

## Features

### HIGH CURRENT CARRY AND HIGH VOLTAGE

Inert gas filled arc chamber suitable for high voltage switching

### COMPACT STRUCTURE, LOW NOISE

Small, low-profile design with low noise while carrying or switching loads

### SAFE FOR EXPLOSIVE ENVIRONMENTS

No arc leakage due to a hermetically sealed design

### HIGH RELIABILITY DESIGN

Hermetic sealing creates a stable environment for high voltage switching

### NO SPECIFIC MOUNTING ARRANGEMENT

Mountable in any orientation without reduction of performance

### VARIOUS APPLICATIONS

Battery disconnect, EV charging, energy storage systems, photovoltaics, power control, circuit protection and much more

## Sealing Type: Epoxy/Resin



## Certification Information

1. Meet RoHS (2011/65/EU)
2. CE certified

## Nomenclature

ASEV50

B

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### Series code:

"ASEV50" = ASEV50

### Coil Voltage Code:

"B" = 12VDC

"C" = 24VDC

"E" = 48VDC

### Options

Blank = Coil Pin

"W" = Wire Coil Leads (390 ± 10 mm)

**MAIN CONTACT**

Contact Arrangement	1 Form X (SPST-NO)	
Rated Operating Voltage	900 VDC	
Rated current	50A	
Short Term Current	100A (3min)	
Max Short Circuit Current	1250A (1s)	
Dielectric Withstanding Voltage (initial)	Between Open Contacts	4000VDC 1mA 1min
	Between Contacts to Coil	2500VAC 1mA 1min
Insulation Resistance (initial)	Terminal to Terminal	≥1000 M $\Omega$ @1000VDC
	Terminals to Coil	
Contact Voltage Drop (initial)	Max. 50mV	
Limit Breaking	3500A @ 450VDC, 1 Cycle	

**OPERATE / RELEASE TIME**

Operate Time (includes bounce)	25ms, Max. @20°C
Release Time	10ms, Max @20°C

**ENVIRONMENTAL DATA**

Shock	Functional	196m/s <sup>2</sup> Sine half-wave pulse
	Destructive	490m/s <sup>2</sup> Sine half-wave pulse
Operating Temperature	-40 to +85°C	
Humidity	5% to 85%RH	
Weight	0.44Lb (0.2kg)	

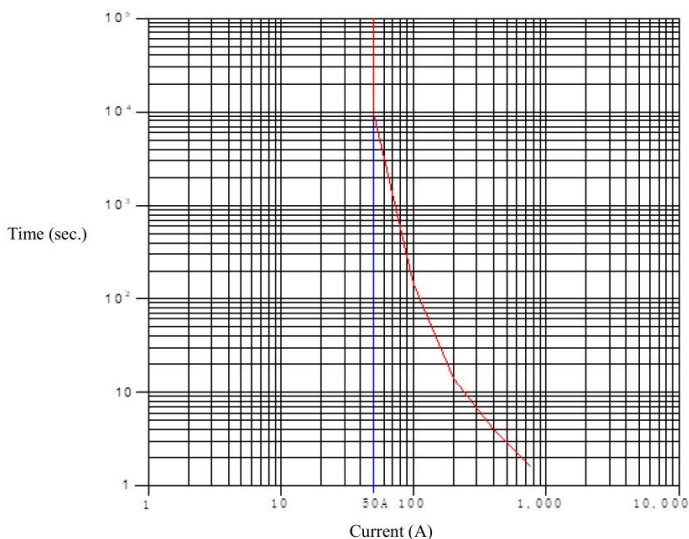
**EXPECTED LIFE**

Electrical Life (make/break) 50A @650VDC	1,500 cycles
Electrical Life (make/break) 50A @450VDC	10,000 Cycles
Mechanical Life	200,000 Cycles

**COIL DATA**

Nominal Voltage	12VDC	24VDC	48VDC
Max. Pick-up Voltage	9.6VDC	19.2VDC	38.4VDC
Min. Drop-out Voltage	0.8VDC	1.6VDC	3.3VDC
Coil current (20°C)	0.45A	0.21A	0.122mA
Rated Coil Resistance ±5%(20°C)	26 $\Omega$	96 $\Omega$	392 $\Omega$

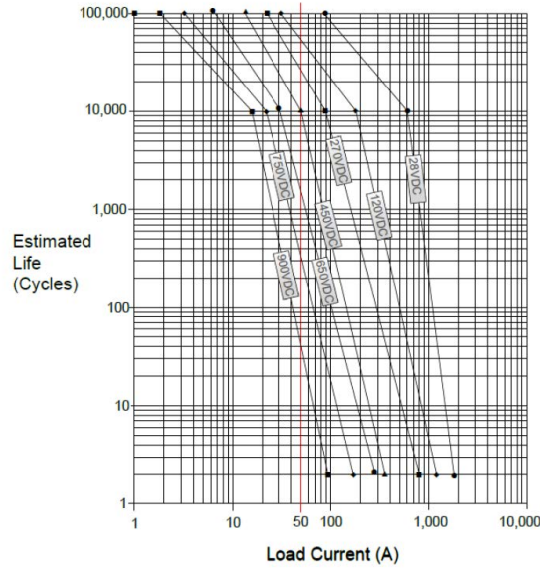
**Current Carry Curve**



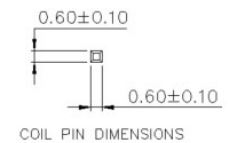
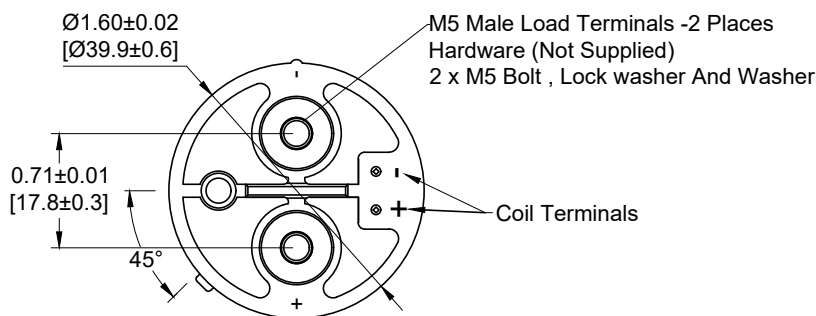
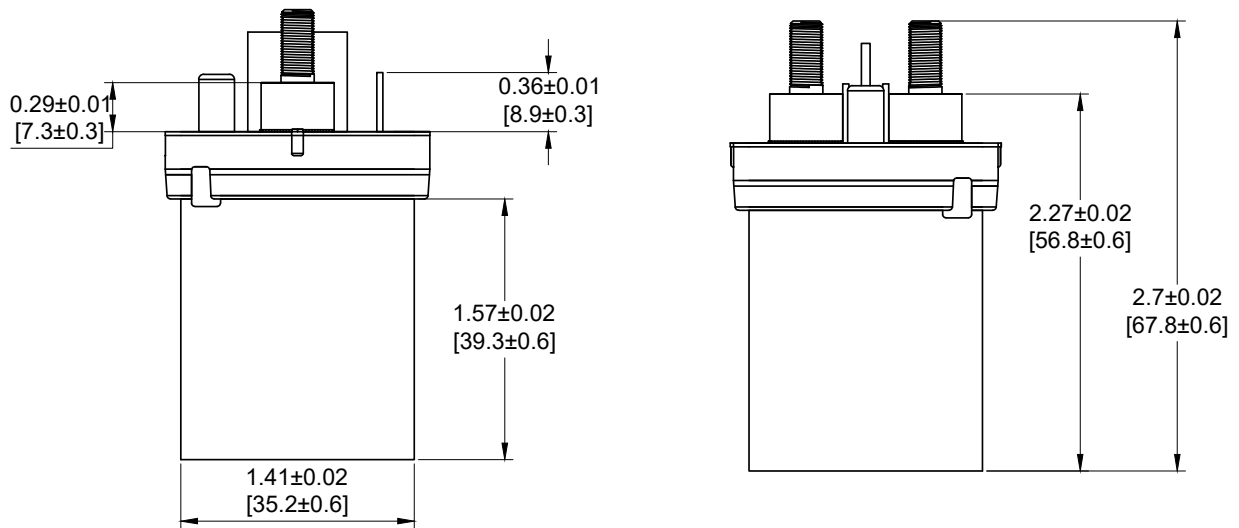
Note:

1. Do not meet dielectric & IR after the test.
2. ON:OFF= 0.6s:5.4s.
3. The ambient environment of application should not cause any dewing or icing inside the relay. Otherwise, the relay may fail to work consequently.

**Electrical Life**



**Outline Dimensions (mm)**



Note: Wire Coil Leads (390 ± 10 mm)

## Application Notes

1. Be sure to use split washer to prevent nuts from loosening, all the terminals or conductors must be in direct contact with the contactor's terminals. Nut tightening torque is specified below. Exceeding the maximum torque can lead to product failure.
  - Main Terminals: 20 lb. in - 39.8 lb. in (2.3 – 4.5 N.m)
  - Mounting Torque: 20 lb. in (2.3 N.m)
2. This is a polar product, please be sure to follow the product label for correct use.
3. Products with circuit boards are already equipped with reverse surge absorption circuits, so there is no need to use surge protectors.
4. Avoid installing in a strong magnetic field (close to a transformer or magnet), or near a heat source.
5. The coil and contact of the relay are continuously energized, and the power supply is cut off and immediately connected. At this time, the resistance of the coil will increase due to the increase of the temperature of the coil, so that the suction voltage of the product will increase, which may lead to the excess of the rated suction voltage. In this case, the following measures should be taken: Reduce the load current; Limit continuous power or use coil voltage higher than rated suction voltage.
6. When the voltage applied to both ends of the coil exceeds the maximum allowable applied voltage, the coil temperature may rise and lead to coil damage and inter-layer short circuit.
7. The rating in the contact parameters is the value at the time of the resistive load. When using an inductive load with  $L/R > 1\text{ms}$ , connect a surge current protection device in parallel with the inductive load. If no measures are taken, the electrical life may be degraded, and the continuity may be poor. Please consider sufficient margin space in the design.
8. Coil drive power must be greater than coil power or it will reduce performance capability.
9. This is a product without circuit board. When the coil is turned off, the reverse electromotive force will appear. It is recommended to design a surge protection circuit to absorb the reverse electromotive force of the contactless coil.
10. Do not allow debris and oil to adhere to the main lead end. Make sure that the external terminals are in reliable contact with the main outgoing end of the product, otherwise the temperature rise of the out-going end may be too high due to the excessive contact resistance.
11. The lead wire connected with the high voltage end of the product must have the corresponding current load capacity and heat dissipation capacity. It is recommended to use a copper bar with an appropriate cross-section to prevent overheating affecting the life of the contactor.
12. Do not use if dropped.
13. It is impossible to determine all the performance parameters of relays in each specific application area, Therefore, customers should choose the products according to their own conditions of use. If in doubt, contact Altran. The customer will be responsible for what they chosen it is the user's responsibility.
14. Altran reserves the right to make product changes. Customers should reconfirm the contents of the specification before first orders and ask for us to supply a new specification if necessary.