

# KBI® Engine Starting Solutions



## KAPower Starting Module

Featuring  
**KAPower®**  
Supercapacitors

### KSM the KAPower Starting Module

If you have ever suffered downtime due to the failure of lead-acid batteries you know the event's cost is more than just the purchase price of the battery. Lead-acid batteries have limitations and they are being pushed to the limits with today's electrical demands. The situation gets worse as the demands increase and will make the dependence on the lead-acid battery for starting your engine a risky scenario.

The KAPower Starting Module contains everything you need to never experience the effects of a dead battery again. This comes from the KAPower technology found inside. KAPower is a Supercapacitor (a.k.a. Ultracapacitor) and when installed on a vehicle, down time from a "dead" battery is **ELIMINATED**.

The device is initially energized from the vehicle's electrical system and stores the energy until needed. Even with "run down" batteries, the KAPower Starting Module gives an engine the power it needs to start. It is virtually unaffected by temperatures and is completely maintenance free. KAPower Starting Module has a long service life, upwards of one million cycles without the loss of cranking power, compared to an average battery's life of 300 - 500 cycles. It may even outlast the equipment it is installed on. Thousands of units are in service and have been operating effectively for many years.

The KSM can be installed on most vehicles, or pieces of equipment.

PROVIDING ENGINE  
STARTING SOLUTIONS  
SINCE

1970



**ELIMINATE NO STARTS FROM A "DEAD" BATTERY**

Eliminate the cost and down time associated with jump-starting

KAPower Starting Module can sit unmonitored for up to 2 years and still supply enough power to crank your engine.

Eliminate the costs and maintenance associated with starting batteries

KAPower Starting Module has a 15 - 20 year service life and is completely maintenance free.

# KAPower Starting Module



**HIGH POWER CRANKING**

Supplies current 2 - 3 times greater than a battery only system during the critical seconds of cranking motor engagement.

**ANTI-IDLE REGULATIONS**

Greatly increases performance and reliability when complying with ever increasing emissions laws.

**LONG SHELF LIFE**

Virtually unlimited shelf life. Low self-discharge allows high power starts even after months of storage.

**ENGINEERED TO OUTLIVE THE EQUIPMENT IT IS INSTALLED ON**

This ensures maintenance free performance over the life of the vehicle.

**SIMPLE DESIGN**

No danger of overcharging. Requires no sophisticated electronic controls or switching equipment.

**CONSTANT LIFE PERFORMANCE**

Virtually unaffected by temperatures. Maintains starting performance for over one million cycles and increases life of existing batteries.

**WEIGHT REDUCTION**

Lead-Acid batteries can be removed. As a result weight reduction can be achieved while increasing cranking power.

Options:

- 1) Custom Configurations Available
- 2) SAE J1939 / CAN bus
- 3) Scalable

## 24 Volt Specifications

Electrical Characteristics	10 Cell Unit	12 Cell Unit
Operating Voltage Window	8 – 29 V	8 – 29 V
Maximum Voltage	30 V	33 V
Minimum Voltage	0 V	0 V
Internal Resistance	0.0019 Ohm	0.0022 Ohm
Capacitance	315 F	263 F
Energy Stored Within Operating Voltage Window	122.4 kJ	102 kJ
Energy Stored at Max Voltage	141.8kJ	142.9kJ
Maximum Power	112 kW	94 kW
Leakage Current at Max Voltage	4.5 mA	4.5 mA
<b>Operating Conditions</b>		
Operating Temperature Range	-40° – 185° F -40° – 85° C	-40° – 185° F -40° – 85° C
Storage Temperature	-40° – 158° F -40° – 70° C	-40° – 158° F -40° – 70° C
Cycle Life	>1,000,000	>1,000,000
<b>Dimensions and Weight</b>		
Length	19.44"	19.44"
Width	7.75"	7.75"
Height	8"	8"
Weight	32.5 lbs	34.5 lbs



**ISO**  
**9001:2008**  
REGISTERED

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For Use Under One Or More US Patent #s  
6,242,887 - 6,362,595 - 6,819,010  
6,871,625 - 6,888,266 6,988,475  
6,988,476 - 7,134,415 - 7,198,016  
8,820,287B2 AND 20160053737A1

- NO MAINTENANCE
- SAFE AND EASY TO INSTALL
- STORES THE POWER UNTIL NEEDED
- 30 SECOND OR LESS RECHARGE TIME



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