

# AEVE300 Series High Voltage DC Contactor 300 Amps / 750 Vdc



## Certification information

1. Meet RoHS (2011/65/EU)

## Application

AEVE300 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.



## Nomenclature

AEVE300 – B – S

### Series code:

"AEVE300" = AEVE300 Series

### Coil Voltage :

"B" = 12VDC

"C" = 24VDC

### Options:

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

"S" = Side Mount Version

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## Performance Data

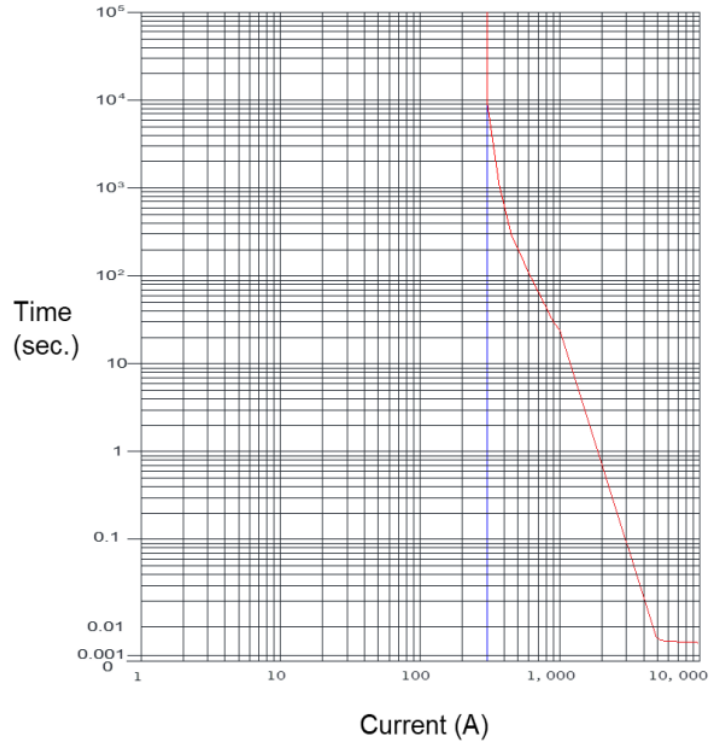
Main Contact			Expected Life		
Contact Arrangement	1 Form		Electrical Endurance	Make	140A @20VDC 75,000 Cycles
Max. Switching Voltage	750 VDC			Break	300A @450VDC 1000 Cycles
Rated current	300A		Mechanical Life		200,000 Cycles
Max. Short Circuit Current	8000A (5ms)				
Short Term Current	600A (2 min)				
Dielectric Withstanding Voltage (Initial)	Between Open Contacts	3,000VDC, 1mA, 1min			
	Between Contacts to Coil	2,500VAC, 1mA, 1min			
Insulation Resistance (Initial)	Terminal to Terminal	Min 1000MΩ @1000Vdc (Initial)			
	Terminals to Coil	Min 50MΩ @500Vdc (After durability test)			
Contact Resistance(initial)	< 0.4 mΩ				
Limit breaking	2,000A @ 500VDC, 1 Cycle				
Environmental Data			Operate / Release Time		
Shock	Functional	196m/s <sup>2</sup> Sine half-wave pulse	Operate Time (includes bounce)	30ms, Max. @20C	
	Destructive	490m/s <sup>2</sup> Sine half-wave pulse			
Operating Temperature	-40 - 85°C		Release Time	10ms, Max. @ 20C	
Humidity	5% - 85%RH				
Weight	0.88Lb (0.40kg)				
Coil Code		M	F		
Nominal Voltage		12 Vdc	24 Vdc		
Pick-up Voltage (20°C)		Max. 9 Vdc	Max. 18Vdc		
Drop-out Voltage (20°C)		Min. 0.5 Vdc	Min. 1.0Vdc		
Coil Power (20°C, Nominal Voltage)		6W	6W		
Rated Coil Resistance±10% (20°C)		24Ω	96Ω		

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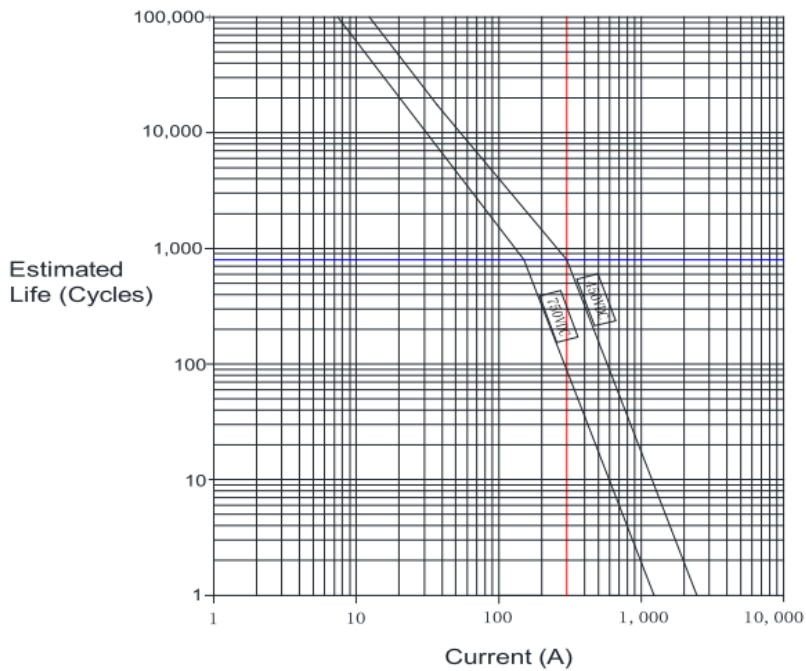


## Performance Charts

**Current Carry @85°C and 100 mm<sup>2</sup> Copper Conductor**



**Electrical Life**

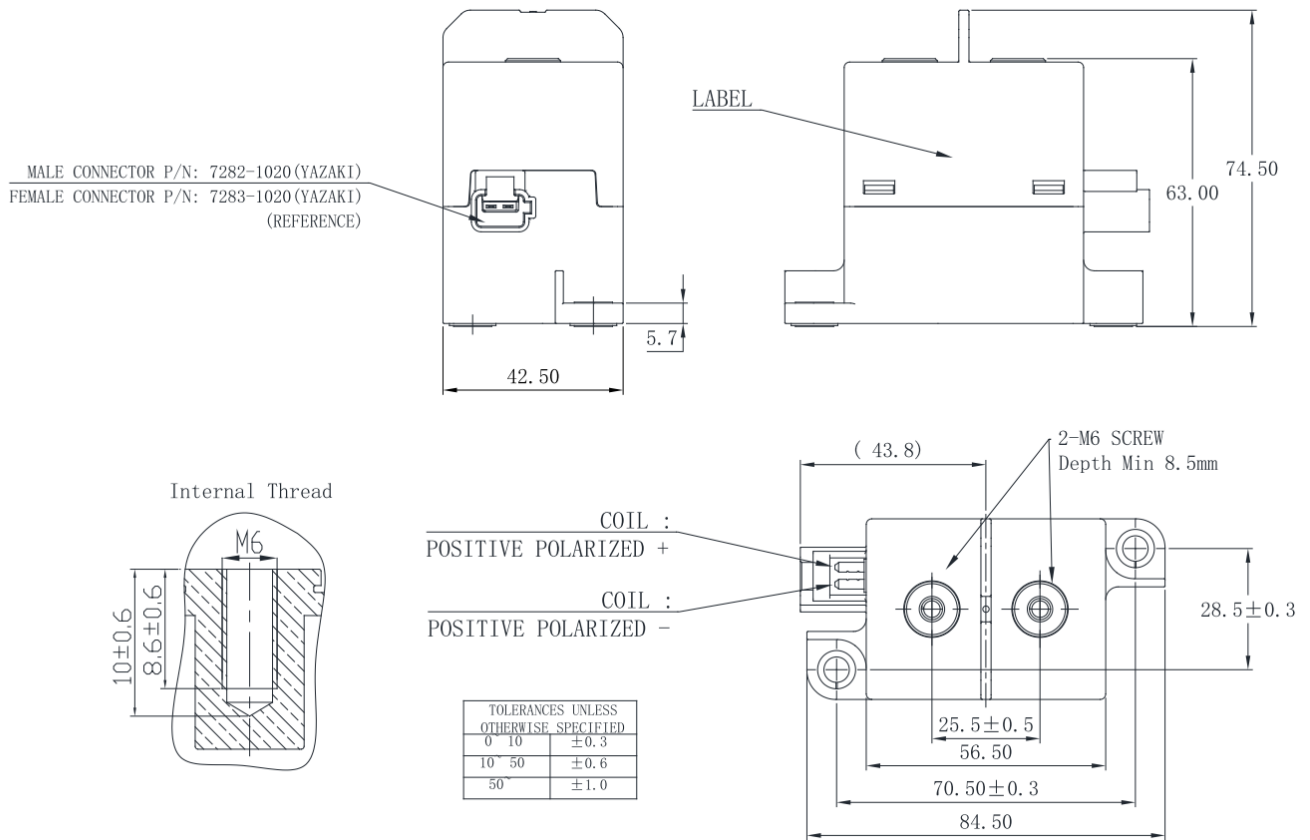


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## Outline Dimensions (mm)

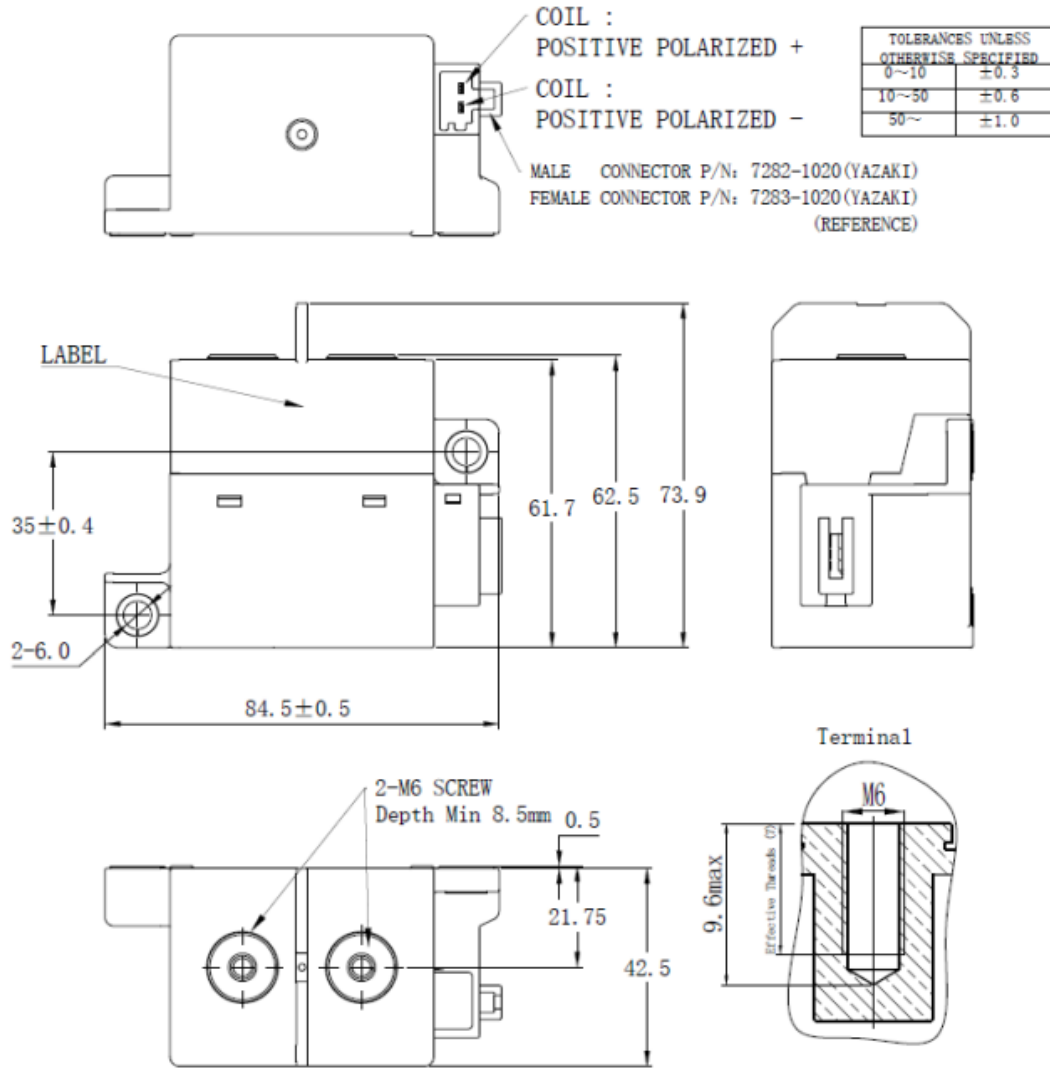
### Bottom Mount



# AEVE300 Series High Voltage DC Contactor 300 Amps / 750 Vdc



## Side Mount



# AEVE300 Series

## High Voltage DC Contactor

### 300 Amps / 750 Vdc



## Application Notes

1. 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.
  - a. Static contact torque: 6.0-8.0 N.m
  - b. Installation torque: 3.0-4.0 N.m
2. 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.
3. It is necessary to design a surge absorbing circuit to absorb the reverse electromotive force of the 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 these products.
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 a 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 min  $100\text{mm}^2$ ), 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.