AEVTS400 Series
High Voltage DC Contactor
400 Amps / 1800 Vdc

ALTRAN MAGNETICS

Certification information

1. Meets RoHS (2011/65/EU)
2. CE certified
3. UL Listed

Application

AEVTS 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 supplies 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 filled 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.
HIGHLY RELIABLE CONTACT
Stable contact resistance no matter how harsh the environment.

Nomenclature

AEVTS400 – **B** – **A**

Series code:
AEVTS400 = AEVTS400 Series

Coil Voltage:
"B" = 12VDC
"C" = 24VDC

Options:
Blank = Std. Options (Bottom Mount, Without Aux. Contact & Polarized Load Terminals)
"A" = With Aux. Contact (SPST-NO)

Rev A – 11Oct2022

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Performance Data

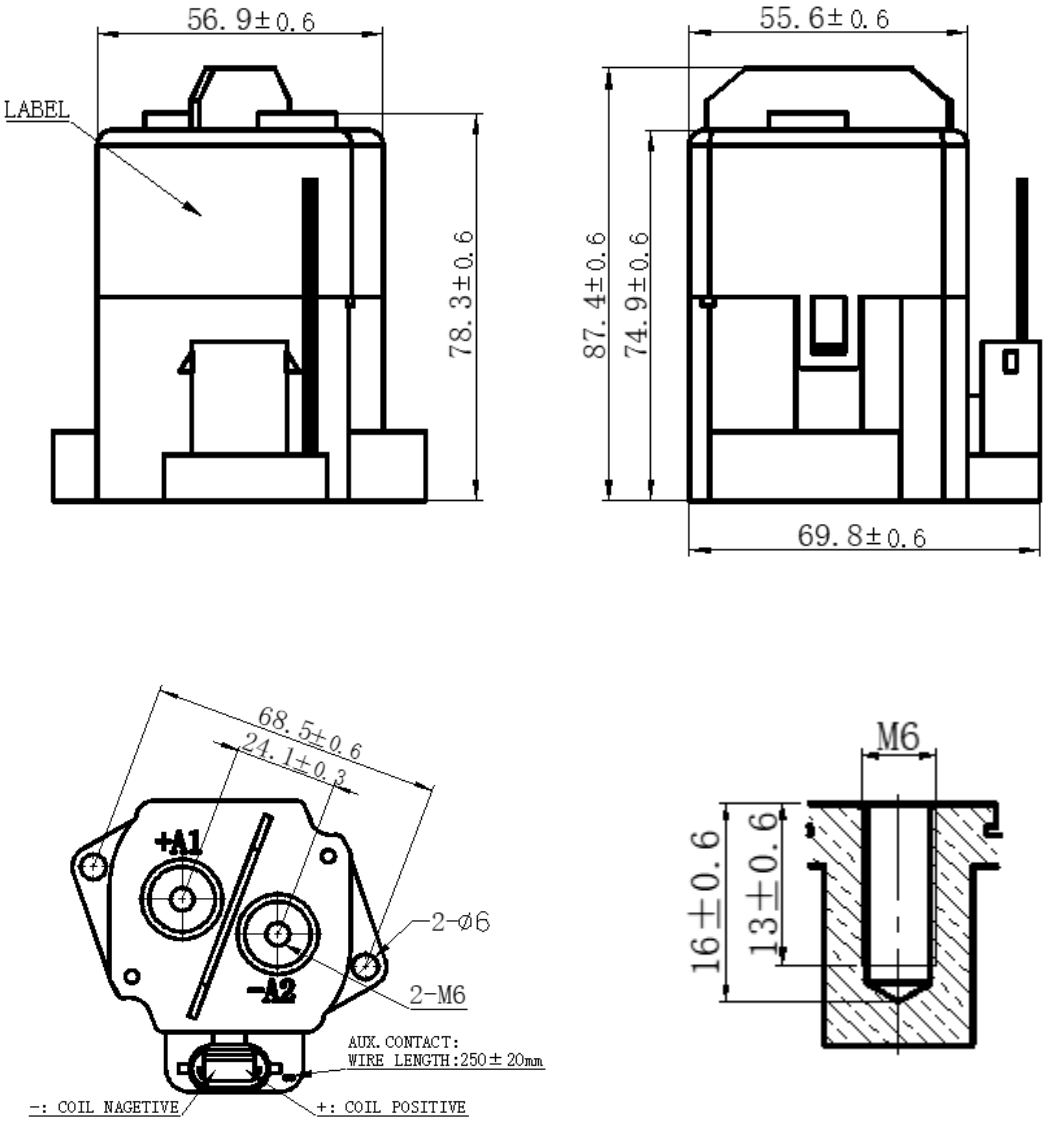
Main Contact			Expected Life		
Contact Arrangement		1 Form X (SPST-NO)	Electrical Endurance	Make / Break	400A @ 450VDC 800 Cycles 400A @650VDC 100 Cycles
Max. Switching Voltage		1800 VDC			
Rated current		400A	Mechanical Life		200,000 Cycles
Max. Short Circuit Current		5000 (30s)	**AUX Contact**		
Short Term Current		600A (6min)	Aux Contact Arrangement		1 Form A
Dielectric Withstanding Voltage (Initial)	Between Open Contacts	6000VDC 1mA 1min	Aux Contact Current Max		2A
	Between Contacts to Coil	2500VAC 1mA 1min			
Insulation Resistance (Initial)	Terminal to Terminal	≥1000 MΩ @ 500VDC	Aux. Contact Resistance Max.		< 0.5 Ohm
	Terminals to Coil				
Contact Voltage Drop(initial)		≤8mV (@ 20A)			
Limit breaking		3500A @ 450VDC, 1 Cycle			

Environmental Data			Operate / Release Time	
Shock	Functional	196m/s2 Sine half-ware pulse	Operate Time (includes bounce)	30ms，Max. @20C
	Destructive	490m/s2 Sine half-ware pulse		
Operating Temperature		-40 - +85℃	Release Time	15ms，Max. @ 20C
Humidity		5% - 85%RH		
Weight		1.43Lb（0.65kg）		

Coil Data

Coil Code	B	C
Nominal Voltage	12Vdc	24Vdc
Max. Pick-up Voltage （20℃）	9Vdc	18Vdc
Min. Drop-out Voltage （20℃）	1.2Vdc	2.4Vdc
Max. Inrush Current（20℃）	2.5A	1.5A
Average Holding Current（20℃）	0.45A	0.21A
Min. Holding Voltage	7VDC	12.5VDC

Outline Dimensions (mm)

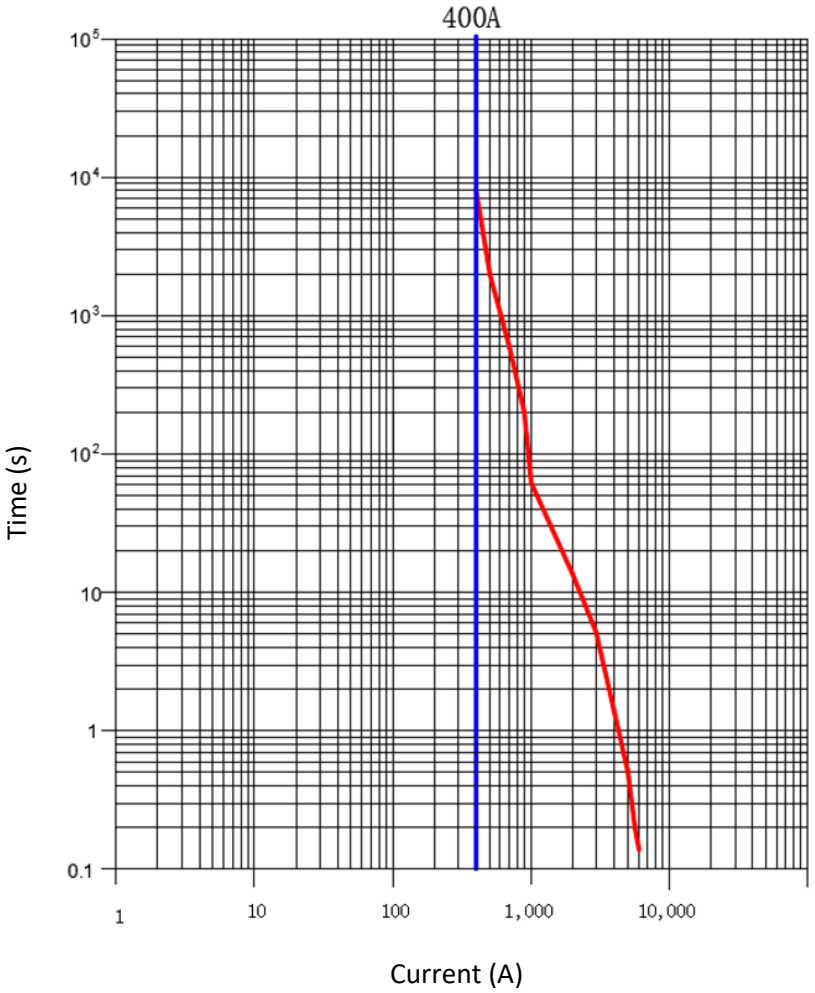


Note:

1. Altran provides connector for product and hexagon socket screws for contacts, the connector wire length is 180±20mm.

Performance Data

Current Carry @85°C using 100mm^2



Note:

1. When the current is ≥2000A, no fire or explosion shall occur after the test as the acceptance requirements (Welding may occur, dielectric strength and insulation resistance may decrease).

Application Notes

1. Be sure to use washers to prevent screws from loosening, all the terminals or copper bars must be in direct contact with the contactor's terminals.
   Screw tightening torque is specified below. Exceeding the maximum torque can lead to product failure.
   - Main Terminals 6 – 8 N.m (max depth, 12 threads)
   - Mounting Torque 1.7-3.3 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 > 1ms, 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. Drive power must be greater than coil power or it will reduce performance capability.
9. 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.
10. 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.
11. After the products with energy saving panel are connected to the power supply, the circuit will automatically switch about 100ms later. Please do not repeat the on-off operation during this period, or the energy saving panel of contactor may be damaged.
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 matching them according to their own conditions of use. If in doubt, contact Altran. However, customer will be responsible for what they chosen it is the user's responsibility.
14. Altran reserves the right to make changes. Customers should reconfirm the contents of the specification before first orders and ask for us to supply a new specification if necessary.