productions.

** Back up times will be published when the final documentation is available.

* AH Ratings are based on a C3 rate. The final numbers will be adjusted based on the final back up testing.

* These modules may be installed in a vertical position. ***Max Discharge is continuous with the circuit breaker. Max without CB is Continuous Rating x 2

* **SNMP is not available on the 72V model. Connectors color SB-50-Blue

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