

## 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

### COIL ECONOMIZER

Dual Coil for low power consumption

### 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: Ceramic

- ✓ Cost effective design, high performance contactor



## Certification Information

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

## Nomenclature

AEVTS400

B

-

### Series code:

“AEVTS400” = AEVTS400

### Coil Voltage Code:

“B” = 12VDC

“C” = 24VDC

“E” = 48VDC

### Options:

Blank = Std. Options (Bottom Mount, Without Aux. Contact & Polarized Load Terminals)

“A” = With Aux. Contact (SPST-NO)

### Product Data Sheet

#### MAIN CONTACT

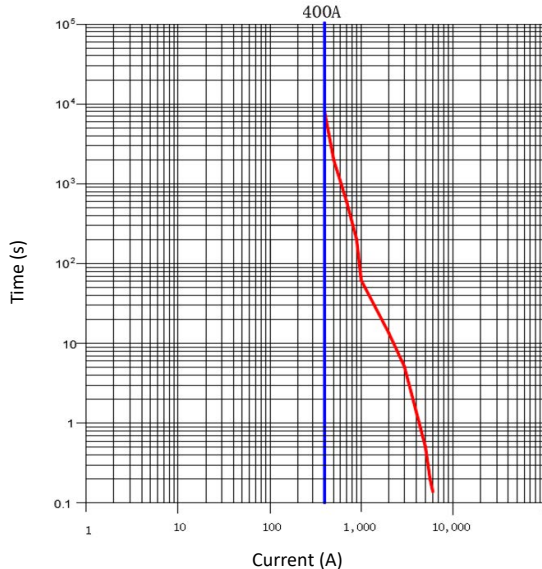
Contact Arrangement	1 Form X (SPST-NO)	
Rated Operating Voltage	1800 VDC	
Rated Current	400 A	
Max. Short Circuit Current	5000 (30s)	
Short Term Current	600A (6min)	
Dielectric Withstanding Voltage (initial)	Between Open Contacts	6000VDC 1mA 1min
	Between Contacts to Coil	2500VAC 1mA 1min
Insulation Resistance (initial)	Terminal to Terminal	≥1000 MΩ @ 500VDC
	Terminals to Coil	
Contact Voltage Drop (initial)	≤8mV (@ 20A)	
Limit breaking	3500A @ 450VDC, 1 Cycle	

#### EXPECTED LIFE

Electrical Endurance (make/break) 400A @ 450VDC	800 Cycles
Electrical Endurance (make/break) 400A @ 650VDC	100 Cycles
Mechanical Life	200,000 Cycles

## Current Carry Curve

Current Carry @85°C using 100mm<sup>2</sup>



#### OPERATE / RELEASE TIME

Operate Time	30ms Max. @ 20°C
Release Time	15ms 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	1.43Lb (0.65kg)	

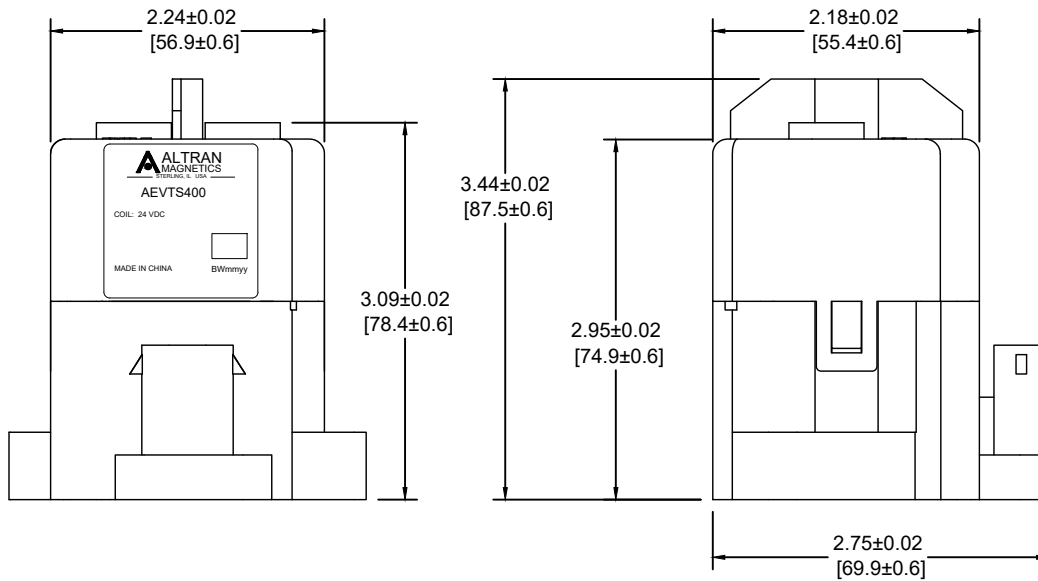
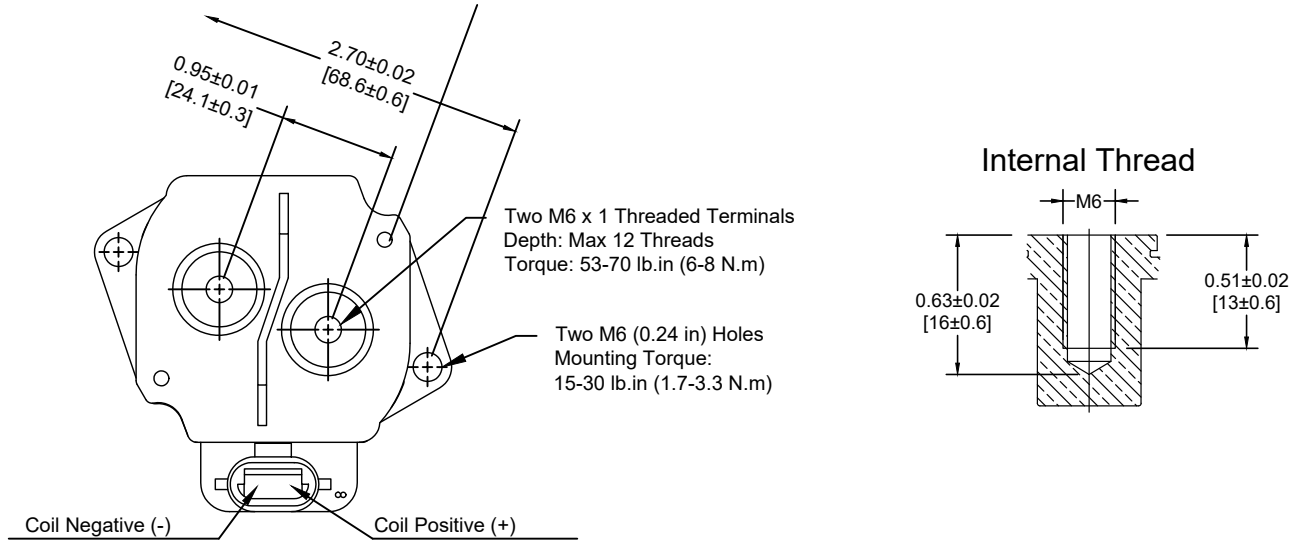
#### COIL DATA

Nominal Voltage	12VDC	24VDC	48VDC
Min. Holding Voltage (20°C)	7VDC	12.5VDC	18VDC
Pick-up Voltage (20°C)	≤9VDC	≤18VDC	≤36VDC
Drop-out Voltage (20°C)	≥1.2VDC	≥2.4VDC	≥4VDC
Max Inrush Current (20°C, Nominal Voltage)	2.5A	1.5A	1.3A
Holding Current (20°C, Nominal Voltage)	0.45A	0.21A	0.03A

#### AUX. CONTACT

Aux. Contact Arrangement	1 Form A
Aux. Contact Current Max.	2A
Aux. Contact Resistance Max.	< 0.5 Ohm

Outline Dimensions (mm):



Note:

The wire size is 22AWG, diameter 2.8mm including insulation layer  
 Altran provides Sealed Coil connector for product and hexagon socket screws for contacts, the connector wire length is 180±20mm.

## Application Notes

1. Be sure to use split washers 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 Terminal torque: 53.1 - 70.8 lb.in (6.0-8.0 N.m)
  - Mounting torque: 15 - 30 lb.in (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  $L/R > 1\text{ms}$ , 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. 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.
14. Altran reserves the right to make product changes as needed. Customers should reconfirm the contents of the specification before first orders and ask for us to supply a new specification if necessary.