

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

- ✓ Bi-directional switching



Certification Information

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

Nomenclature

AEVT500

B

-

Series code:
"AEVT500" = AEVT500

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

Options (applied in this order):
Blank = Std. Options (Bottom Mount, Without Aux)(Without Aux. Contact & non-polarized Load Terminals
"A" = With Aux. Contact (SPST-NO)

High Voltage DC Contactor

AEVT500 Series

500A+/1800VDC



Product Data Sheet

| MAIN CONTACT | | |
|---|--------------------------|---------------------------|
| Contact Arrangement | | 1 Form X (SPST-NO) |
| Rated Operating Voltage | | 12-1,800VDC |
| Continuous Carry Current | | 500A ^{*1} |
| Max short circuit current | | 3,300A @ 320VDC (1 cycle) |
| Dielectric Withstanding Voltage (initial) | Between Open Contacts | 4,000VDC (leakage ≤1mA) |
| | Between Contacts to Coil | 2,200Vrms (leakage ≤1mA) |
| Insulation Resistance (Initial) | Terminal to Terminal | Min. 100 M Ω@500VDC |
| | Terminals to Coil | |
| Contact Voltage Drop(initial) | | ≤70mV @350A |

| OPERATE / RELEASE TIME | |
|--------------------------------|------------|
| Operate Time (includes bounce) | 40ms, Max. |
| Release Time | 20ms, Max. |

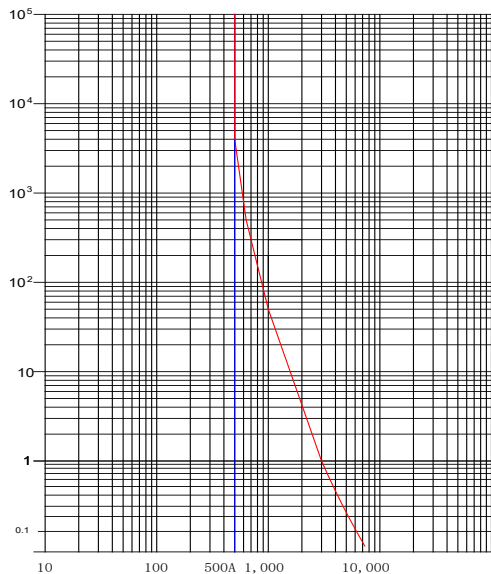
| ENVIRONMENTAL DATA | | |
|----------------------------|-------------|---|
| Shock | Functional | 196m/s ² Sine half-wave pulse |
| | Destructive | 490m/s ² Sine half-wave pulse |
| Operating Temperature | | -40 to +85°C |
| Vibration, Sine, Peak, 20G | | 10 to 1,000Hz |
| Weight | | 3.38 lb (1.53 kg) |

| EXPECTED LIFE | |
|----------------------------|----------------|
| 500A @ 450VDC (make/break) | 3,000 cycles |
| 500A @ 650VDC (make/break) | 1,000 cycles |
| Mechanical life | 200,000 cycles |

| COIL DATA | | |
|---|--------|---------|
| Nominal Voltage | 12VDC | 24VDC |
| Pick-up Voltage (25°C) | 9.9VDC | 19.7VDC |
| Drop-out Voltage (25°C) | 2VDC | 4VDC |
| Inrush current @ nominal voltage ^{*2} | 3.3A | 1.7A |
| Holding current @ nominal voltage ^{*2} | 0.74A | 0.37A |

Current Carry Curve

Cross-sectional area of the copper bar is 240mm²



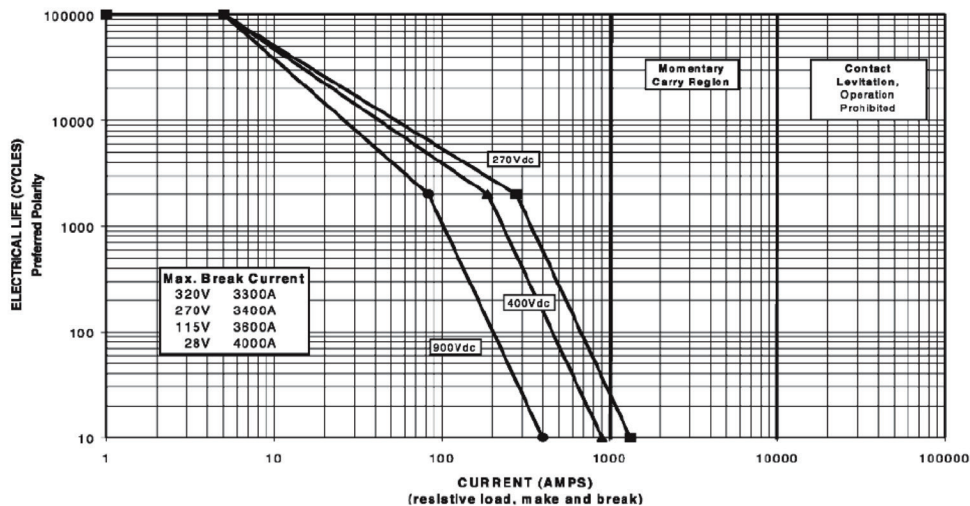
| AUX. CONTACT | |
|-----------------------------------|--------------------|
| Aux. Contact Arrangement | SPST-NO (1 Form A) |
| Aux. Contact Rating (Max Wattage) | 10W |
| Aux. Contact Rating (Max Voltage) | 100 VDC |
| Aux. Contact Resistance (Max) | 500m Ω |

Note:

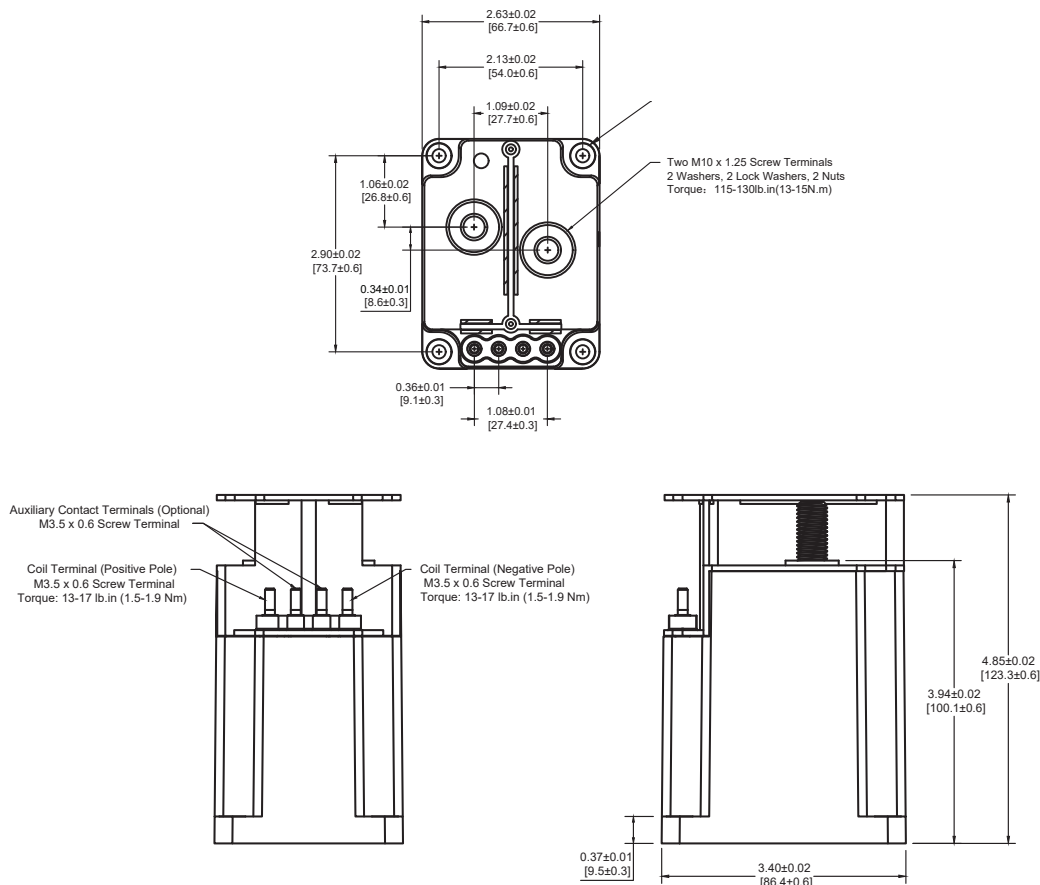
1. Current is relevant to cross-sectional area of conductor.
2. Two coil design

Product Data Sheet

Estimated Make & Break Resistive Load Ratings



Outline Dimensions : inches (mm)



Application Notes

1. Be sure to use split washers to prevent nut from loosening, all the terminals or conductors must be in direct contact with the contactor's terminals.
 - Contact Terminal Torque: 115 - 130 lb.in (13 - 15 N.m)
 - Mounting Torque: 26 - 35 lb.in (3 - 4 N.m)
2. Contact terminals are polarized so refer to drawing during connecting. There is a reverse surge absorption circuit so that it is not necessary to use a surge protective device.
3. Do not use if dropped.
4. Avoid installing in a strong magnetic field (close to a transformer or magnet), or near a heat source.
5. Electrical life:
Use per load capability and life cycle limits so as not to cause a function failure (treat the contactor as a product with specified life and replace it when necessary). It is possible to make parts burn around the contactor once operating failure occurs. It is necessary to take layout considerations into account and to make sure power shall be cut off within 1 second.
6. Avoid debris or oil contamination of the main terminals to optimize contact and avoid excess heat generation.