

KSM™

KAPower® Starting Module

Eliminate No-Starts from "Dead" Batteries

When you install KSM in your boat



**KOLD-BAN
INTERNATIONAL, LTD.**

**We Are The Expert Leader
In Engine Starting Solutions**

www.koldban.com



KAPower Starting Module

KSM Advantages

- KBi's KSM Supercapacitor module is powerful enough to supply cranking power without the use of lead-acid batteries.
- Available as a 12 or 24-volt module, one module can provide 24 volts - no need to series modules (batteries).
- One module is all that's needed to start several engines - eliminate multiple battery banks.
- KBi's KSM can be left "on-line" while the vessel is in operation, buffering electrical brownouts.
- KSM is truly maintenance free and will last the life of the vessel.
- No gassing, no ventilation required. Can be installed in virtually any orientation.
- Because access isn't needed for changeouts, as it is with batteries, the KSM can be installed in remote locations.
- KSM will provide weight savings and space savings.
- When isolated KSM will retain sufficient charge for engine cranking for extended periods of time.
- It can be recharged within seconds—almost instantaneously. If necessary, any DC power source, like house batteries, can be used.

How to Eliminate Engine No-Starts from Lead-Acid Battery Failures in Your Boat

KSM / KAPower Starting Module

Avoid downtime from the failure of lead-acid batteries with the innovative KSM Starting Module. Engineered with a commercial grade supercapacitor, KSM gives your engine the power to start every time, regardless of the state of charge of your lead-acid batteries.

- **Quick recharge**—In 30 seconds, and the charge lasts for several months
- **Maintenance free**—Just install KBI's KSM, and it's ready to use again and again
- **Versatile**—Operates in temperatures from -40°F to 149°F
- **Long life**—Lasts over 1,000,000 cycles, up to 20 years
- **Easy to install**—Install in any orientation, vertically, or even upside down!
- **Made in the USA**



Midnight Express Boats 43' and Longer Now Come Standard with KBI's KSM!



KBI's KSM has been installed upside down in this boat. It can be installed in any direction!

KBi's KSM assures you will never experience a "no-start" from a dead battery again. It's a supercapacitor, and when it is installed in a boat, downtime from a dead battery is completely eliminated.

The device is initially energized from the boat's electrical system and stores the energy until needed. Even with a rundown battery, KBi's KSM provides an engine the power it needs to start. KSM is virtually unaffected by temperatures and is completely maintenance free.

KBi's KSM has a long service life. KSM can withstand upwards of one million start cycles without losing cranking power. Compare that with an average battery's life of just a few seasons, and the difference is clear. KSM often outlasts the equipment it is installed in. Thousands of units are in service and have been operating effectively for many years.

KSM is 100% maintenance free, so you don't have to access it until you move it to your next boat.

Specifications

Module	12 V	12 V	12 V	24 V	24 V
Cell Units	6	10	12	10	12
Electrical Characteristics					
Operating Voltage Window	7 – 14.5 V	7 – 14.5 V	7 – 14.5 V	8 – 29 V	8 – 29 V
Maximum Voltage	18 V	18 V	18 V	30 V	33 V
Minimum Voltage	0 V	0 V	0 V	0 V	0 V
Internal Resistance	0.0011 ohms	0.0008 ohms	0.0009 ohms	0.0019 ohms	0.0022 ohms
Capacitance	525 F	1260 F	1050 F	315 F	263 F
Energy Stored within Operating Voltage Window	42.3 kJ	101.6 kJ	84.7 kJ	122.4 kJ	102 kJ
Energy Stored at Max Voltage	85.1 kJ	141.8 kJ	170.1 kJ	141.8 kJ	142.9 kJ
Maximum Power	47 kW	112 kW	93.7 kW	112 kW	94 kW
Leakage Current at Max Voltage	4.5 mA	4.5 mA	4.5 mA	4.5 mA	4.5 mA
Operating Conditions					
Operating Temperature Range	-40° – 149°F (-40° – 65°C)	-40° – 149°F (-40° – 65°C)	-40° – 149°F (-40° – 65°C)	-40° – 149°F (-40° – 65°C)	-40° – 149°F (-40° – 65°C)
Cycle Life	>1,000,000	>1,000,000	>1,000,000	>1,000,000	>1,000,000
Dimensions and Weight					
Length x Width x Height	14.79" x 7.75" x 8"	19.44" x 7.75" x 8"	19.44" x 7.75" x 8"	19.44" x 7.75" x 8"	19.44" x 7.75" x 8"
Weight	22 lb	32.5 lb	34.5 lb	32.5 lb	34.5 lb

What Customers Are Saying about KBI's KSM

"I like that the capacitor separates [isolates] itself once charged, so I never need to worry about KBI's KSM being dead when I need it to start a motor. It really is the best backup system we have ever had, and I don't want to risk [changing] that."

—**Eric Glaser**, CEO
Midnight Express Powerboats

"Normally, you'll get around 300 cycles out of a well-maintained battery, but KBI's KSM is designed to run 1,000,000 cycles. It will outlive the boat, the motor—even the owner. It's like having an emergency battery permanently on standby without any of the maintenance an actual battery requires.

"KBI's KSM is simple to install, and it's designed to last forever. As simple as its purpose may be, KBI's KSM is truly amazing. I'm shocked nobody came up with this sooner, as it's only a matter of time before every boat has one."

—**Christopher Labozza**, Executive Vice President
Precision Marine Center

"I think KBI's KSM could give builders of ultra high performance sport fishing boats a competitive advantage. The supercapacitors replace a large starting battery bank, reducing weight and footprint in the engine room installation. Our technicians like it, because it means no more hauling 8D batteries out of the engine room, and it extends the life of the starter."

—**Sean Prendergast**, Training Manager
Gregory Poole CAT



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