

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

Economized 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



Certification Information

1. Meet RoHS (2011/65/EU)
2. CE Certified
3. UL Approved

Nomenclature

AEVT400

B

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Series code:
"AEVT400" = AEVT400

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

Options:
Blank = Std. Options (Bottom Mount)
"A" = With Aux. Contact (SPST-NO)

Product Data Sheet

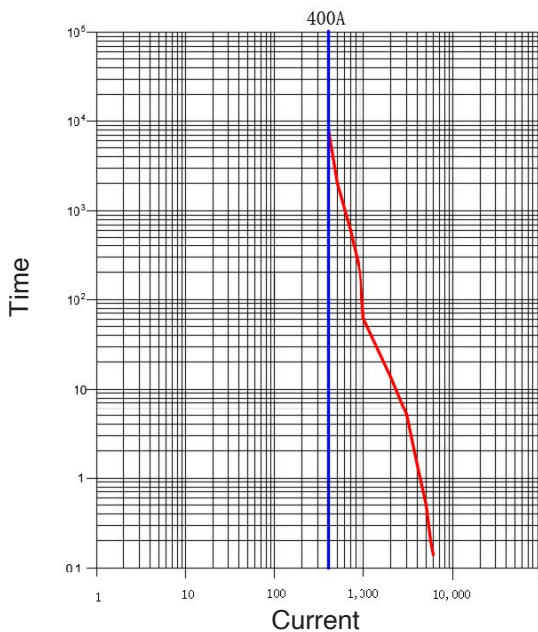
MAIN CONTACT

Contact Arrangement	1 Form X (SPST-NO)	
Rated Operating Voltage	1,800VDC	
Load connection	M6 Internal thread	
Continuous (Carry) Current	400A (75mm ² Busbar)	
Short Term Carry Current	600A (6 minutes)	
Max short circuit current	3000A @850VDC (1 cycle)	
Dielectric Withstanding Voltage (initial)	Between Open Contacts	6000VDC 1mA 1min
	Between Contacts to Coil	2500VAC 1mA 1min
Insulation Resistance (initial)	Terminal to Terminal	New: Min 1000MΩ @1000VDC
	Terminals to Coil	
Contact Resistance	Max.10mV@20A	

EXPECTED LIFE

Electrical Endurance (make/break) 400A @ 450VDC	1,500 Cycles
Electrical Endurance (make/break) 400A @ 650VDC	800 Cycles
Mechanical Life	200,000 Cycles

Current Carry Curve



OPERATE / RELEASE TIME

Operate Time	≤25ms @20°C
Release	≤9ms @20°C

ENVIRONMENTAL DATA

Shock	Functional	196m/s ² Sine half-wave pulse
	Destructive	490m/s ² Sine half-wave pulse
Vibration, Sine, Peak, 20G	10 to 1,000Hz	
Operating Temperature	-40 to +85°C	
Humidity	5%~95%RH	
Weight	1.76 lb (0.8 kg)	

COIL DATA

Nominal Voltage	12VDC	24VDC
Pick-up Voltage (25°C)	10VDC	19VDC
Drop-out Voltage (25°C)	4VDC	8VDC
Inrush current @ nominal voltage	2.8A	1.8A
Holding current @ nominal voltage	0.40A	0.11A
Coil Power (20°C, Nominal Voltage)	4.8W	2.64W

AUX. CONTACT

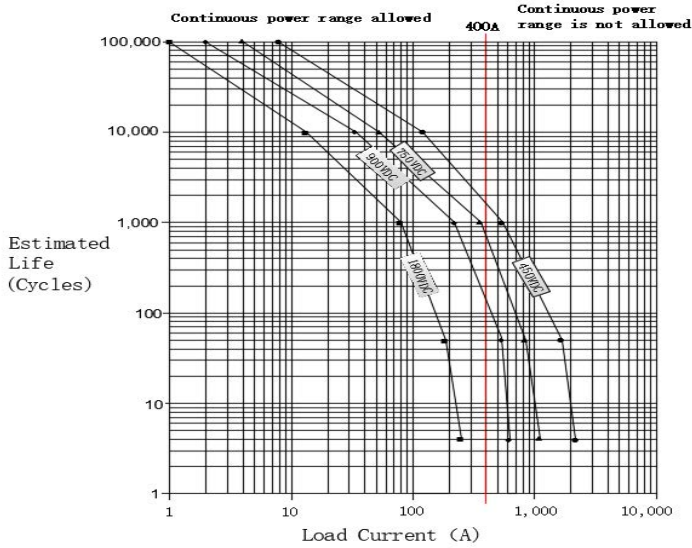
Aux. Contact Arrangement	SPST-NO (1 Form A)
Aux. Contact Rating (Max Wattage)	10W
Aux. Contact Rating (Max Voltage)	100 VDC
Aux. Contact Resistance (Max)	500mΩ

Note:

* 1: Current is relevant to cross-sectional area of conductor.

* 2: Ambient Temperature +65°C

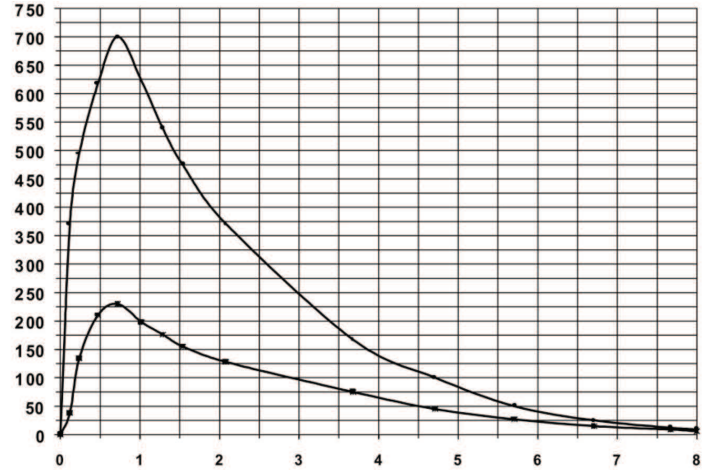
Contact Rating
Estimated Make & Break Resistive Load Ratings



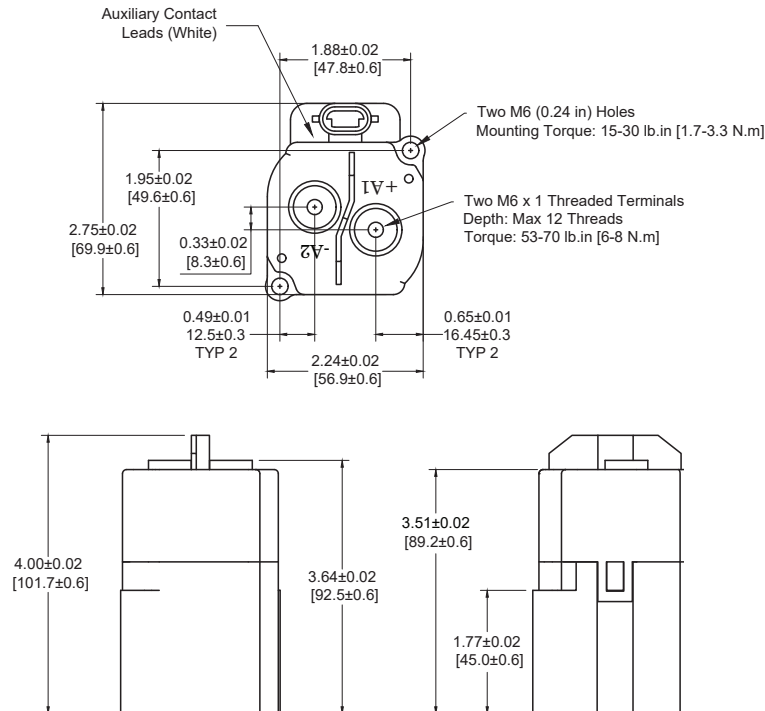
AEVT400 Capacitive Make Test Curves for Pre-Charged Motor Controller

CURRENT-TIME CURVE

Contact operate @70% and 90% capacitive pre-charge



Outline Dimensions (mm):



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Application Notes

1. Be sure to use the split washer 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.
 - Contact torque: 53.1 lb. in - 70.81 lb. in (6-8 N.m)
 - Mounting torque: 15 lb. in - 29.2 lb. in (1.7-3.3 N.m)
2. Load side marked with the polarity of the product; please be sure to follow the product label for correct use. When the polarity of the load connection is reversed, the electrical characteristics in this data sheet cannot be guaranteed.
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 coil's resistance will increase due to the increase in the coil's temperature, so the product's suction voltage 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 the 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, leading 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. Coil drive 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 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 outgoing 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 wire with a minimum of 6mm^2) to prevent overheating from affecting the life of the contactor.
11. After the products with energy-saving panels 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 the contactor may be damaged.
12. Do not use if dropped
13. It is impossible to determine all the performance parameters of relays in each application area. Therefore, customers should choose the products matching them according to their conditions of use. If in doubt, contact Altran Magnetics. The customer will be responsible for validating that the products meet their application.
14. Altran Magnetics reserves the right to make changes. Customers should reconfirm the contents of the specification first orders and ask us to supply a new specification if necessary.