

SENSATA CONTACTORS FOR SMALL BATTERY PACKS

Background

Modern battery packs for small, high power applications such as battery powered fork lifts and residential battery energy storage, require robust contactors to maintain safe operation. These packs often use lithium ion or lead acid batteries, which have become increasingly capable as technology has improved. With this increased capability, comes greater operating currents, fault currents and voltage isolation requirements, all of which drive the need for improved contactor performance.

Small, high power battery packs operate safely and efficiently by using robust contactors and switches to carry and isolate electricity.

The main contactors on the pack need to be able to carry current under all operating conditions while being able to interrupt current in an emergency. The precharge contactor needs to be able to hot switch to charge the load's capacitors and maintain high voltage isolation once startup is complete.





Solution

High performance contactors from Sensata GIGAVAC are ideal for these applications. Sensata GIGAVAC is an innovator with its robust hermetic sealing technology and a partner of choice with its strong engineering support and commitment to world class operations. In particular, the new GV210 Series is ideal for small, high power applications, since these compact contactors are filled with an inert gas to increase switching performance and voltage isolation, while minimizing contact resistance, size and weight. The GV210 is suitable as a main contactor on both the positive and negative conductors for the many packs in the 12VDC to 900VDC range at continuous operating currents up to 150A. Additionally, the P series of contactors is suitable for higher voltage applications up to 80 A at 1500 VDC and PCB mounted applications. This can be continuous power levels from 3kW to 100kW, including forklifts, AWP's, AGV's, golf carts, lawn mowers, ATV's, motorcycles, drones, home energy storage, solar PV and chargers. The GV210 and P Series are also suitable as a precharge contactor on these packs. Sensata GIGAVAC also offers non-load-break manual disconnect switches, typically used for disabling the system for service. This includes the BD and HBD series of disconnect switches.



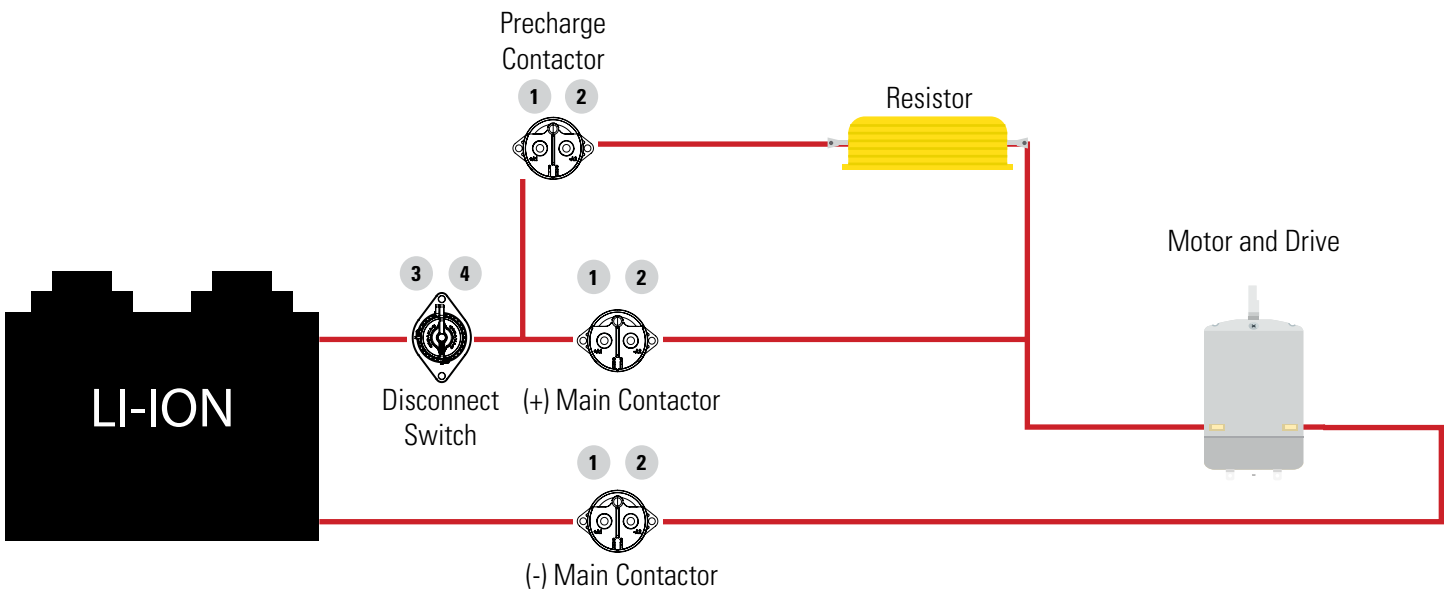


RECOMMENDED PRODUCTS

Reference on Diagram	Product	Features	Function	Brand
1	 GV210 Series	<ul style="list-style-type: none"> Hermetically sealed for improved voltage isolation and switching. Operates in explosive and harsh environments without damage to contacts. 	<ul style="list-style-type: none"> Electrical Isolation and Protection 	GIGAVAC
2	 P Series	<ul style="list-style-type: none"> Hermetically sealed for performance Up to 80 A at 1500 VDC PCB mounting option 	<ul style="list-style-type: none"> Electrical Isolation and Protection 	GIGAVAC
3	 BD	<ul style="list-style-type: none"> Environmentally sealed 2 poles Up to 500 A at 32 VDC 	<ul style="list-style-type: none"> Service Disconnect 	GIGAVAC
4	 HBD	<ul style="list-style-type: none"> Hermetically sealed Up to 400 A at 1000 VDC 	<ul style="list-style-type: none"> Service Disconnect 	GIGAVAC



BATTERY PACK WITH DC LOADS



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