

AEV20E Series DC Contactor Specification 20 Amp / 750 VDC



Certification Information

Meets RoHS (2011.65/EU)

Nomenclature:

Typical Part Number

AEV20E

B

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Series code:

“AEV20E” = AEV20E Series

Coil Voltage:

“B” = 12VDC

“C” = 24VDC

Options:

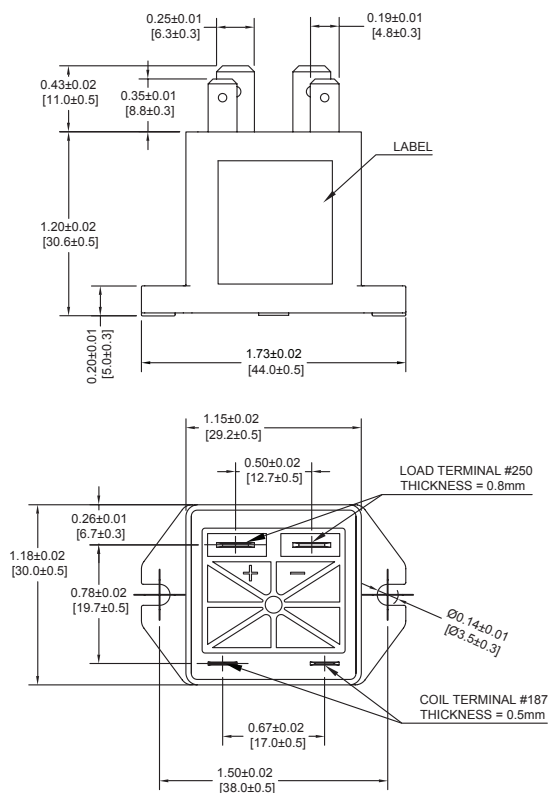
Blank = Std.Options (Bottom Mount, Quick Connect Terminals)

“P” = PCB Terminals (no mounting tabs)

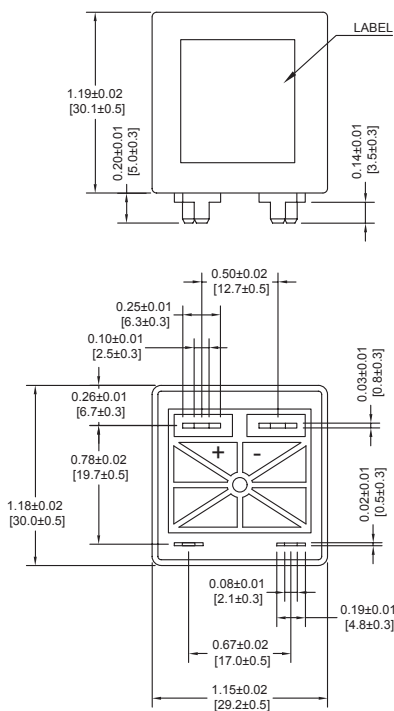


Outline Dimensions: Inches (mm)

AEV20E



AEV20E(P)



NOTE: There is a “+” and “-” mark on the cover of the product to show the polarity of the load, the coil has no polarity.

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Performance Data

MAIN CONTACTS DATA			EXPECTED LIFE	
Contact arrangement	1 Form A (SPST-NO)		Electrical Endurance (Make/Break) 20A@450VDC	5,000 Cycles
Max. Switching Voltage	750VDC			
Rated Current	20A		Electrical Endurance (Make/Break) 10A@450VDC	10,000 Cycles
Short Term Current	30A (1h)			
Dielectric Withstanding Voltage (Initial)	Between Open Contacts	2500 VAC/1mA/1min.	Electrical Endurance (Make Only) 20A@450VDC	75,000 Cycles
	Between Contacts To Coil	3000 VAC/1mA/1min.		
Insulation Resistance (Initial)	Terminal to Terminal	Min. 1000 MΩ@500Vdc	Mechanical Life	200,000 Cycles
	Terminals to Coil	Min. 1000 MΩ@500Vdc		
Voltage Drop (initial)		≤50mV/10A)		
Limit Breaking		30A@450VDC, 5 Cycle		
ENVIRONMENTAL DATA			OPERATE & RELEASE TIME	
Shock	Functional	196m/s ² Sine half-wave pulse	Operate Time	≤30ms
	Destructive	490m/s ² Sine half-wave pulse	Release Time	≤10ms
Operating Temperature		-40 to +85°C		
Humidity		5% to 85%RH		
Weight		0.11 Lb. (50g)		

Characteristics

COIL DATA		
Nominal Voltage	12 Vdc	24 Vdc
Pick-up Voltage (23°C)	≤ 9 Vdc	≤ 18 Vdc
Drop-out Voltage (23°C)	≥ 0.8 Vdc	≥ 1.6 Vdc
Coil Power (20°C Nominal Voltage)	3W	3W
Rated Coil Resistance ±10% (23°C)	48Ω	192Ω

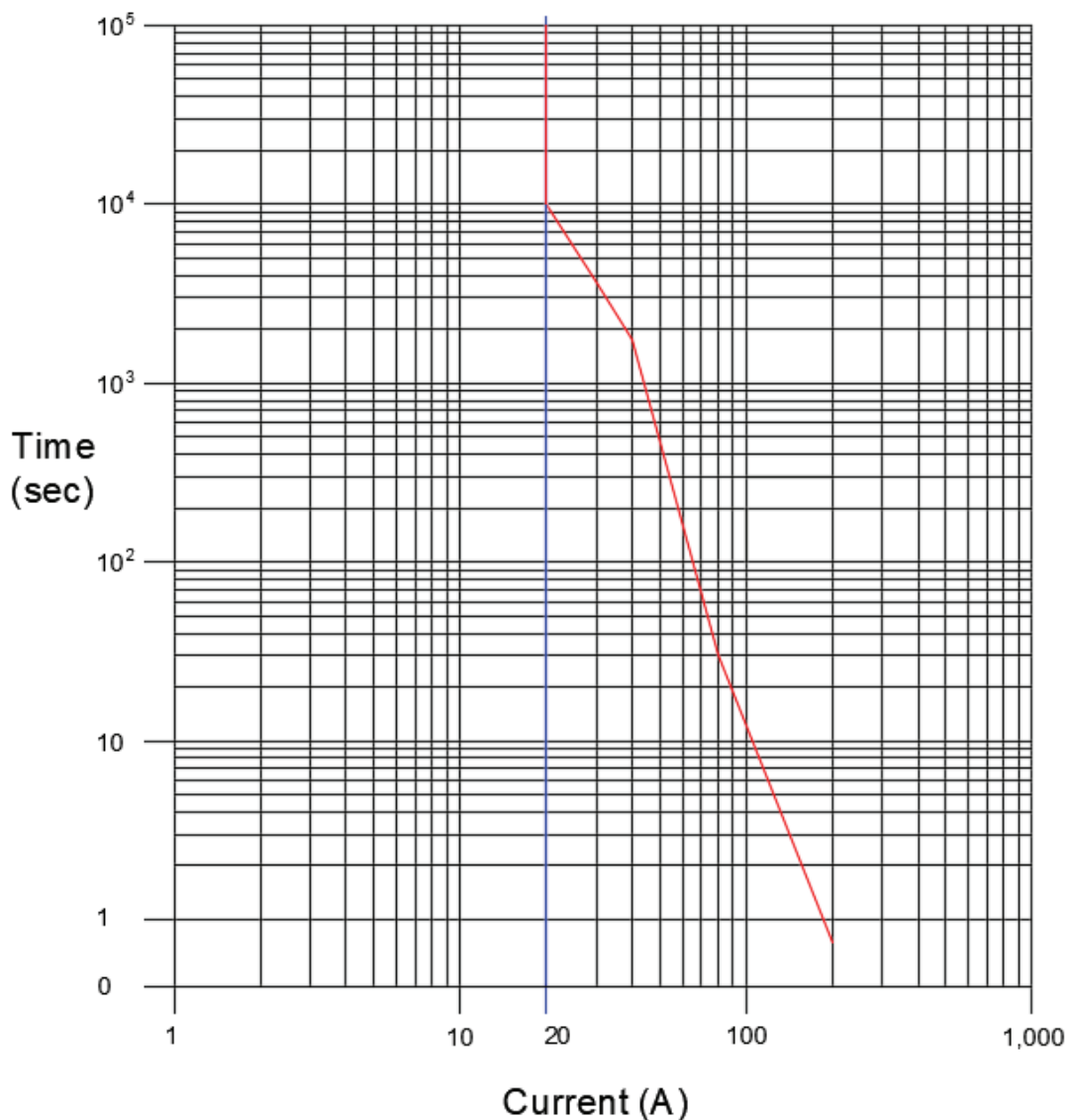
Note:

1. Do not meet dielectric & IR after the test.
2. ON:OFF = 1s:9s.
3. The ambient environment of application should not cause any dewing or icing inside the relay. Otherwise, the relay may fail to work consequently.

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Performance Data:

(1) I-T Carry current performance (85°C), the cross section area of wire is $\geq 4\text{mm}^2$, the provider data are used for reference only.



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Application Notes:

1. Please use M3 screws for mounting.
 - Mounting torque: 0.8~1.1N. m.
2. Maximum allowable (push-on) force of the terminals is 49N.
3. PCB soldering parameters:
 - Manual soldering, 380±20°C, time (3~5)s.
 - Wave soldering 265±5°C, time (3~8)s.
4. Products with polarity marked on the load end must be used correctly according to the product marking. When the load connection polarity is reversed, the electrical characteristics promised in this manual cannot be guaranteed.
5. Avoid installing the contactor in a strong magnetic field environment (near transformers or magnets) and avoid placing the contactor near objects with heat radiation.
6. When continuous current is applied to the contacts of the relay, and the Coil is turned on immediately after the power is cut off. At this time, as the temperature of the coil increases, the resistance of the coil will also increase, which will increase the pull-in voltage of the product, which may result in exceeding the rated Pull-in voltage. In this case, the following measures should be taken to reduce the load current; limit the continuous power-on time or use a coil voltage higher than the rated pull-in voltage.
7. When the voltage applied to the coil exceeds the maximum allowable applied voltage, the coil temperature may rise and lead to coil damage and inter-layer short circuit.
8. The rated values in the contact parameters are values for a resistive load. When using an inductive load with $L/R > 1\text{ms}$, please connect a surge current protection device to the inductive load in parallel. If no measures are taken, the electrical life may be reduced and the continuity may be poor. Please consider sufficient margin space in the design.
9. Supply power must be greater than coil power or it will reduce performance capability.
10. The load conductor must have the corresponding current load capacity and heat dissipation capacity (it is recommended to use wire with min 4mm²), to prevent overheating and affecting the life of the contactor.
11. Do not use if dropped.
12. Is impossible to determine all the performance parameters of contactors in each specific application, therefore, customers should choose the products matching 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.