

Series AEVE250

High Voltage DC Contactor

250 Amp / 750 VDC



Application

AEVE250 Series is a ceramic based contactor used for charging piles, battery power supplies, DC power controls, circuit protection and other electric vehicle power switch controls. It is widely used in uninterruptible power supply and other electronic control systems as well. It offers enhanced electrical life endurance compared to epoxy devices

Features

HIGH CURRENT AND HIGH VOLTAGE

Contact chamber is filed with inert gas to minimize arcing

COMPACT STRUCTURE, LOW NOISE

Contact design yields reduced unit size, low noise while carrying or switching currents.

HIGH SAFETY

There is no arc leakage due to tight sealing.

HIGH RELIABLE CONTACT

Stable contact resistance no matter how harsh environment with sealed contacts.

NO SPECIAL REQUIREMENT FOR MOUNTING

Light weight actuator is less impacted by gravity with no special mounting orientation requirements.



Certification Information

Product complies with RoHS standard (2011/65/EU)

Nomenclature

AEVE250

-

B

S

Series code:

AEVE250

Coil Voltage Code:

"B" = 12VDC

"C" = 24VDC

Options:

Blank = Std. Options (Bottom Mount, Non-Polarized Terminals)

"S" = Side Mount Version

Series AEVE250

High Voltage DC Contactor

250 Amp / 750 VDC



Performance Data

Main Contact			Expected Life	
Contact Arrangement	1 From X		Electrical Endurance (Make Only) 140A @ 20VDC	75,000 Cycles
Max. Switching Voltage	750VDC			
Rated current	250A @ 450VDC		Mechanical Life	200,000 Cycles
Short Term Current (85°C) (60mm2 Busbar)	500A (2min)		Electrical Life (Break Only) 250A @ 450VDC	1,000 Cycles
			Electrical Life (Break Only) 2000A @ 500VDC	1 Cycle
Dielectric Withstanding Voltage (Initial)	Between Open Contacts	3000VDC, 1mA, 1min		
	Between Contacts to Coil			
Insulation Resistance (Initial)	Terminal to Terminal	Min 1000MΩ @1000Vdc (Initial) Min 50MΩ @500Vdc (After durability test)		
	Terminals to Coil			
Short Circuit Current	8,000A (5ms) (No fire or explosion)			
Contact Voltage Drop (initial)	Max.125mV (250A)			
Breaking Limit	2000A @ 500 VDC, 1 Cycle			
Environmental Data			Operate / Release Time	
Shock	Functional	196m/s2 Sine half-wave pulse	Operate Time (includes bounce)	30ms, Max. @ 20°C
	Destructive	490m/s2 Sine half-wave pulse		
Operating Temperature	-40~+85°C		Release Time	10ms, Max. @ 20°C
Humidity	5%~85%RH			
Weight	0.88Lb (0.4kg)			

Series AEVE250

High Voltage DC Contactor

250 Amp / 750 VDC

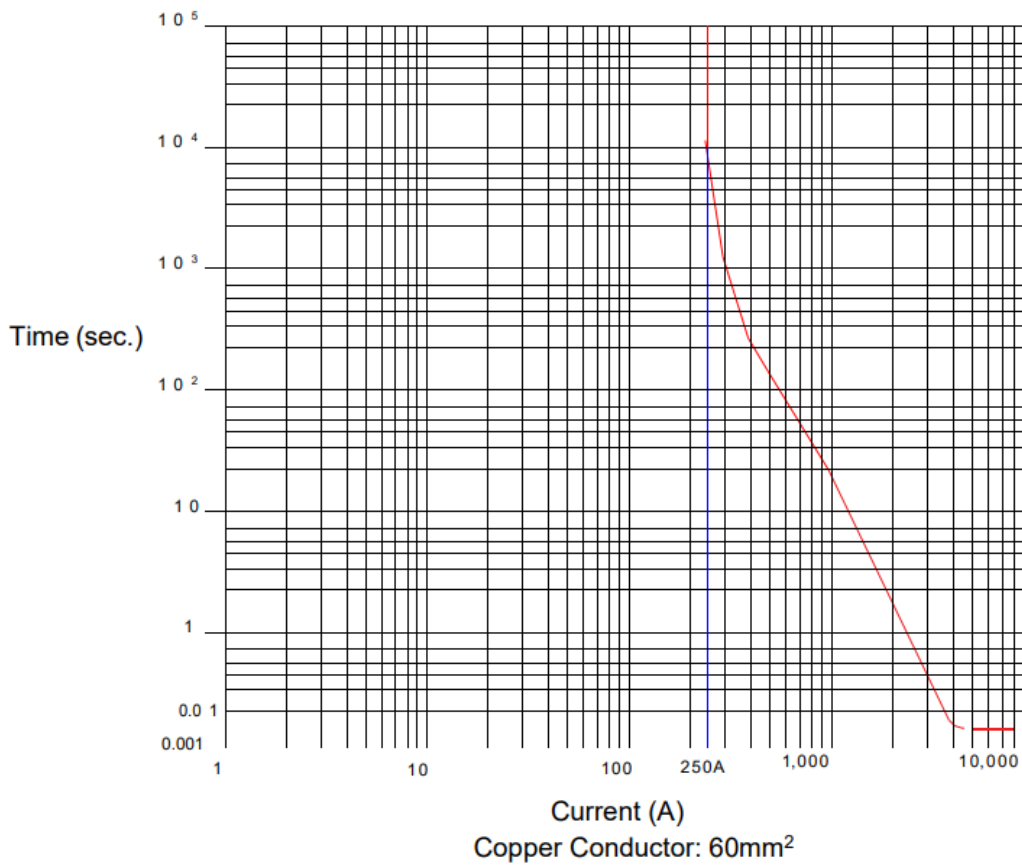


Coil Data (Cont.):

Coil Data		
Nominal Voltage	12Vdc	24Vdc
(Max.) Pick-up Voltage (20°C)	Max. 9Vdc	Max. 18Vdc
(Min.) Drop-out Voltage (20°C)	Min. 0.5Vdc	Min. 1.0Vdc
Max. Inrush Current (20°C)	6W	6W
Average Holding Current (20°C)	24Ω	96Ω

Performance Data:

Carry Current vs Time performance (85°C)



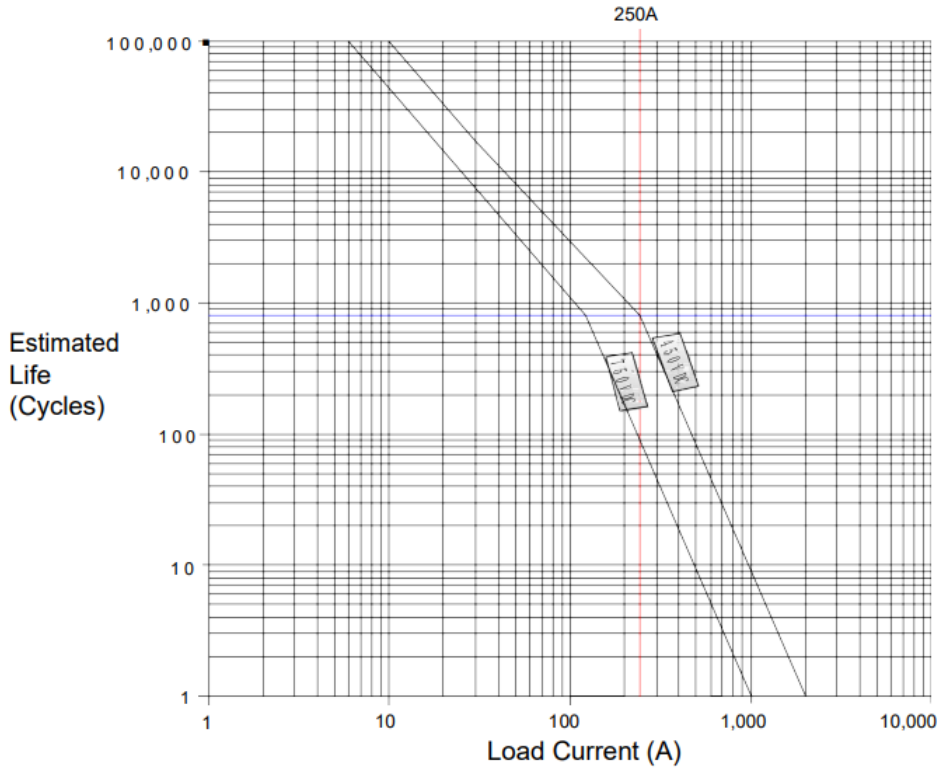
Series AEVE250

High Voltage DC Contactor

250 Amp / 750 VDC

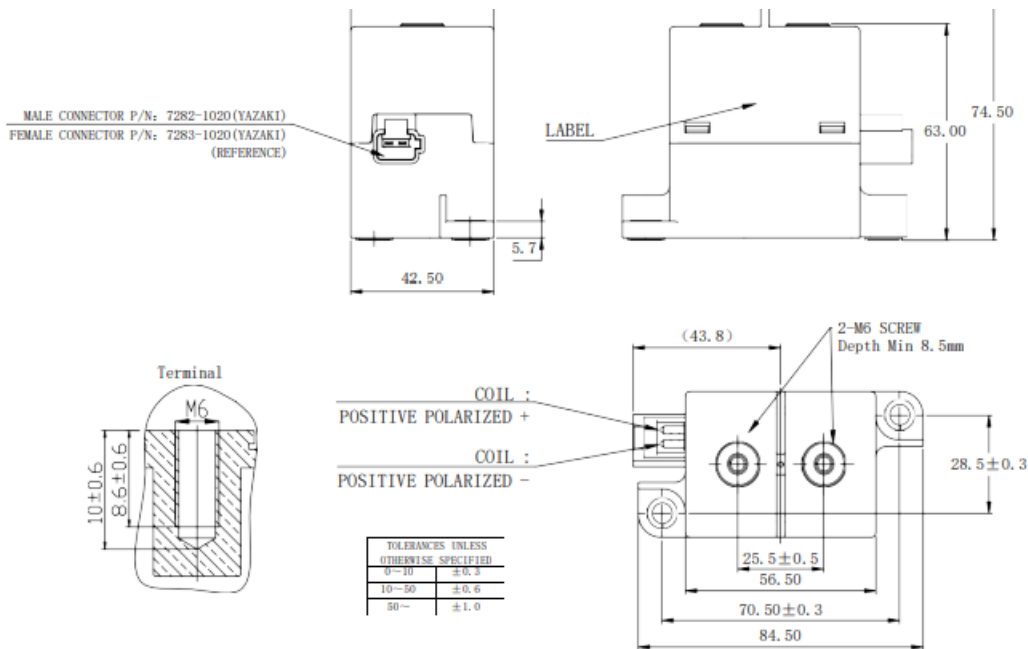


Cut-off Performance Data



Outline Dimensions: (mm)

- Bottom Mount



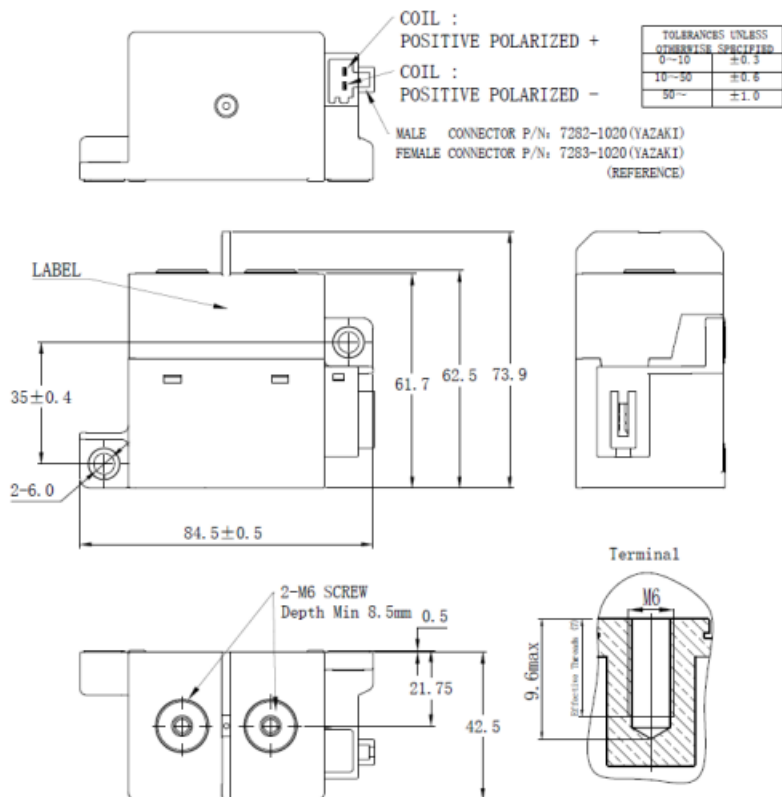
Series AEVE250

High Voltage DC Contactor

250 Amp / 750 VDC



• Side Mount



Application Note:

- To prevent loosening, washers should be used whenever the contactor is installed. All terminals or copper bar must be in direct contact with the contactor's main terminals. Please control the screw tightening torque of each part within the specified range in the table below. If the torque exceeds the recommended range, it may cause damage to the sealed cavity and thread damage.
 - Static contact torque: 6.0-8.0 N.m
 - Installation torque: 3.0-4.0 N.m
- Products with polarity marked on the load end must be used correctly according to the product label. When the load connection polarity is reversed, the electrical characteristics promised in this manual cannot be guaranteed.
- It is necessary to design a surge absorbing circuit to absorb the reverse electromotive force of contactor coil. Use of diodes should be avoided. Diodes connected in parallel with coils will greatly prolong the release time of contactors, which may reduce the service life of products.



Series AEVE250

High Voltage DC Contactor

250 Amp / 750 VDC



4. Avoid installing the contactor in a strong magnetic field environment (near transformers or magnets) and avoid placing the contactor near objects with heat radiation.
5. When continuous current is applied to the contacts of the relay, and the Coil is turned on immediately after the power is cut off. At this time, as the temperature of the coil increases, the resistance of the coil will also increase, which will increase the pull-in voltage of the product, which may result in exceeding the rated Pull-in voltage. In this case, the following measures should be taken to reduce the load current; limit the continuous power-on time or use a coil voltage higher than the rated pull-in voltage.
6. When the voltage applied to 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 rated values in the contact parameters are values for resistive load. When using an inductive load with $L/R > 1\text{ms}$, please connect a surge current protection device to the inductive load in parallel. If no measures are taken, the electrical life may be reduced and the continuity may be poor. Please consider sufficient margin space in the design.
8. Supply power must be greater than coil power or it will reduce performance capability.
9. Please do not allow debris and oil to adhere to the main terminals; Make sure that the main terminals are in reliable contact with the load conductor, otherwise the temperature rise of the terminal / conductor connection may be too high due to the excessive contact resistance.
10. The load conductor must have the corresponding current load capacity and heat dissipation capacity (it is recommended to use a copper bar with a min 60mm^2), to prevent overheating and affecting the life of the contactor.
11. Is impossible to determine all the performance parameters of contactors in each specific application, therefore, customers should choose the products matching them according to their own conditions of use. If in doubt, contact Altran, however, the customer will be responsible for validating that the products meet their application.
12. Do not use if dropped.
13. Altran reserves the right to make changes as needed. Customers should reconfirm the contents of the specification or ask for us to supply a new specification if necessary.