High Voltage DC Contactor
AEVE400 Series
400A+/800VDC

ALTRAN MAGNETICS

Product Data Sheet

Features

HIGH CURRENT CARRY AND HIGH VOLTAGE
Inert gas filled arc chamber suitable for high voltage switching

COMPACT STRUCTURE, LOW NOISE
Small, low-profile designs with low noise while carrying or switching loads

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
Pre-charge contactor, Battery Disconnect, EV Charging, Energy Storage Systems, Photo Voltaic, Power Control, Circuit protection and much more

Sealing Type: Ceramic

- ✓ Bottom mount available
- ✓ Side mount available

Certification Information

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

Nomenclature

AEVE400	B	-

Series code:
"AEVE400" = AEVE400

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

Blank = Std.Options (Bottom Mount, Quick Connect Terminals)
"S" = Side Mount

MAIN CONTACT		
Contact Arrangement		1 Form A (SPST-NO)
Rated Operating Voltage		800 VDC
Rated current		400A
Short Term Current		600A (300s)/700A(150s)/800A(100s)
Dielectric Withstanding Voltage (initial)	Between Open Contacts	3000VDC 1mA 1min
	Between Contacts to Coil	2500VAC 1mA 1min
Insulation Resistance (Initial)	Terminal to Terminal	Min 1000MΩ@1000Vdc
	Terminals to Coil	
Short Circuit Current		20,000A (3ms) (No fire or explosion)
Contact Voltage Drop (initial)		Max.5mV (10A)
Limit Breaking		2000A@450VDC, 1 Cycle

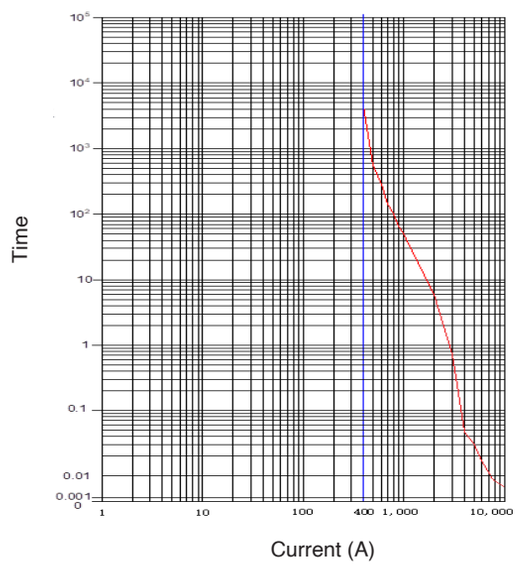
EXPECTED LIFE	
Electrical Endurance (Make Only) 140A@20VDC	75,000 Cycles
Electrical Endurance (Break Only) 400A@450VDC	1000 Cycles
Mechanical Life	200,000

OPERATE / RELEASE TIME	
Operate Time	50ms, Max @20°C
Release Time	30ms, Max @20°C

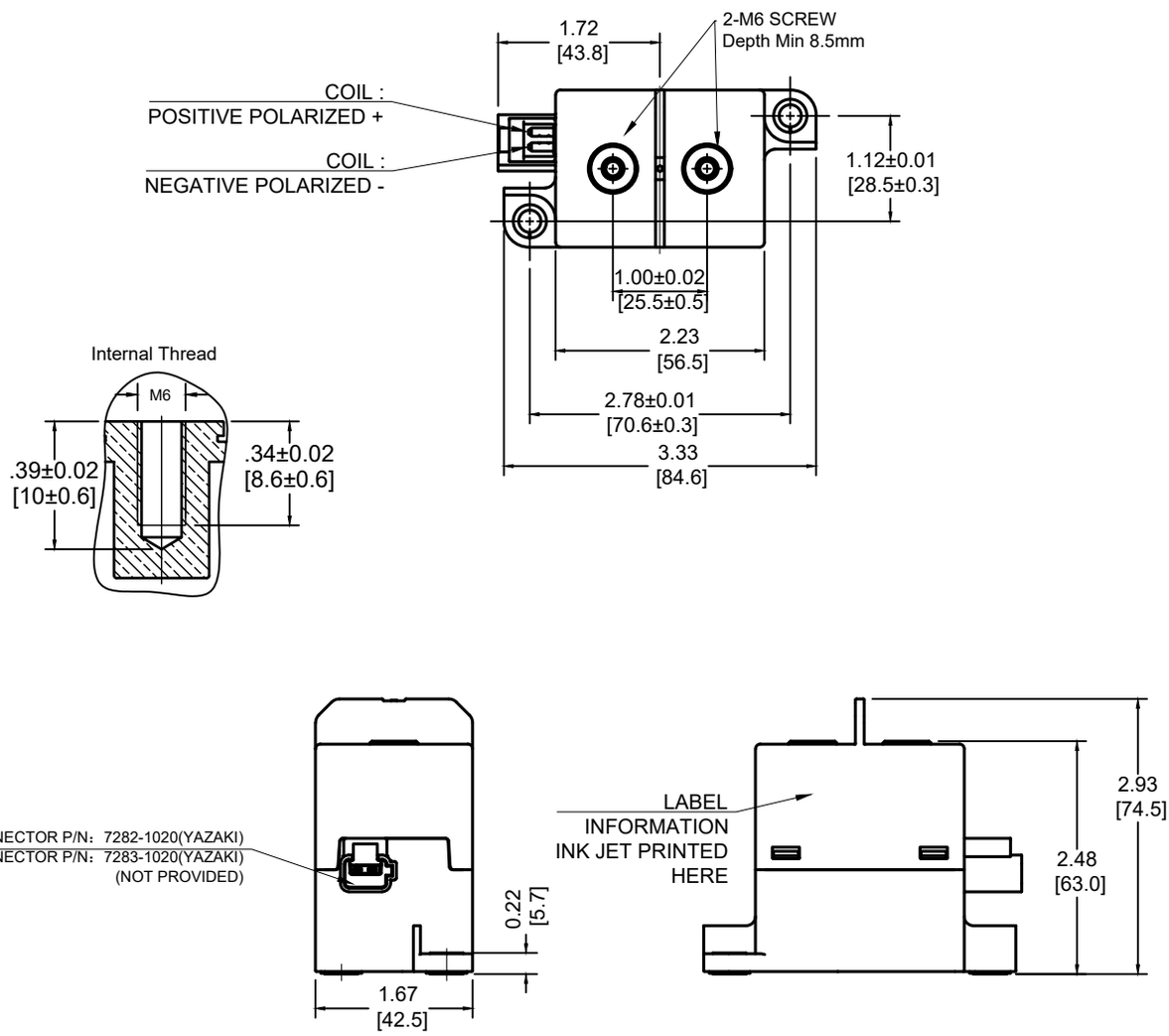
ENVIRONMENTAL DATA		
Shock	Functional	196m/s² Sine half-wave pulse
	Destructive	490m/s² Sine half-wave pulse
Operating Temperature		-40 to +85°C
Humidity		5% to 85%RH
Weight		1.21Lb (0.55kg)

COIL DATA		
Nominal Voltage	12VDC	24VDC
Pick-up Voltage (20°C)	Max. 9VDC	Max. 18VDC
Drop-out Voltage (20°C)	Min. 0.8 VDC	Min. 1.6 VDC
Coil Power 20°C at Nominal Voltage	5.8W	6W
Rated Coil Resistance ±10% (20°C)	24.5 Ω	96 Ω

Current Carry Curve



Outline Dimensions : inches (mm)



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.
   - Contact torque: 6.0-8.0 N.m
   - Mounting torque: 3.0-4.0 N.m
2. This is a product without a circuit board. When the coil is turned off, the reverse electromotive force will appear. It is recommended to design a surge protection circuit to absorb the reverse electromotive force of the relay coil.
3. Avoid installing in a strong magnetic field (close to a transformer or magnet) or near a heat source.
4. 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 in the temperature of the coil, so 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 the rated suction voltage.
5. 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.
6. 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 measures are taken, the electrical life may be maintained, and the continuity may be suitable. Please consider sufficient margin space in the design.
7. Avoid installing the contactor in a robust magnetic field environment (near transformers or magnets), and avoid placing the contactor near objects with heat radiation.
8. Supply power must be greater than coil power, or it will reduce performance capability.
9. Do not allow debris and oil to adhere to the primary lead end. Ensure that the external terminals are in reliable contact with the main outgoing end of the product. Otherwise, the rise in temperature 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 copper bar with a 130mm^2) to prevent overheating from affecting the life of the contactor.
11. Do not use if dropped.
12. It Is impossible to determine all the performance parameters of contactors in each specific application. Therefore, customers should choose the products that match 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.
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.