Application	Uninterrupted
Thermal Current Rating (I_{th})	125A
Intermittent Current Rating:	
30% Duty	230A
40% Duty	200A
50% Duty	175A
60% Duty	160A
70% Duty	150A
Rated Fault Current Breaking Capacity (I_{cn}) 5ms Time Constant: *(in accordance with UL583*)*	
SD150	800A at 48V D.C.
SD150B	800A at 80V D.C.
Maximum Recommended Contact Voltages (U_e):	
SD150	48V D.C.
SD150B	96V D.C.
Typical Voltage Drop per pole across New Contacts at 100A	<40mV
Mechanical M.T.B.F	>1 x 10^4
Electrical M.T.B.F	>3 x 10^6
Coil Voltage Available (U_S)	From 6 to 240V D.C.
Coil Power Dissipation:	
Highly Intermittent Rated Types	20 - 30 Watts
Intermittently Rated types	15 - 20 Watts
Prolonged Rated Types	13 - 15 Watts
Continuously Rated Types	7 - 13 Watts
Maximum Pull-In Voltage (Coil at 20˚ C) Guideline:	
Highly Intermittent Rated types (Max 25% Duty Cycle)	60% U_S
Intermittently Rated types (Max 70% Duty Cycle)	60% U_S
Prolonged Operation (Max 90% Duty Cycle)	60% U_S
Continuously Rated Types (100% Duty Cycle)	66% U_S
Drop-Out Voltage Range	10 - 30%
Typical Pull-In Time	20ms
Typical Drop-Out Time (N/O Contacts to Open):	
Without Suppression	5 - 10ms
With Diode Suppression	50 - 100ms
With Diode and Resistor *(Subject to resistance value)*	10 - 50ms
Typical Contact Bounce Period	3ms
Operating Ambient Temperature	- 40˚C to + 60˚C
Guideline Contactor Weight:	
SD150	550 gms
With Auxiliary	+ 20 gms
With Blowouts	+ 50 gms
With Lock	+ 60 gms
Auxiliary Details	
Auxiliary Thermal Current Rating	15A
Auxiliary Contact Switching Capabilities (Resistive Load):	
	15A at 24V D.C.
	10A at 48V D.C.
	5A at 240V D.C.
Advised Connection Sizes for Maximum Continuous Current	
Copper busbar	129mm² [0.2inch²]
Cable	Rated suitable for Application

Key: ◢ *= Uninterrupted*

Note: *Where applicable values shown are at 20˚C*

* *Please check our web site for product UL status*

The SD150 has been designed to provide a rapid means of disconnecting batteries or other power supplies in the event of serious electrical faults.

- Uninterrupted current - no or infrequent load switching requirements (maintains a lower contact resistance).

The SD150 combines the dual function of a manual disconnect and coil operated line contactor. The benefits of this design include compact size and reduced installation costs combined with an electrical capacity sufficient for small and medium size electric vehicles.

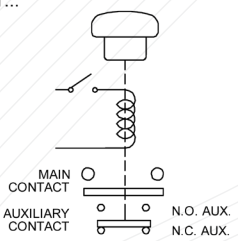
Whilst the switches are primarily intended for use with battery powered vehicles, they are also suitable for use with static power systems. All types are capable of safely rupturing full load battery currents in the event of an emergency.

SD150A

Modes of Operation:

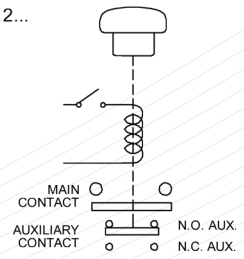
Knob depressed
Coil de-energised
Main contacts open
N.O. auxiliary contacts open

1...



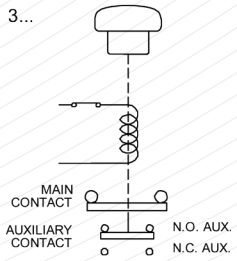
Knob in "ON" position
Coil de-energised
Main contacts open
N.O. auxiliary contacts closed

2...



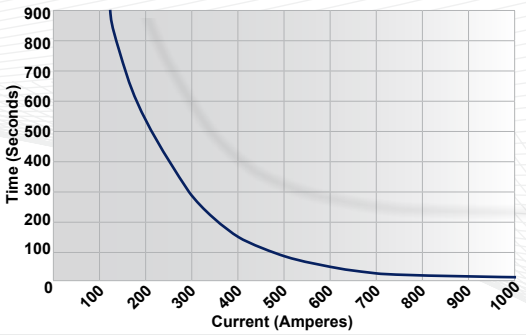
Knob in "ON" position
Coil energised
Main contacts closed
N.O. auxiliary contacts closed

3...



The operation of the switch is such that with the operating knob depressed i.e. in the "off" position, no electrical functions can take place. However, if the knob is in the "On" position, the option of energising the coil and thus closing the main contacts becomes available. The coil energisation can be carried out either through the vehicle keyswitch or as a result of a signal from the vehicle electronic controller. When used as an emergency battery disconnect switch, manually depressing the operating knob will override the energised coil such that the main contact and the auxiliary contact (where fitted) will open until such time as the knob is again moved to the "on" position.

SD150 Contactor Performance



Contact Performance Key: —— **Uninterrupted Current**

- **Performance data provided should be used as a guide only. Some de-rating or variation from figures may be necessary according to application.**
- **Thermal current ratings stated are dependant upon the size of conductor being used**
- **For further technical advice email: technical@albrightinternational.com**
- **Albright reserve the right to change data without prior notice**

SD150 Available Options		
General		**Suffix**
Auxiliary Contacts	○	A
Auxiliary Contacts - V3	X	
Magnetic Blowouts†	○	B
Magnetic Blowouts - High Powered†	X	
Armature Cap	X	
Mounting Brackets	X	
Magnetic Latching† (Not fail safe)	X	
Closed Contact Housing	○	
Environmentally Protected IP55	X	
EE Type (Steel Shroud)	X	
Lockable	○	
Contacts		
Large Tips	X	
Textured Tips	X	
Silver Plating	X	
Coil		
AC Rectifier Board (Fitted)	X	
Coil Suppression†	○	
Flying Leads	X	
Manual Override Operation	●	
M4 Stud Terminals	X	
M5 Terminal Board	X	
Vacuum Impregnation	○	

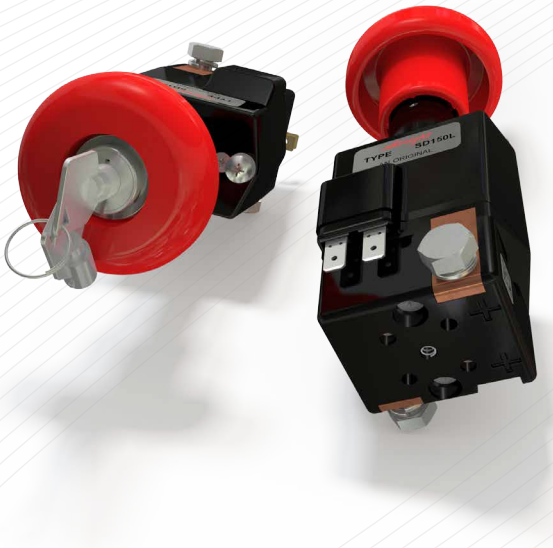
Key: Optional ○ Standard ● Not Available X

† *Connections become polarity sensitive*

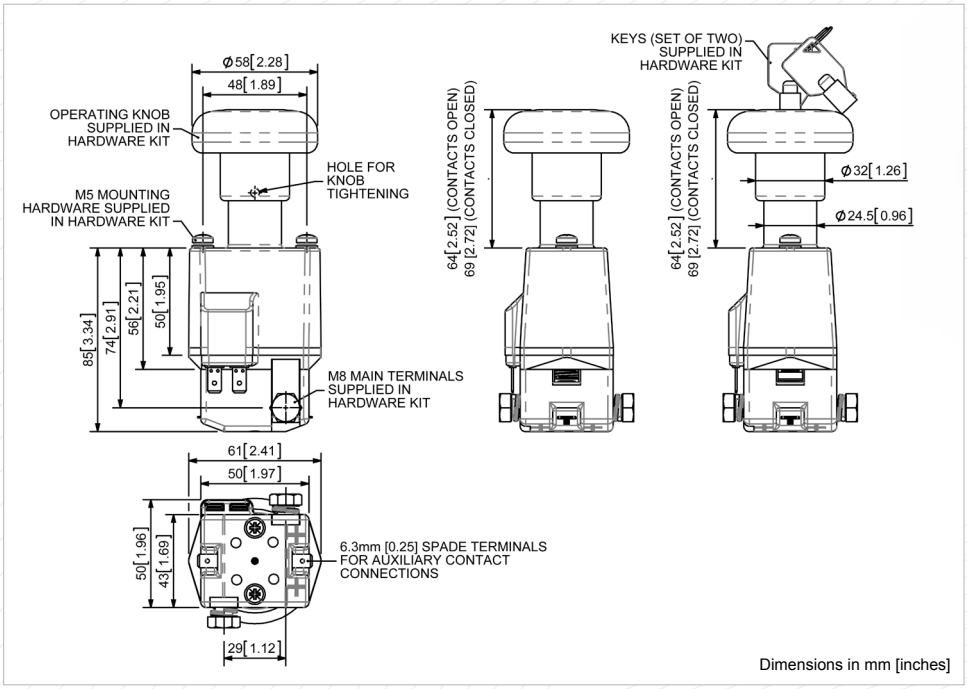
The Use of Battery Disconnecting Switches in Electric Vehicles

Modern battery powered electric vehicles are inherently very reliable and safe. However, even when sophisticated electronic controllers are used it is desirable to have a means of disconnecting the battery in the event of an emergency, such as a vehicle failing to stop or an electrical short circuit.

In many countries it is mandatory to fit one or more devices to achieve an emergency disconnection of the battery.

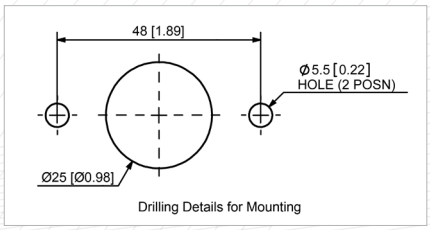


SD150A Technical Drawing



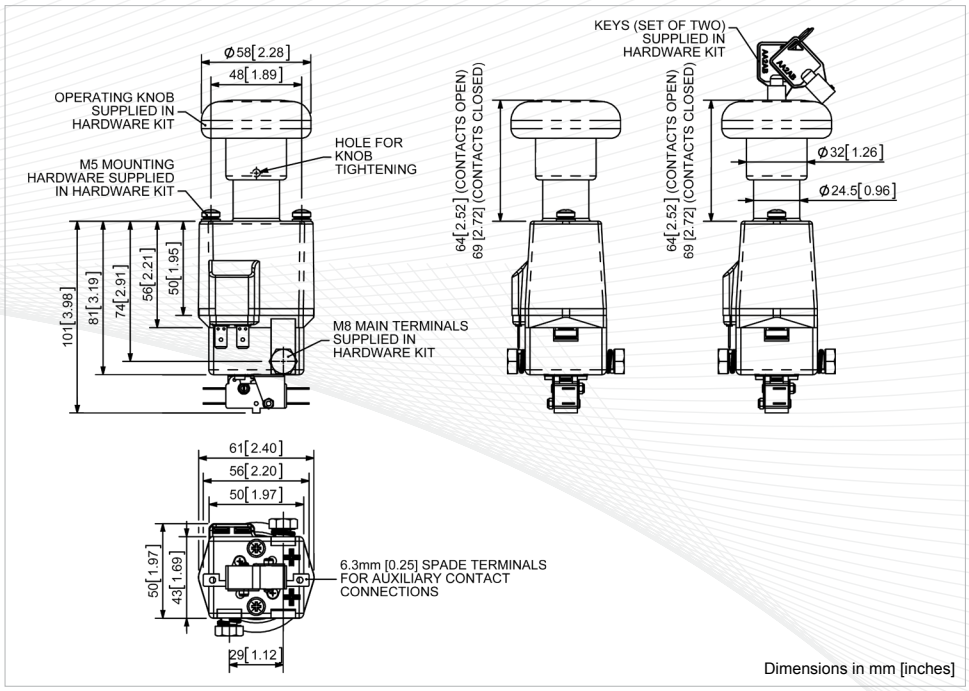
Lockable Switches

Lockable versions feature a key which is necessary for the knob to be moved from the “Off” position to the “On” position. Once in the “On” position, the key can be removed. Thereafter, the knob may be depressed to the “Off” position where it will automatically lock and remain locked until the key is used again to unlock it.



Drilling Details for Mounting

SD150A Technical Drawing Showing External Auxiliary



Auxiliary Switches

A double circuit normally open, normally closed microswitch auxiliary contact can be fitted. This has a D.C. resistive rating of 15 amperes at 24 volts.

The auxiliary contact operates after the main contacts open, according to the circuit requirements.

The suffix “A” indicates the fitting of auxiliary contacts.

Precautions:

When fitted with magnetic blowouts the polarity marked on the contact housing must be observed when connecting the main terminals. Ensure that the switches are installed in a position where heavy arcs emanating from the switch cannot damage or electrically jump across to adjacent parts.

The switch is to be used to rupture current in an emergency or as a no-load isolator. **Do not use as a regular On-Load Switching Device.**