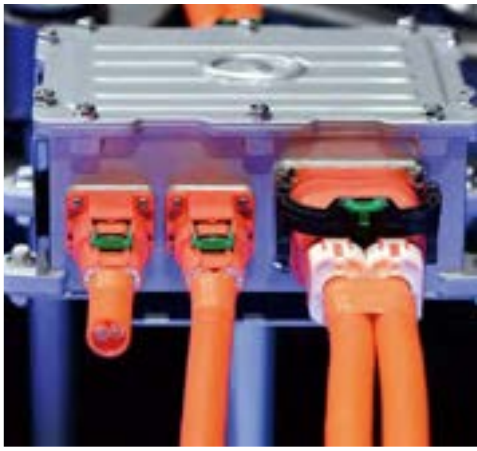
ALTRAN MAGNETICS

DC CONTACTOR DIVISION

Manufacturers of Standard and Custom
DC Contactors

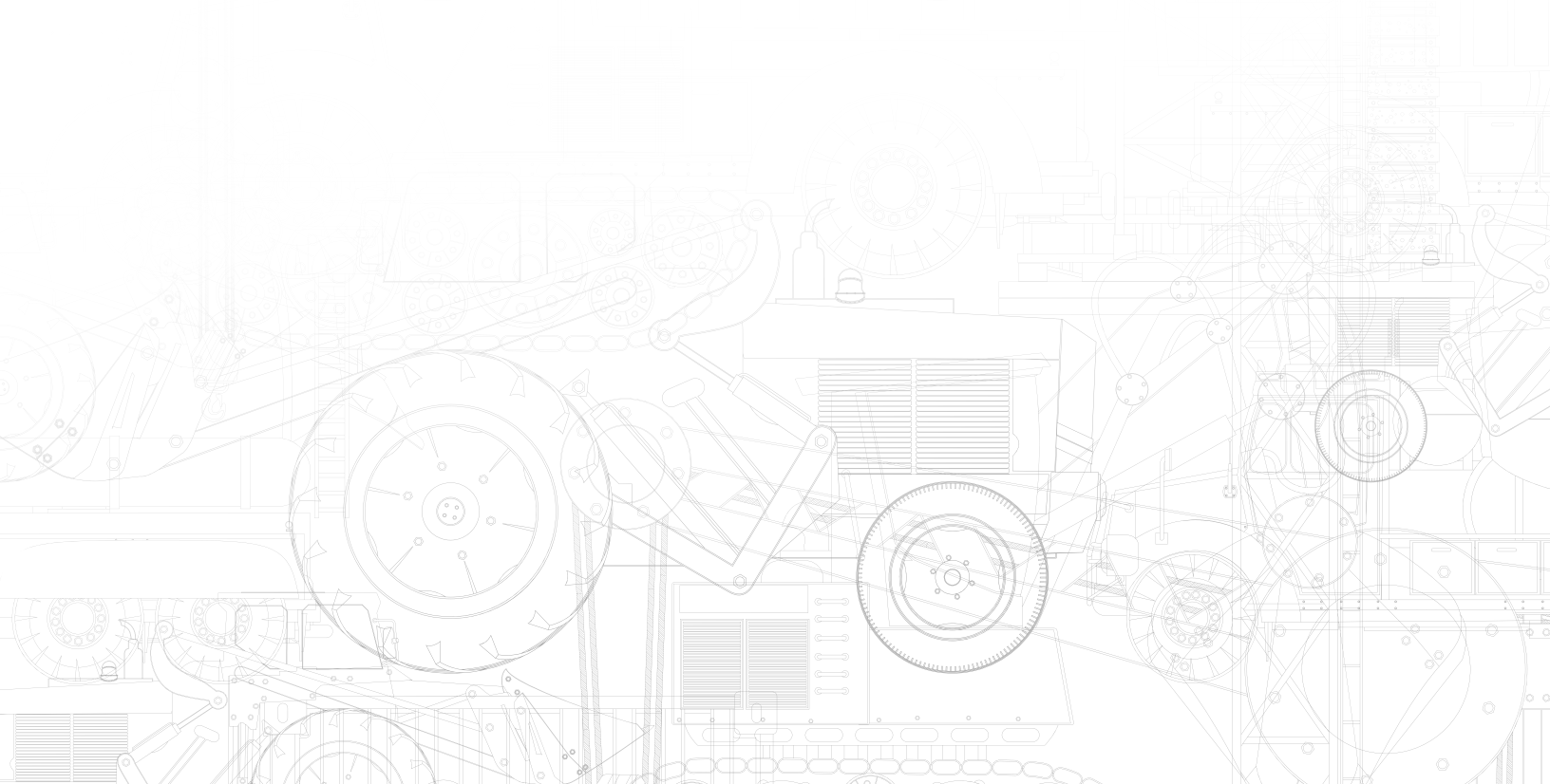


ABOUT US

Altran Magnetics, Inc. is a solution provider of DC Contactors. With around 100 P/N's in our portfolio, we are a leader in DC Contactor technologies ranging from battery management systems to Electric Vehicle power systems. Understanding that every application has its own unique electrical, mechanical and thermal requirements, our global design team can provide products to meet your specific application requirements.

Our Corporate Headquarters in Sterling, Illinois offers centralized customer service, domestic engineering support, and warehousing opportunities. Our 15 years in DC Contactor manufacturing and IATF-16949 / ISO-9001 / ISO14000 approved Shanghai-based manufacturing facilities provide premium quality at market competitive cost structures.

We are an industry-focused, solution-oriented organization producing innovative products in a supportive and progressive environment for our customers, employees and suppliers. Continually seeking new and alternative methods of improving all facets of our business our goal is to become the preeminent supplier of standard and custom products to the leading markets we serve.



DC CONTACTORS

ASEV30 Series DC Contactor Specification

ALTRAN MAGNETICS

Application

1. Power supply / motor control, circuit insulation, circuit protection and safety devices for industrial machinery
2. Charging pill, Electric vehicle etc.

Features

HIGH CURRENT AND HIGH VOLTAGE
Nitrogen sealed contacts to minimize arcing, up to 900VDC load is available.

COMPACT STRUCTURE, LOW NOISE
Contact design yields reduced unit size, low noise while carrying or switching current.

HIGH SAFETY
There is no arc leakage due to tight sealing.

HIGH CONTACT RELIABILITY
Stable contact resistance no matter how harsh the environment with sealed contacts

NO SPECIAL MOUNTING REQUIREMENT
Light weight actuator is less impacted by gravity with no special mounting orientation requirements.

VARIOUS APPLICATIONS
Application includes battery switch and standby equipment, DC power control, circuit protection, etc.

EU ROHS DIRECTIVE (2011/65/EU) COMPLIANT

Nomenclauture

Example	ASEV30	–	B

Series code:
"ASEV30" = ASEV30 Series

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

ASEV30 Series DC Contactor Specification

Performance Data

MAIN CONTACT		LIFE	
Contact arrangement	1 Form X (SPST-NO, DM)	30A @+450VDC (make/break)	10,000 cycles
Rated Operating Voltage	12-900VDC	30A @+750VDC (make/break)	4,000 cycles
Continuous (Carry) Current	30A*1	Mechanical life	200,000 cycles
Short term	50A (3 minutes)*2		
Max short circuit current	1,250A (1/2 cycle, 60Hz) (through closed contacts)		
Dielectric Withstanding Voltage	Between open contacts: 5,600Vrms/8,000Vdc		
	Between contact and coil: 2,200Vrms/4,000Vdc		
Insulation Resistance	Terminal to Terminal/ Terminal to coil		
	New: Min 100 MΩ @500Vdc End of life: Min 50 MΩ @500Vdc		
Voltage Drop (@30A)	≤60mV		
ENVIRONMENTAL DATA		**OPERATE / RELEASE TIME**	
Shock, 11ms ½ sine, operating	20G Peak	Close (includes bounce)	25ms, Max.
Vibration, Sine, Peak, 20G	55—2,000Hz	Release	10ms, Max.
Operating Ambient Temperature	-40 to +85˚C		
Noise (@100mm)	70dB(a)		
Altitude	<4000m		
Weight	0.28 Lb (0.13 kg)		

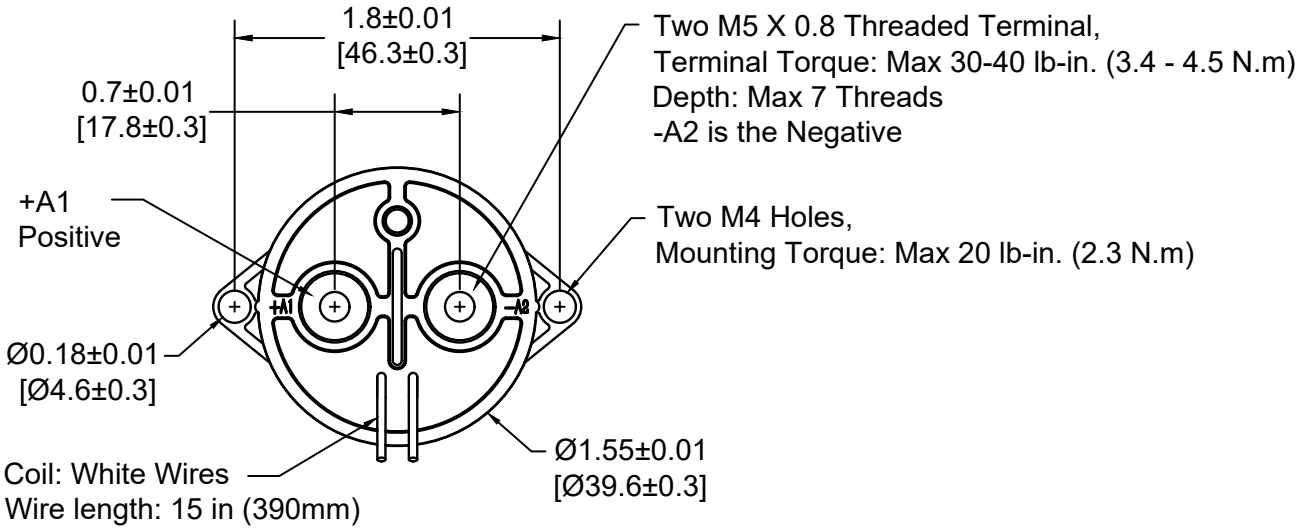
COIL DATA		
Voltage rating	12Vdc	24Vdc
Pickup voltage (25˚C)	8Vdc	18Vdc
Dropout voltage (25˚C)	1.2Vdc	2.4Vdc
Max Pickup voltage (85˚C)	9.6Vdc	19Vdc
Rated coil resistance±5% (25˚C)	25Ω	92Ω
Coil current (25˚C)	480mA	260mA
Coil watts (25˚C)	6.0W	6.0W

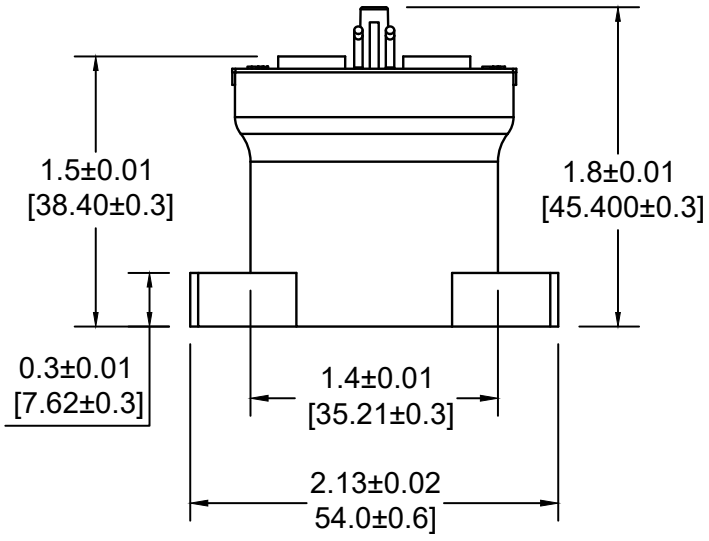
*1: Current is relevant to the cross-sectional area of conductor.

*2: Ambient temperature: +40˚C, 3 minutes

ASEV30 Series DC Contactor Specification

Outline Dimensions: inches (mm)





ASEV30 Series DC Contactor Specification

Application Note:

1. Be sure to use washer to prevent screws from loosening, all the terminals or copper bar 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: 30 - 40 lb.in (3.4 - 4.5 N.m) Max. Active length of thread is 7.0 mm
   - Mounting torque: 20 lb.in (2.3 N.m)
2. Contact terminals are polarized so refer to drawing during connecting. We suggest using a varistor rather than diode as a surge protector.
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 into account and to make sure power shall be cut off within 1 second.
6. Lifetime of internal gas diffusion
   The contactor is sealed and filled with gas, lifetime of gas diffusion is determined by temperature in contact chamber (ambient temperature + temperature generated by contact operation). Operate only in an ambient temperature from -40 to +85 ˚C.
7. Drive power must be greater than coil power or it will reduce performance capability.
8. Avoid debris or oil contamination on the main terminals to optimize contact and avoid excess heat generation.
9. After continuous rated voltage / current has been applied to the coil and contacts, turning off the coil and immediately re-energizing the coil will result in a higher pick-up voltage than the rated value. This is due to increased coil resistance (coil temperature rise) of the device.

ALEV50 Series DC Contactor Specification

ALTRAN MAGNETICS

Application

- Power supply / motor control, circuit insulation, circuit protection and safety devices for industrial machinery
- Charging pill, Electric vehicle etc.

Features

HIGH CURRENT AND HIGH VOLTAGE
Nitrogen sealed contacts to minimize arcing, up to 750VDC load is available.

COMPACT STRUCTURE, LOW NOISE
Contact design yields reduced unit size, low noise while carrying or switching current.

HIGH SAFETY
There is no arc leakage due to tight sealing.

HIGH CONTACT RELIABILITY
Stable contact resistance no matter how harsh the environment with sealed contacts

NO SPECIAL MOUNTING REQUIREMENT
Light weight actuator is less impacted by gravity with no special mounting orientation requirements.

VARIOUS APPLICATIONS
Application includes battery switch and standby equipment, DC power control, circuit protection, etc.

OPTIONAL AUXILIARY CONTACT
Allows for contact position signal.

COMPLY WITH EU ROHS DIRECTIVE (2011/65/EU)

Nomenclauture

Example	ALEV50	–	C		AS

Series code:
"ALEV50" = ALEV50 Series

Coil Voltage Code:
"B" = 12 VDC
"C" = 24 VDC
"E'" = 48 VDC

Options (applied in this order):
Blank = Std. Options (Bottom Mount, Without Aux. Contact & Polarized Load Terminals)
"A" = With Aux. Contact (SPST-NO)
"S" = Side Mount Version
"N" = Non-Polar Load Terminals

Additional mounting styles are available.

ALEV50 Series DC Contactor Specification

Performance Data

MAIN CONTACT		LIFE	DATA
Contact arrangement	1 Form X (SPST-NO, DM)	50A @+450VDC (make/break)	8,000 cycles
Rated Operating Voltage	12-750VDC	50A @+750VDC (make/break)	2,000 cycles
Continuous (Carry) Current	50A*1	Mechanical life	200,000 cycles
Short term	100A (3 minutes) *2	**AUX. CONTACT**	
Maximum short circuit current	1,250A (1/2 cycle, 60Hz) (through closed contacts)	Aux. Contact arrangement	1 Form A
Dielectric Withstanding Voltage	Between open contacts: 5,600Vrms/8,000Vdc Between contact and coil: 2,200Vrms/4,000Vdc	Aux. Contact Current Max	2A@30VDC/ 3A@125VAC
Insulation Resistance	Terminal to Terminal / Terminal to Coil New: Min 100MΩ @500VDC End of Life: Min 50MΩ @500VDC	Aux. Contact Current Min	100mA@8V
		Max. Contact Resistance	0.417Ω@30VDC 0.150Ω@125VAC
Voltage Drop (@50A)	≤60mV		
ENVIRONMENTAL DATA		**OPERATE / RELEASE TIME**	
Shock, 11ms ½ sine, operating	20G Peak	Close (includes bounce)	25ms, Max.
Vibration, Sine, Peak, 20G	80—2,000Hz	Release	10ms, Max.
Operating Ambient Temperature	-40 to +85˚C		
Weight	0.42 lb (0.19 kg)		
COIL DATA			
Voltage rating	**12Vdc**	**24Vdc**	**48Vdc**
Voltage (Max.)	16Vdc	28Vdc	52Vdc
Pickup voltage (20 ˚C)	8Vdc	16Vdc	33Vdc
Dropout voltage (20 ˚C)	1.2Vdc	2.4Vdc	4.8Vdc
Coil current (20˚C, voltage rating, nominal)	461mA	250mA	122mA
Coil wattage (20˚C, voltage rating, nominal)	5.5W	6.0W	6.0W
Max pickup voltage (85˚C)	9.6Vdc	19.2Vdc	38.4Vdc
Rated coil resistance±5% (20˚C)	26 Ω	96 Ω	392 Ω

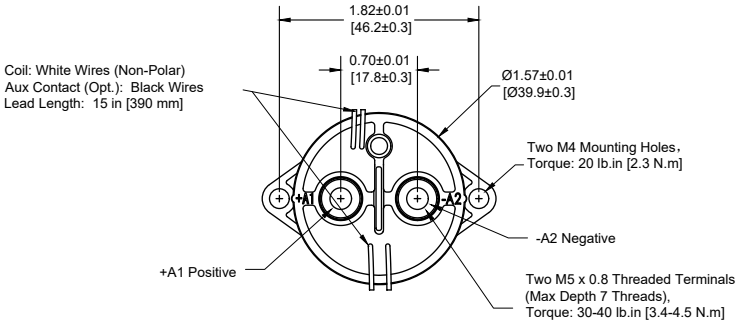
Note:

1. Current is relevant to the cross-sectional area of conductor.
2. Ambient temperature: +40˚C, 3 minutes

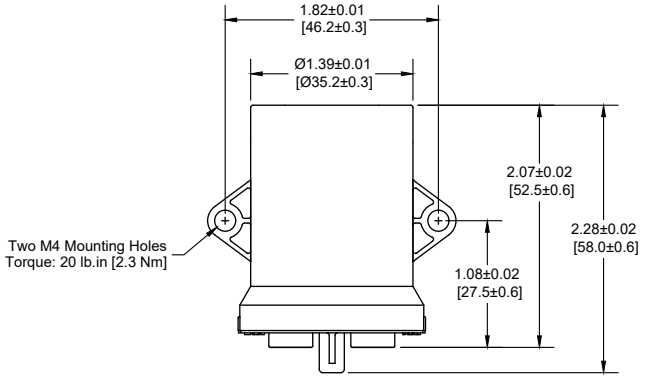
ALEV50 Series DC Contactor Specification

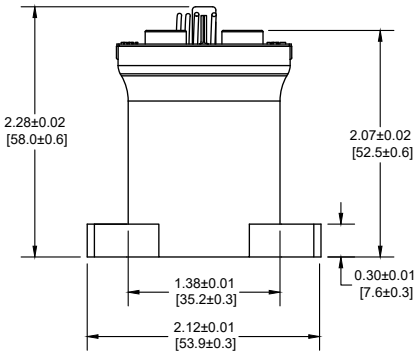
Outline Dimensions : inches (mm)

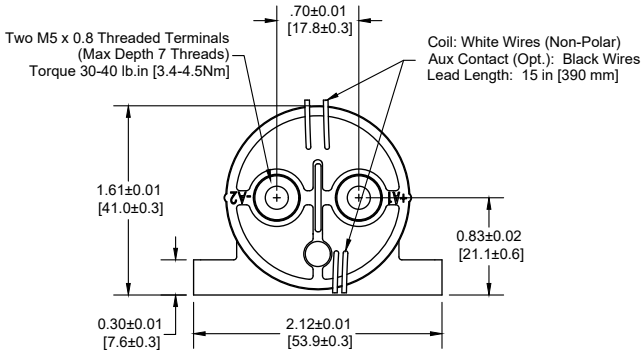
A. Bottom mount:



B. Side mount:







Note:

Polarity sensitive is marked with“+A1”, “-A2”; Non-polar type is without mark.

ALEV50 Series DC Contactor Specification

Application Note:

1. Be sure to use washer to prevent screws from loosening, all the terminals or copper bar 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: 30 - 40 lb.in (3.4 - 4.5 N.m) Max. Active length of thread is 7.0 mm
   - Mounting torque: 20 lb.in (2.3 N.m)
2. Contact terminals are polarized so refer to drawing during connecting. We suggest using a varistor rather than diode as a surge protector.
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 into account and to make sure power shall be cut off within 1 second.
6. Lifetime of internal gas diffusion
   The contactor is sealed and filled with gas, lifetime of gas diffusion is determined by temperature in contact chamber (ambient temperature + temperature generated by contact operation). Operate only in an ambient temperature from -40 to +85 ˚C.
7. Drive power must be greater than coil power or it will reduce performance capability.
8. Avoid debris or oil contamination on the main terminals to optimize contact and avoid excess heat generation.

ALEV100 Series DC Contactor Specification

ALTRAN MAGNETICS

Application

- Power supply / motor control, circuit insulation, circuit protection and safety devices for industrial machinery
- Charging pill, Electric vehicle etc.

Features

HIGH CURRENT AND HIGH VOLTAGE
Nitrogen sealed contacts to minimize arcing, up to 750VDC load is available.

COMPACT STRUCTURE, LOW NOISE
Contact design yields reduced unit size, low noise while carrying or switching current.

HIGH SAFETY
There is no arc leakage due to tight sealing.

HIGH CONTACT RELIABILITY
Stable contact resistance no matter how harsh the environment with sealed contacts

NO SPECIAL MOUNTING REQUIREMENT
Light weight actuator is less impacted by gravity with no special mounting orientation requirements.

VARIOUS APPLICATIONS
Application includes battery switch and standby equipment, DC power control, circuit protection, etc.

OPTIONAL AUXILIARY CONTACT
Allows for contact position signal.

COMPLY WITH EU ROHS DIRECTIVE (2011/65/EU)

Nomenclauture

Example	ALEV100	–	B		A

Series code:
"ALEV100" = ALEV100 Series

Coil Voltage Code:
"B" = 12 VDC
"C" = 24 VDC
"E'" = 48 VDC

Options (applied in this order):
Blank = Std. Options (Bottom Mount, Without Aux. Contact & Polarized Load Terminals)
"A" = With Aux. Contact (SPST-NO)
"S" = Side Mount Version
"N" = Non-Polar Load Terminals

ALEV100 Series DC Contactor Specification

Performance Data

MAIN CONTACT		LIFE	
Contact Arrangement	1 Form X (SPST-NO, DM)	Electrical Life	See table below
Rated Operating Voltage	12-750VDC	Mechanical Life	200,000 Cycles
Continuous Current	100A*1		
Short Time Overcurrent	200A (3 minutes) *2	**AUX. CONTACT**	
Maximum Short Circuit Current	1,250A (1/2 cycle, 60Hz)	Aux. Contact Arrangement	1 Form A
Dielectric Withstand Voltage	Between Contacts: 2500VDC, ≤1mA Contact to Coil: 2,200Vrms, ≤1mA	Max. Contact Rating	2A@30VDC/ 3A@125VAC
Insulation Resistance	Terminal to Terminal /Terminal to Coil New: Min 100 MΩ@500Vdc End of Life: 50 MΩ@500Vdc	Min. Contact Rating	100mA@8V
		Max. Contact Resistance	0.417ohms@30VDC/ 0.150ohms@125VAC
Voltage Drop (@100A)	≤80mV		
ENVIRONMENTAL DATA		**OPERATE / RELEASE TIME**	
Shock, 11ms ½ Sine, Operating	20G Peak	Close (includes bounce)	25ms, Max.
Vibration, Sine, Peak, 20G	80—2,000Hz	Release	10ms, Max.
Operating Temperature	-40 to +85˚C		
Weight	0.42 lb (0.19 kg)		
COIL DATA			
Voltage Rating	**12Vdc**	**24Vdc**	**48Vdc**
Voltage (Max.)	16Vdc	28Vdc	52Vdc
Pick-up Voltage (20 ˚C)	8Vdc	16Vdc	33Vdc
Drop-out Voltage (20 ˚C)	1.2Vdc	2.4Vdc	4.8Vdc
Coil Current (20˚C, Nominal Voltage)	461mA	250mA	122mA
Coil wattage (20˚C, voltage rating, nominal)	5.5W	6.0W	6.0W
Max Pick-up Voltage (85˚C)	9.6Vdc	19.2Vdc	38.4Vdc
Rated Coil Resistance±5% (20˚C)	26 Ω	96 Ω	392 Ω

Note:

1. Current is relevant to the cross-sectional area of conductor.
2. Ambient temperature: +40˚C, 3 minutes

ALEV100 Series DC Contactor Specification

Polarized Load

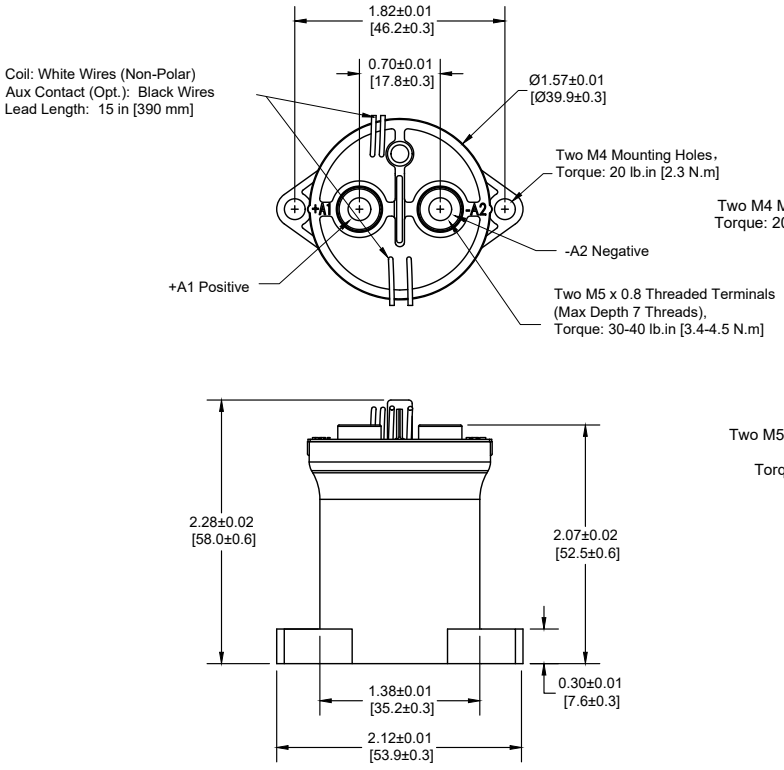
Voltage (VDC)	650	450
Current(A)	100	100
Electrical Life (cycles)	2,000	10,000

Non-Polarized Load

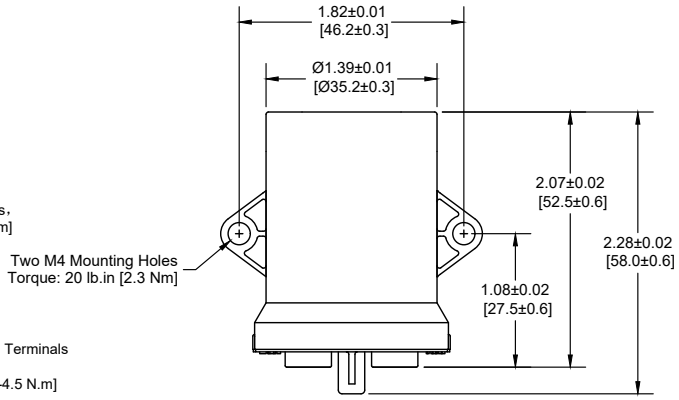
Voltage (VDC)	650	450
Current(A)	100	100
Electrical Life (cycles)	1,000	10,000

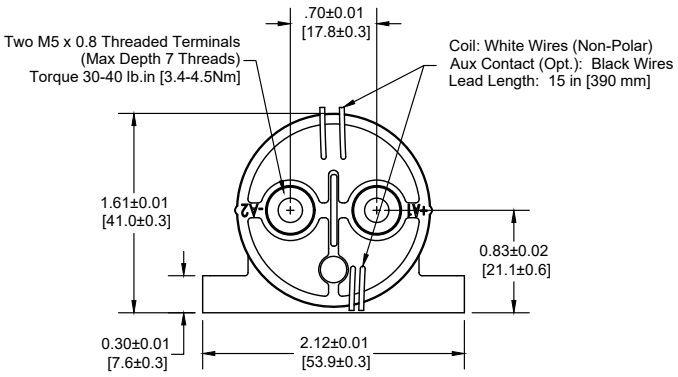
Outline Dimensions : inches (mm)

A. Bottom mount:



B. Side mount:





Note:

1. The polarity of the product has the polarity of “+A1” and “-A2” on the outer cover, and the non-polar product has no polarity mark.

ALEV100 Series DC Contactor Specification

Application Note:

1. Be sure to use washer to prevent screws from loosening, all the terminals or copper bar 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: 30 - 40 lb.in (3.4 - 4.5 N.m) Max. Active length of thread is 7.0 mm
   - Mounting torque: 20 lb.in (2.3 N.m)
2. Contact terminals are polarized so refer to drawing during connecting. We suggest using a varistor rather than diode as a surge protector.
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 into account and to make sure power shall be cut off within 1 second.
6. Lifetime of internal gas diffusion
   The contactor is sealed and filled with gas, lifetime of gas diffusion is determined by temperature in contact chamber (ambient temperature + temperature generated by contact operation). Operate only in an ambient temperature from -40 to +85 ˚C.
7. Drive power must be greater than coil power or it will reduce performance capability.
8. Avoid debris or oil contamination on the main terminals to optimize contact and avoid excess heat generation.

AEV150 Series DC Contactor Specification

ALTRAN MAGNETICS

Application

AEV150 series DC contactors are used for battery power supply, DC power control, circuit protection and other electric vehicle power switch controls. Can also be used in uninterruptible power supply and other electronic control systems.

Features

HIGH CURRENT AND HIGH VOLTAGE
Nitrogen sealed contacts to minimize arcing.

COMPACT STRUCTURE, LOW NOISE
Contact design yields reduced unit size, low noise while carrying or switching currents.

COIL ECONOMIZER
Built-in coil economizer – only 1.7W holding power @12VDC, limits back EMF to 0V.

HIGH SAFETY
There is no arc leakage due to tight sealing.

HIGH CONTACT RELIABILITY
Stable contact resistance no matter how harsh the environment with sealed contacts.

NO SPECIAL MOUNTING REQUIREMENT
Light weight actuator is less impacted by gravity with no special mounting orientation requirements.

VARIOUS APPLICATIONS
Application includes battery switch and standby equipment, DC power control, circuit protection, etc.

OPTIONAL AUXILIARY CONTACT
Allows for contact position signal.

EU ROHS DIRECTIVE (2011/65/EU) COMPLIANT

Nomenclature

Example	AEV150	–	M	AN

Series code:
"AEV150" = AEV150 Series

Coil Voltage Code:
"M" = 12 - 24 VDC

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

AEV150 Series DC Contactor Specification

Performance Data

MAIN CONTACT		LIFE	
Contact arrangement	1 Form X (SPST-NO DM)	Resistive load life	See chart below
Rated Operating Voltage	12-900VDC	Mechanical life	200,000 cycles
Continuous (Carry) Current	150A -200A (65 ˚C)	**AUX. CONTACT**	
Make/Break current	See chart below	Aux. Contact arrangement	1 Form A
Max short circuit current	2,000A @320VDC, 1 cycle *1	Aux. Contact Current Max	2A@30VDC/ 3A@125VAC
Dielectric Withstanding Voltage	Between open contacts: 2,200Vrms, ≤1mA	Aux. Contact Current Min	100mA@8V
	Between contact and coil: 2,200 Vrms, ≤1mA	Max Contact Resistance	0.417ohms@30VDC/ 0.150ohms @125VAC
Insulation Resistance*2	Terminal to Terminal/ Terminal to coil		
	New: Min 100 MΩ @500Vdc End of life: Min 50 MΩ @500Vdc		
Voltage Drop (@150A)	≤60mV		

ENVIRONMENTAL DATA		OPERATE / RELEASE TIME	
Shock, 11ms ½ sine, operating	20G Peak	Close (includes bounce)	25ms, Max.
Vibration, Sine, Peak, 20G	80—2,000Hz	Bounce (after close only)	7ms, Max.
Operating Ambient Temperature	-40 to +85 ˚C	Release (@2000A includes arc)	12ms, Max.
Altitude	<4000m		
Weight	0.95 Lb (0. 43 kg)		

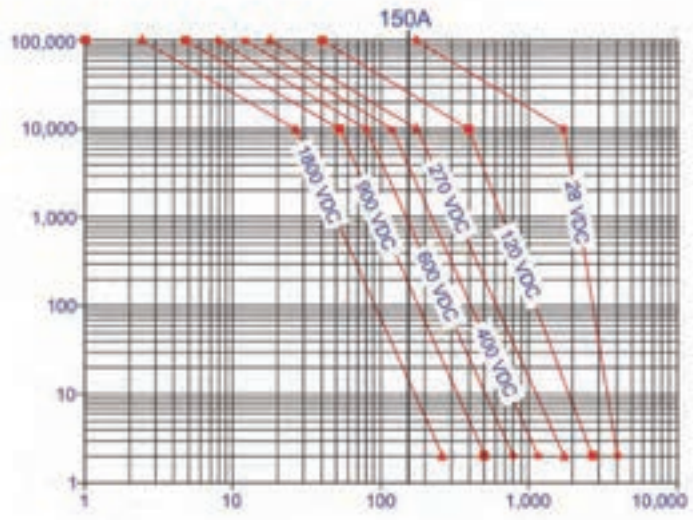
COIL DATA	
Coil Voltage	9-36VDC
Voltage (Max.)	36VDC
Pickup voltage (Max.)	9VDC
Hold voltage (Min.)	7.5 VDC
Dropout voltage (Min.)	6VDC
Inrush Current (Max.)	3.8A
Holding Currnet (Avg.)	0.13A@12VDC / 0.07A@24VDC

Note:

*1: Does not meet dielectric & IR after test.

AEV150 Series DC Contactor Specification

Estimated Make & Break Resistive Load Ratings



Estimated Life (Cycles)

Load Current (A)

Note:

1. For resistive loads with 300uH maximum inductance.
2. The maximum make current is 650A to avoid contact welding.
3. Estimates based on extrapolated data. User to confirm performance in application.

Electrical Load Life Ratings for Typical EV Applications

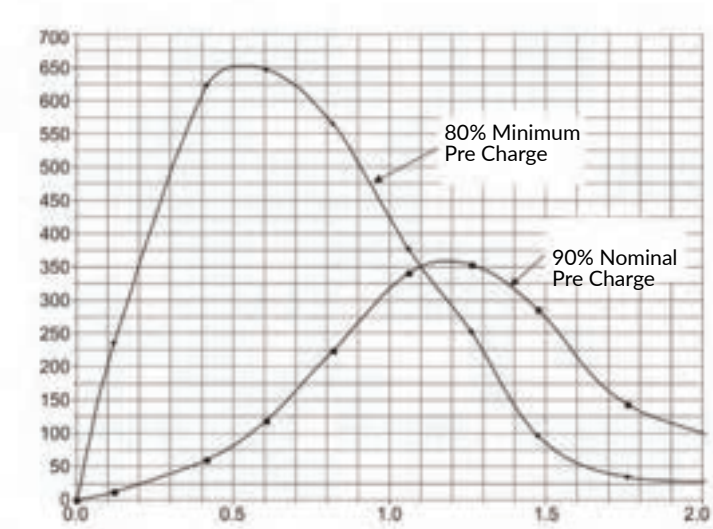
MAKE/BREAK LIFE CAPACITIVE & RESISTIVE LOADS AT 320VDC *1

@90% pre-charge (make only), see chart below	50,000 cycles
@Min 80% pre-charge (make only), see chart below	50 cycles

Note:

*1: Resistive load includes L=25uH. Load @2500A, test @200uH

AEV150 Capacitive Make Test Curves for Pre-Charged Motor Controller

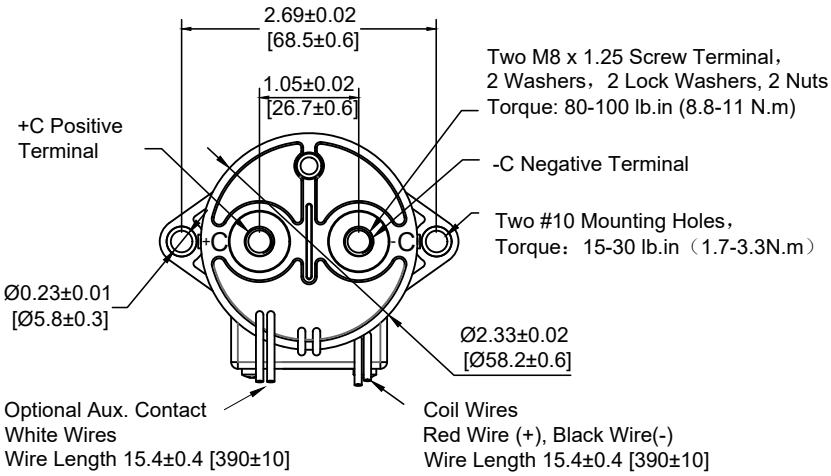


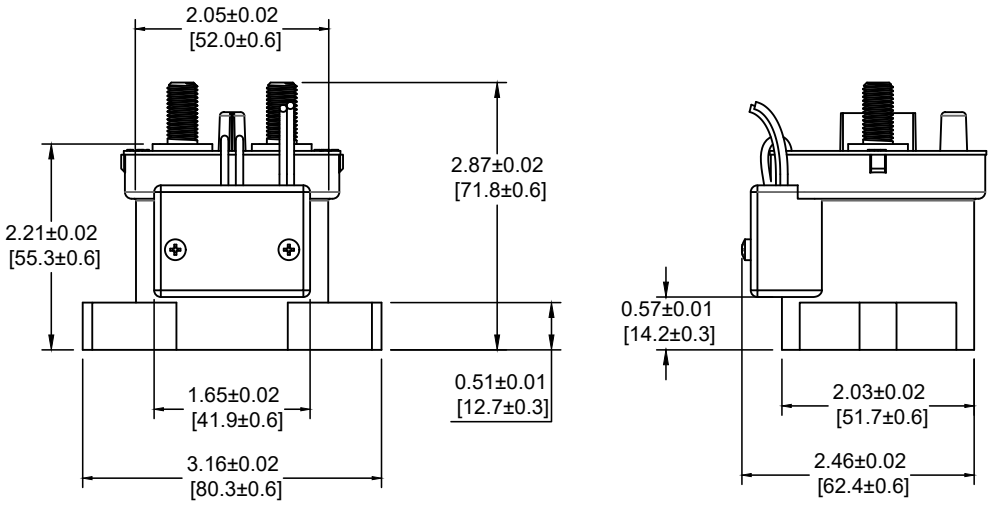
Current (A)

Time (ms)

AEV150 Series DC Contactor Specification

Outline Dimensions: in. (mm)





AEV150 Series DC Contactor Specification

Application Note:

1. Be sure to use washer to prevent screws from loosening. Screw tightening torque range is specified as below. Exceeding the maximum torque can lead to product failure.
   - Contact torque (M8): 80 - 100 lb.in (8.8 - 11 N.m)
   - Mounting torque: 15 - 30 lb.in (1.7 - 3.3 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 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. Lifetime of internal gas diffusion
   The contactor is sealed and filled with gas, lifetime of gas diffusion is determined by temperature in contact chamber (ambient temperature + temperature generated by contact operation). Operate only in an ambient temperature from -40 to +85 ˚C.
7. If inductive load(L/R>1ms) then a surge current protection device should be connected in parallel to the inductive load.
8. Drive power must be greater than coil power or it will reduce performance capability.
9. Avoid debris or oil contamination of the main terminals to optimize contact and avoid excess heat generation.
10. Unit operates after power applied for 0.1s, do not rapidily switch unit.

AEVT150 Series DC Contactor Specification

ALTRAN MAGNETICS

Application

AEVT150 series DC contactor is used for electric vehicle, hybrid electric vehicle, renewable energy storage, battery charging and fuel battery, solar energy battery, general industrial equipment.

Features

HIGH CURRENT AND HIGH VOLTAGE
Utilizing a magnetic arc blow-out design in combination with ceramic sealed / inert gas filled contact chamber allows it to make/break 1500A/450Vdc.

COMPACT STRUCTURE, LOW NOISE
Contact design yields reduced unit size, low noise while carrying and switching current.

HIGH SAFETY
There is no arc leakage due to tight sealing.

HIGH RELIABLE CONTACT
Stable contact resistance no matter how harsh the environment with sealed contacts.

NO SPECIAL REQUIREMENT FOR MOUNTING
Light weight actuator is less impacted by gravity with no special mounting orientation requirements. Side mounting and bottom mount styles are available.

VARIOUS APPLICATION
Application includes battery switch and standby equipment, DC power control, circuit protection, etc.

COMPLY WITH EU ROHS DIRECTIVE (2011/65/EU)

Nomenclauture

Example	AEVT150	—	B		S

Series code:
"AEVT150" = AEVT150 Series

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

Options:
Blank = Std. Options (Bottom Mount & Polarized Load Terminals)
"S" = Side Mount Version

AEVT150 Series DC Contactor Specification

Performance Data

MAIN CONTACT		LIFE	
Contact arrangement	1 For X (SPST-NO DM)	50A@450VDC	20,000 cycles
Rated Operating Voltage	450VDC	150A@450VDC	5,000 cycles
Continuous (Carry) Current	150A (65˚C)	Mechanical life	200,000 cycles
Short term	225A (10min, 50mm^2 wire) 320A (2min, 50mm^2 wire)		
Max short circuit current	1500A @450VDC, 1 cycle *1		
Dielectric Withstanding Voltage	Between Contacts: 3000VDC, ≤1mA Contact to Coil: 2,200Vrms, ≤1mA		
Insulation Resistance	Terminal to Terminal/Terminal to coil ≥100 MΩ@500Vdc		
Voltage Drop (@100A)	≤100mV		
ENVIRONMENTAL DATA		**OPERATE / RELEASE TIME**	
Shock, 11ms ½ sine, operating	20G Peak	Close (includes bounce)	30ms, Max. Bounce 5ms Max.
Vibration, Sine, Peak, 5G	10 to 2,000Hz	Release	10ms, Max
Operating Ambient Temperature	-40 to +85˚C		
Altitude	<4000m		
Weight	0.73 lb (0.33kg)		

COIL DATA		
Rated Operating Voltage	12VDC	24VDC
Max Voltage	15VDC	28VDC
Pickup voltage (Max.)	9VDC	18VDC
Dropout voltage (Min.)	1.2VDC	2.4VDC
Coil power	6W	6W
Inrush Current (Max.)	500mA	250mA

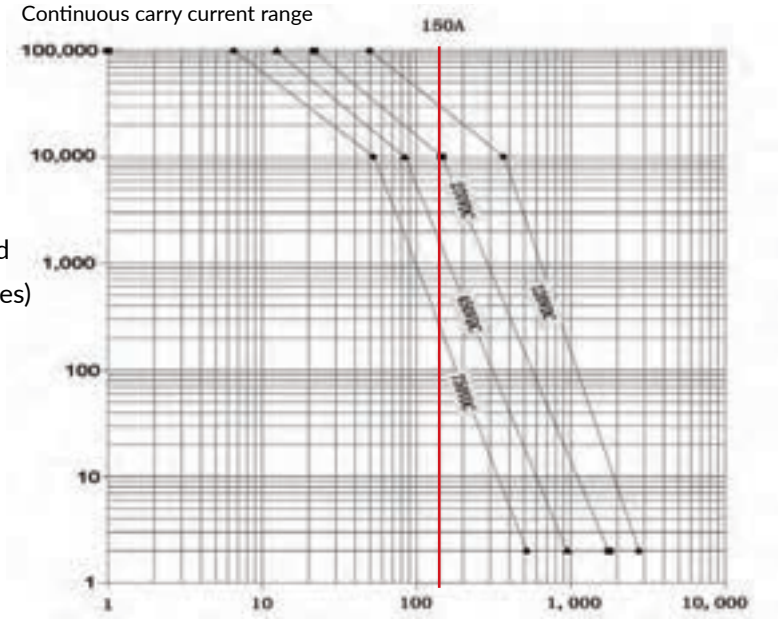
Note:

*1 Does not meet dielectric & IR after test.

AEVT150 Series DC Contactor Specification

Electrical life

Estimated Make & Break Power Switching Ratings



Note:

Estimates based on extrapolated data. User is encouraged to confirm performance in application.

Electrical Load Life Ratings for Typical EV Applications

MAKE/BREAK LIFE CAPACITIVE & RESISTIVE LOADS AT 320VDC*1 *2	
@90% pre-charge (make only), see chart below	30,000 cycles
@Min 80% pre-charge (make only), see chart below	50 cycles

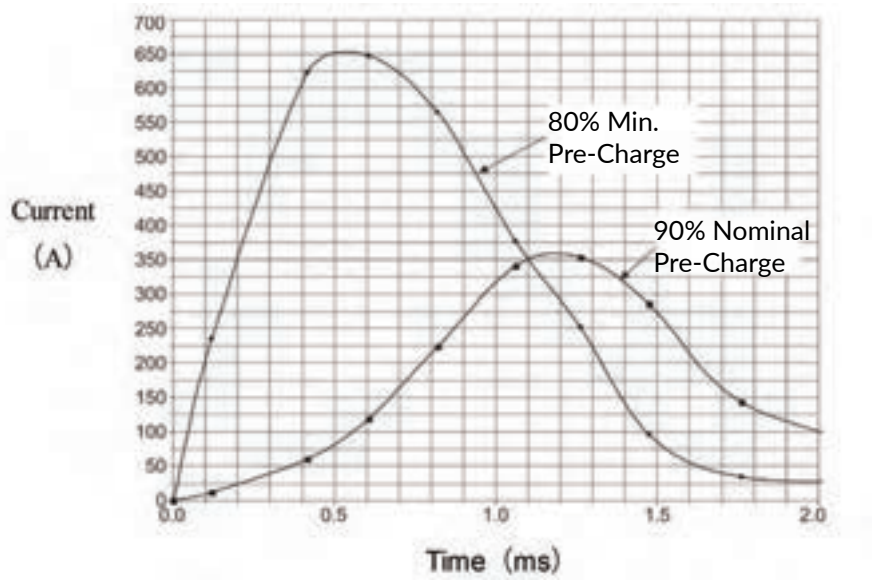
Note:

*1: Resistive load includes L=25uH. Load @2500A, test @200uH

*2: Life based on projected Weibull Life with 95% reliability.

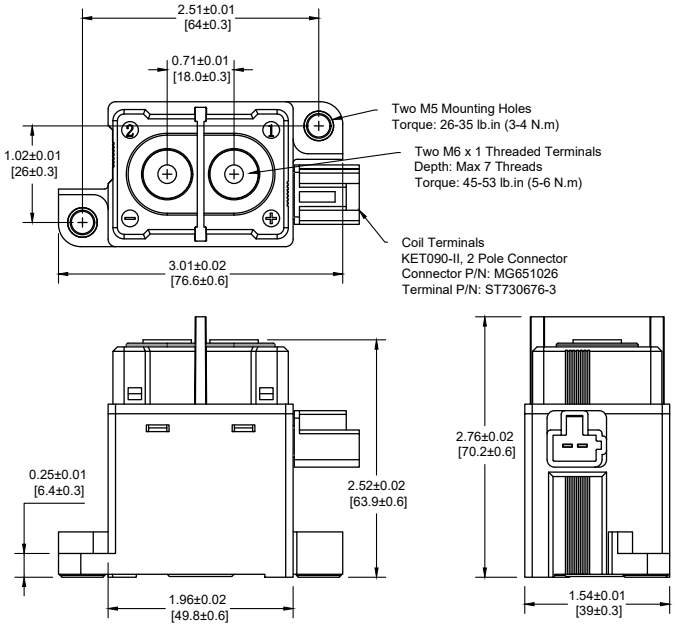
AEVT150 Series DC Contactor Specification

AEVT150 Capacitive Make Test Curves for Pre-Charged Motor Controller

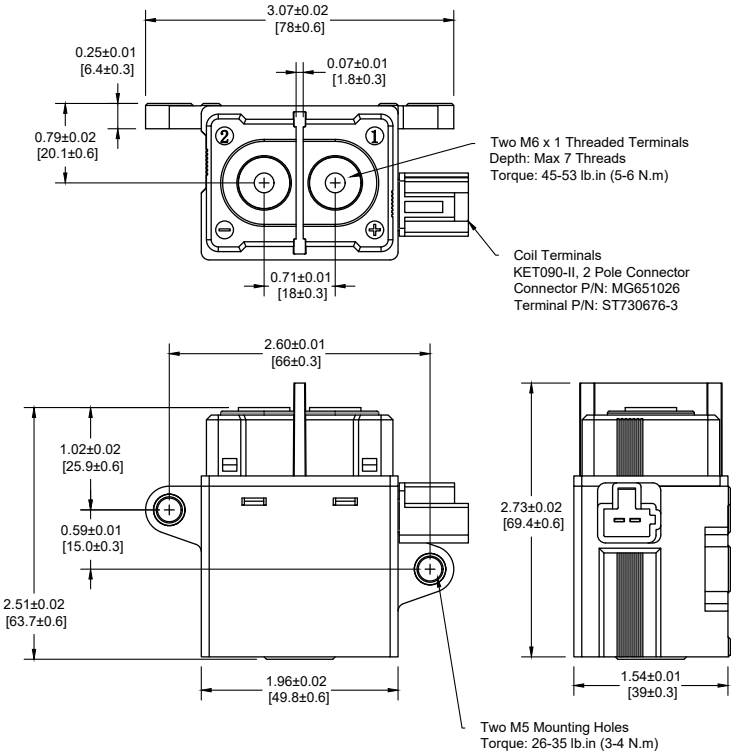


Outline Dimensions: inches (mm)

Bottom mount:



Side mount:



AEVT150 Series DC Contactor Specification

Application Note:

1. Be sure to use washer to prevent screws from loosening, all the terminals or copper bar 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 (M6): 45 - 53 lb.in (5 - 6 N.m) Max. Active length of thread is 7.0 mm
   - Mounting torque: 26 - 35 lb.in (3 - 4 N.m)
2. Contact terminals are polarized so refer to drawing during connecting. We suggest using a varistor rather than diode as a surge protector.
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 into account and to make sure power shall be cut off within 1 second.
6. Lifetime of internal gas diffusion
   The contactor is sealed and filled with gas, lifetime of gas diffusion is determined by temperature in contact chamber (ambient temperature + temperature generated by contact operation). Operate only in an ambient temperature from -40 to +85 ˚C.
7. Avoid debris or oil contamination on the main terminals to optimize contact and avoid excess heat generation.


48V

ALEV200 Series DC Contactor Specification

ALTRAN MAGNETICS

Features

HIGH CURRENT AND HIGH VOLTAGE
Contact chamber is filed with inert gas to minimize arcing, up to 900VDC load is available.

COMPACT STRUCTURE, LOW NOISE
Contact design yields reduced unit size, low noise while carrying or switching current.

HIGH SAFETY
There is no arc leakage due to tight sealing.

HIGH CONTACT RELIABILITY
Stable contact resistance no matter how harsh the environment with sealed contacts

NO SPECIAL MOUNTING REQUIREMENT
Light weight actuator is less impacted by gravity with no special mounting orientation requirements.

EU ROHS DIRECTIVE (2011/65/EU) COMPLIANT

Nomenclauture

Example	ALEV200	–	C	T

Series code:
"ALEV200" = ALEV200 Series

Coil Voltage Code:
"B" = 12VDC
"C" = 24VDC
"E" = 48VDC
"F" = 72VDC

Options (applied in this order):
Blank = Std. Options (Bottom Mount, Coil Wires, Without Aux. Contact & Polarized Load Terminals)
"A" = With Aux. Contact (SPST-NO)
"S" = Side Mount Version
"T" = Threaded Coil Terminal (not available with Aux contact)

ALEV200 Series DC Contactor Specification

Performance Data

MAIN CONTACT		LIFE	
Contact Arrangement	1 Form X (SPST-NO, DM)	200A @ 450VDC	5000 Cycles
Operating Voltage	12-900vdc	Mechanical Life	200,000 Cycles
Rated Current	200A	**AUX. CONTACT**	
Maximum short circuit current	2,000A@320vdc 1 cycle	Aux. Contact arrangement	1 Form A
Withstand Voltage *1	Between open contacts: 4,000 VDC, ≤ 1mA Between contact and coil: 2,500VAC, ≤ 1mA	Aux. Contact Current Max	2A@30VDC/ 3A@125VAC
Insulation Resistance*1	Terminal to Terminal /Terminal to Coil New product: Minimum 100 MΩ @500vdc	Aux. Contact Current Min	100mA@8V
		Aux. Contact Resistance	0.417 ohms @320VDC 0.150 ohms @125VAC
Voltage Drop (@200A)	≤80mV		
ENVIRONMENTAL DATA		**OPERATE / RELEASE TIME**	
Shock, 11ms ½ Sine, Operating	20G Peak	Close (not including bounce)	30ms, Max. @20°C
Vibration, Sine, Peak, 20G	80—2,000Hz	Release Time	12ms, Max. @20°C
Operating Temperature	-40 to +85˚C		
Weight	1.32 lb. (0.60 kg)		

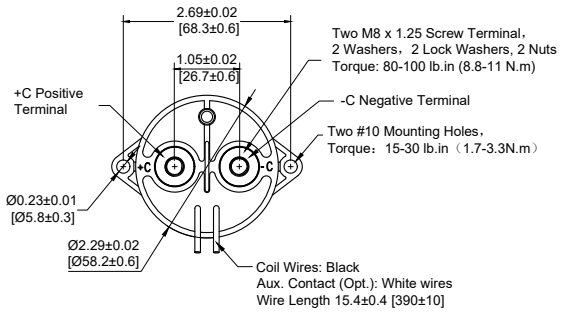
COIL DATA				
Voltage Rating	**12 Vdc**	**24 Vdc**	**48 Vdc**	**72 Vdc**
Voltage (Max.)	15 Vdc	30 Vdc	60 Vdc	90 Vdc
Pick-up Voltage (20 ˚C)	9.0 Vdc	19.0 Vdc	38.0 Vdc	57.0 Vdc
Drop-out Voltage (20 ˚C)	0.5 - 4.0 Vdc	1.0 - 6.0 Vdc	3.0 - 10.0 Vdc	4.0 - 14.0 Vdc
Coil Current (20˚C, Nominal Voltage)	1.1A	0.6A	0.3A	0.2A
Rated Coil Resistance±5% (20˚C)	11 Ω	40 Ω	145 Ω	357 Ω

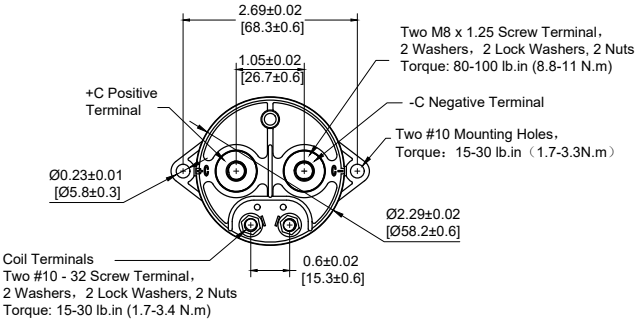
Note:
*1: Does not meet Dielectric & IR after test.

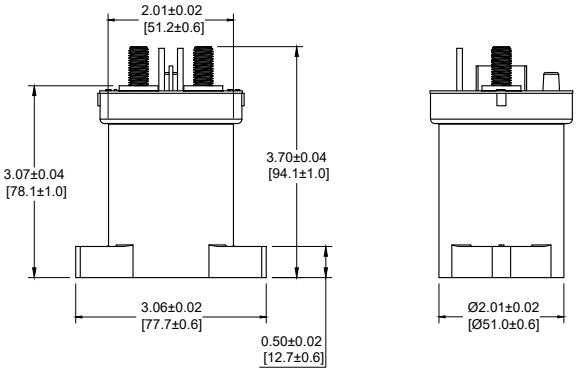
ALEV200 Series DC Contactor Specification

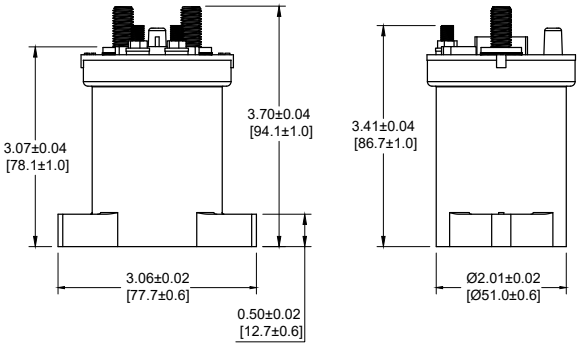
Outline Dimensions : inches (mm)

A. Bottom mount:

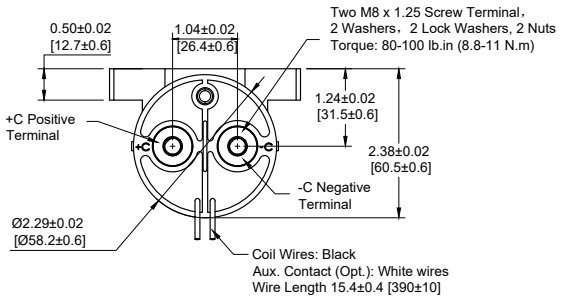


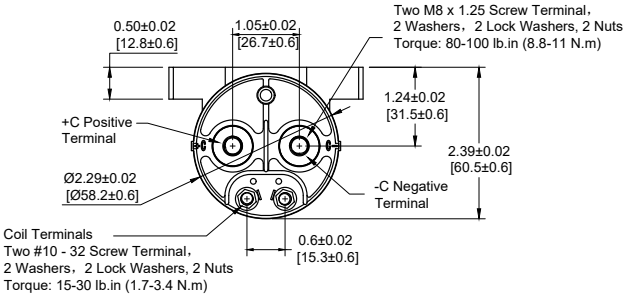


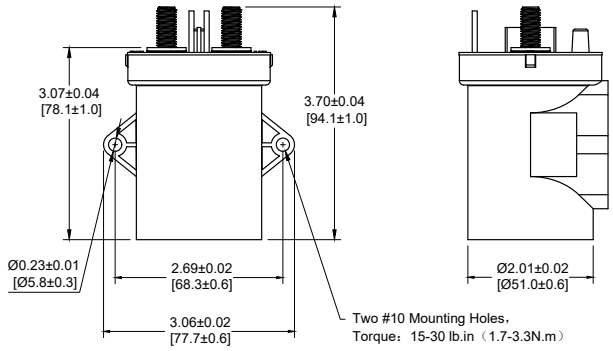


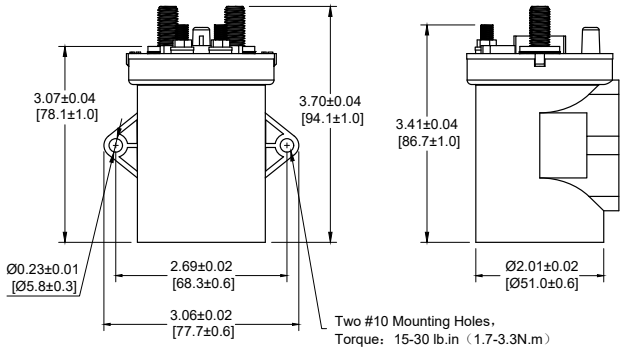


B. Side mount:









Note:
When stud terminals are specified for coil connections, the electrical connection is made at the base of the stud.

ALEV200 Series DC Contactor Specification

Application Note:

1. Be sure to use washer to prevent screws from loosening, all the terminals or copper bar 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 (M8): 80 - 100 lb.in (8.8 - 11 N.m)
   - Mounting torque: 15 - 30 lb.in (1.7 - 3.3 N.m)
2. Contact terminals are polarized so refer to drawing during connecting. We suggest using a varistor rather than diode as a surge protector.
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 into account and to make sure power shall be cut off within 1 second.
6. Lifetime of internal gas diffusion The contactor is sealed and filled with gas, lifetime of gas diffusion is determined by temperature in contact chamber (ambient temperature + temperature generated by contact operation). Operate only in an ambient temperature from -40 to +85 ˚C.
7. Drive power must be greater than coil power or it will reduce performance capability.
8. Avoid debris or oil contamination on the main terminals to optimize contact and avoid excess heat generation.
9. After continuous rated voltage / current has been applied to the coil and contacts, turning off the coil and immediately re-energizing the coil will result in a higher pick-up voltage than the rated value. This is due to increased coil resistance (coil temperature rise) of the device.

AEV250 Series DC Contactor Specification

ALTRAN MAGNETICS

Application

AEV250 Series is used for charging (pile) station, battery power supply, DC power control, circuit protection and other electric vehicle power switch controls. Also it could be widely used in uninterruptible power supply and other electronic control systems.

Features

HIGH CURRENT AND HIGH VOLTAGE
Contact chamber is filed with inert gas to minimize arcing, up to 900VDC load is available.

COMPACT STRUCTURE, LOW NOISE
Contact design yields reduced unit size, low noise while carrying or switching currents.

COIL ECONOMIZER
Built-in coil economizer – only 1.7W hold power @12VDC and it limits back EMF to 0V.

HIGH SAFETY
There is no arc leakage due to tight sealing.

HIGH RELIABLE CONTACT
Stable contact resistance no matter how harsh environment with sealed contacts.

NO SPECIAL REQUIREMENT FOR MOUNTING
Light weight actuator is less impacted by gravity with no special mounting orientation requirements.

VARIOUS APPLICATION
Application includes battery switch and standby equipment, DC power control, circuit protection, etc.

COMPLY WITH EU ROHS DIRECTIVE (2011/65/EU)

Nomenclauture

Example	AEV250	–	M	AN

Series code:
"AEV250" = AEV250 Series

Coil Voltage Code::
"M" = 12 - 24 VDC
"F" = 72 VDC
"G" = 48 - 72 VDC

Options (applied in this order):
Blank = Std. Options (Bottom Mount, Without Aux. Contact & Polarized Load Terminals)
"A" = With Aux. Contact (SPST-NO)
"B" = With Aux. Contact (SPST-NC)
"N" = Non-Polar Load Terminals
"P" = Potted PCB

AEV250 Series DC Contactor Specification

Performance Data

MAIN CONTACT		LIFE	
Contact arrangement	1 Form X (SPST-NO DM)	Resistive load life	See chart below
Rated Operating Voltage	12-900VDC	Mechanical life	200,000 cycles
Continuous (Carry) Current	250A (65˚C) *2	**AUX. CONTACT**	
Max short circuit current	2,000A @320VDC, 1 cycle*1	Aux. Contact arrangement	1 Form A, 1 Form B
Dielectric Withstanding Voltage	2200Vrms (leakage <1mA)	Aux. Contact Current Max	2A@30VDC/ 3A@125VAC
Insulation Resistance	Terminal to Terminal/ Terminal to coil New: Min 100 MΩ@500Vdc End of life: Min 50 MΩ@500Vdc	Aux. Contact Current Min	100mA@8V
Voltage Drop (@250A)	≤50mV	Aux. Contact Resistance Max	0.417ohms@30VDC/ 0.150ohms @125VAC
ENVIRONMENTAL DATA		**OPERATE / RELEASE TIME**	
Shock,11ms ½ sine, operating	20G Peak	Close (includes bounce)	25ms, Max.
Vibration, Sine, Peak, 20G	80 to 2,000Hz	Release (@2000A includes arc)	12ms, Max
Operating Ambient Temperature	-40 to +85˚C		
Altitude	<4000m		
Weight	0.95 Lb (0.43 kg)		
COIL DATA			
Coil Voltage	12 - 24VDC	72VDC	48 - 72VDC
Voltage (Max.)	36VDC	95VDC	95VDC
Pickup voltage (Max.)	9VDC	48VDC	32VDC
Dropout voltage (Min.)	6VDC	27VDC	18VDC
Inrush Current (Max.)	3.8A	0.7A	1.3A
Holding Current (Avg.)	0.13A@12VDC / 0.07A@24VDC	0.02A@72VDC	0.03A@48VDC

Note:

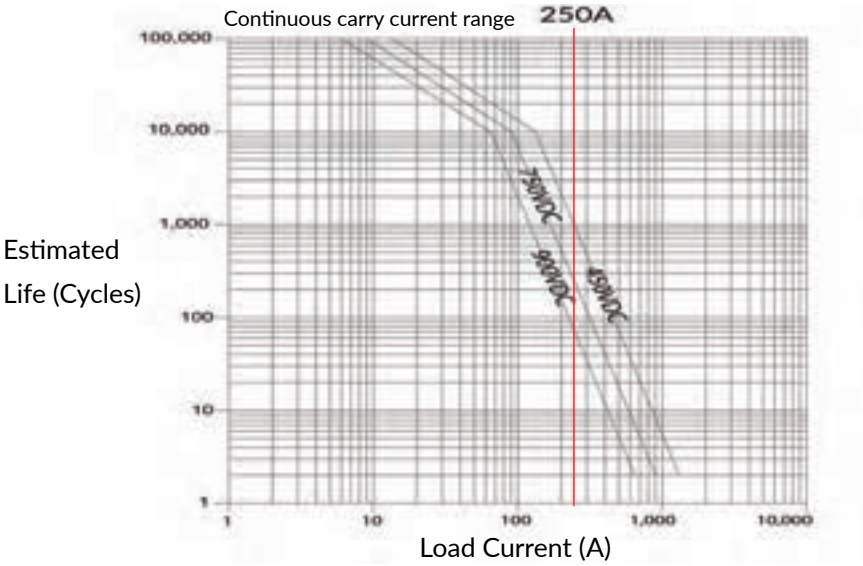
*1: Does not meet dielectric & IR after test.

*2: Higher currents are possible but are relevant to cross-sectional area of conductor.

AEV250 Series DC Contactor Specification

Electrical life

Estimated Make & Break Resistive Load Ratings for polarized type



Note:

Estimates based on extrapolated data. User is encouraged to confirm performance in application.

Estimated Electrical Life: Polarity Sensitive Type

Voltage (V)	450	650
Current (A)	250	250
Life (Cycle)	5000	500

Estimated Electrical Life: Non-Polarity Sensitive Type

Voltage (V)	450	650
Current (A)	250	250
Life (Cycle)	2000	500

Polar type electrical Load Life Ratings for Typical EV Applications

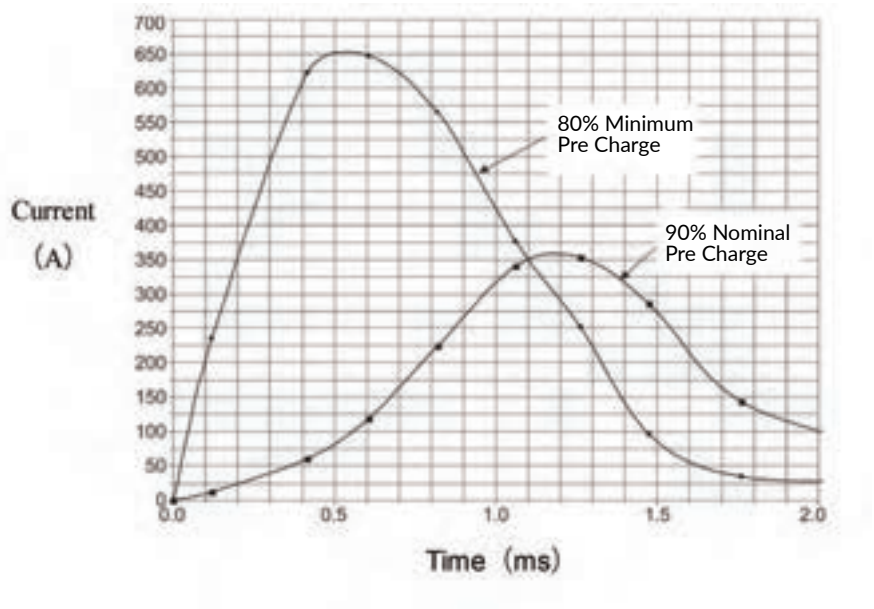
MAKE/BREAK LIFE CAPACITIVE & RESISTIVE LOADS AT 320VDC*1	
@90% pre-charge (make only), see chart below	50,000 cycles
@Min 80% pre-charge (make only), see chart below	50 cycles

Note:

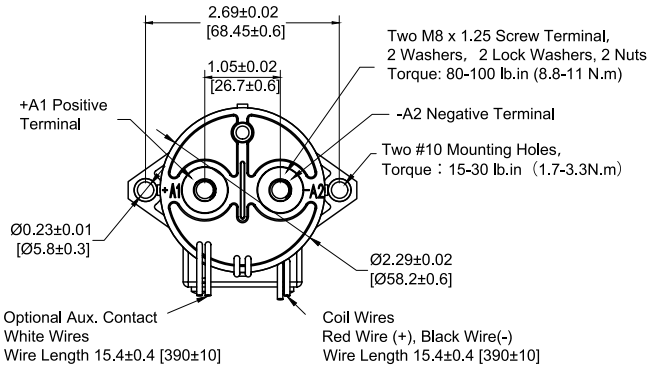
*1: Resistive load includes L=25uH. Load @2500A, test @200uH

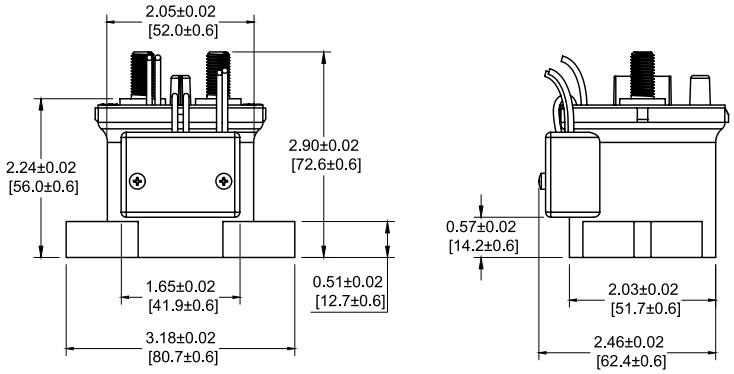
AEV250 Series DC Contactor Specification

AEV250 Capacitive Make Test Curves for Pre-Charged Motor Controller



Outline Dimensions: in. (mm)





Note:

No Polarity mark on non-polarity “N” type

AEV250 Series DC Contactor Specification

Application Note:

1. Be sure to use washer to prevent screws from loosening. Tighten the screw torque range is specified as below. Exceeding the maximum torque can lead to product rupture.
   - Contact torque (M8): 80 - 100 lb.in (8.8 - 11 N.m)
   - Mounting torque: 15 - 30 lb.in (1.7 - 3.3 N.m)
2. Please refer to drawing for polarity sensitive type during connecting; No orientation for non-polar type.
3. Do not use dropped products.
4. Avoid to install the product in a strong magnetic field (Close to the transformer or magnet), or near an object with heat radiation.
5. Electrical life
   Please use under load capability and life cycle so as not to cause a function failure. (Please also 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 happens. So it is necessary to take layout into account to make sure power shall be cut off within 1 second.
6. Lifetime of internal gas diffusion
   The contactor is sealed and filled with gas, lifetime of gas diffusion is determined by temperature in contact chamber (Ambient temperature + Temperature rising by contact energizing). Therefore environment temperature should be from -40 to +85˚C.
7. Do not let particle and oil stain on the main terminal with which the load shall make a reliable contact. Or it will cause a lot of heat.


Electric Bus
Electric Vehicle
Charging Station

AEVT350 Series DC Contactor Specification

ALTRAN MAGNETICS

Application

- Operating voltage range: 12-1,800VDC, continuous 350A, break current of 2,300A
- Ideal for Circuit protection, control, battery switch and main power break, etc.
- Built-in coil economizer:
  - Holding power @4W with no limitation of temperature and voltage
  - EMI spectrum has been tested and approved
  - Built-in coil suppression
- Hermetically Sealed contact chamber to protect all moving parts
- Able to handle harsh environments
- Provided with sealed control wire connector

Nomenclauture

Example	AEVT350	—	B	A

Series code:
"AEVT350" =AEVT350 Series

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

Options:
Blank = Std. Options (Bottom Mount, Without Aux. Contact & Polarized Load Terminals)
"A" = With Aux. Contact (SPST-NO)

AEVT350 Series DC Contactor Specification

Performance Data

MAIN CONTACT	LIFE	DATA	
Contact arrangement	1 Form X (SPST-NO DM)	350A @ 450VDC (make/break)	3,000 cycles
Rated Operating Voltage	12-1,800VDC	350A @ 650VDC (make/break)	1,000 cycles
Continuous (Carry) Current	350A*1	Mechanical life	200,000 cycles
Short term Carry Current	400A (6.5 minutes) *2	**AUX. CONTACT**	
Max short circuit current	2,300A @ 450VDC (1 cycle)	Aux. Contact Arrangement	SPST-NO (1 Form A)
Dielectric Withstanding Voltage	Between open contacts: 4,000VDC (leakage ≤1mA)	Aux. Contact Rating (Max Wattage)	10W
	Between contact and coil: 2,200Vrms (leakage ≤1mA)	Aux. Contact Rating (Max Voltage)	100 VDC
Insulation Resistance	Terminal to Terminal / Terminal to Coil	Aux. Contact Resistance (Max)	500mΩ
	New: Min 100MΩ @500VDC		
Voltage Drop (@350A)	≤120mV		
ENVIRONMENTAL DATA		**OPERATE / RELEASE TIME**	
Shock, 11ms ½ sine, operating	20G Peak	Close (includes bounce)	18ms, Max.
Vibration, Sine, Peak, 20G	10—1,000Hz	Bounce (after close)	5ms, Max.
Operating Ambient Temperature	-40 to +85˚C	Release	15ms, Max.
Noise (@100mm)	70dB(a)		
Altitude	<4000m		
Weight	1.76 lb (0.8 kg)		
COIL DATA			
Voltage rating		**12Vdc**	**24Vdc**
Pickup voltage (25 ˚C)		10Vdc	19Vdc
Dropout voltage (25 ˚C)		4Vdc	9Vdc
Inrush current @ nominal voltage		2.8A	1.8A
Holding current @ nominal voltage		0.40A	0.11A

Note:

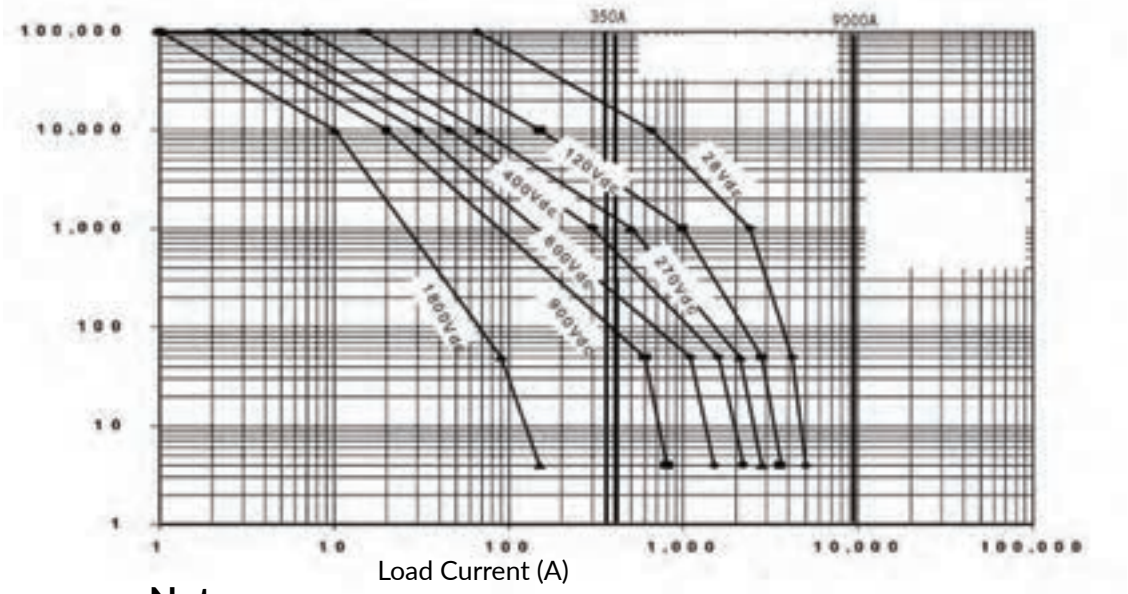
*1: Current is relevant to cross-sectional area of conductor.

*2: Ambient Temperature +65˚C

AEVT350 Series DC Contactor Specification

Contact Rating

Estimated Make & Break Resistive Load Ratings



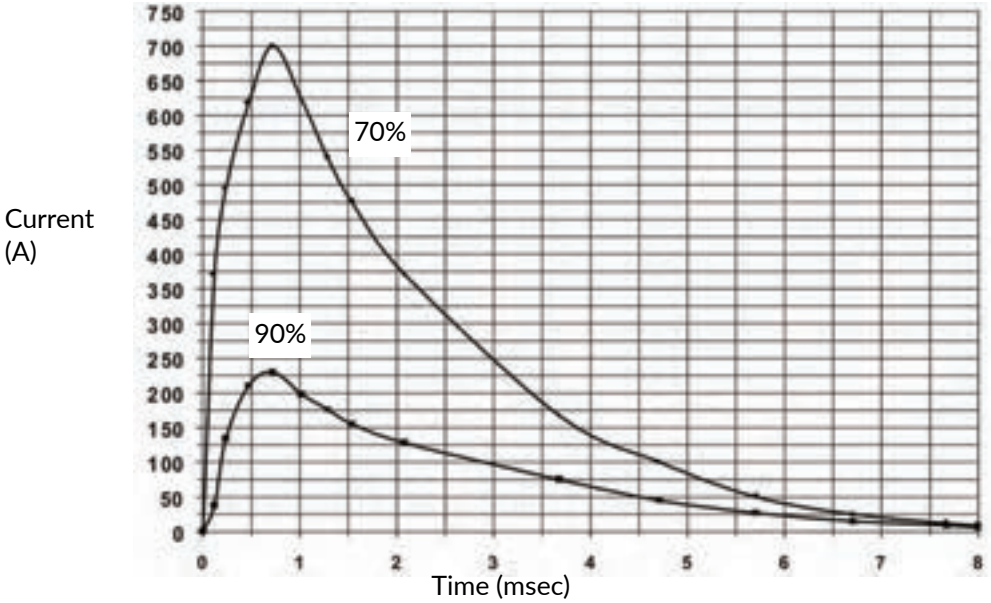
Note:

Test run under controlled conditions. User to verify in actual application.

AEVT350 Capacitive Make Test Curves for Pre-Charged Motor Controller

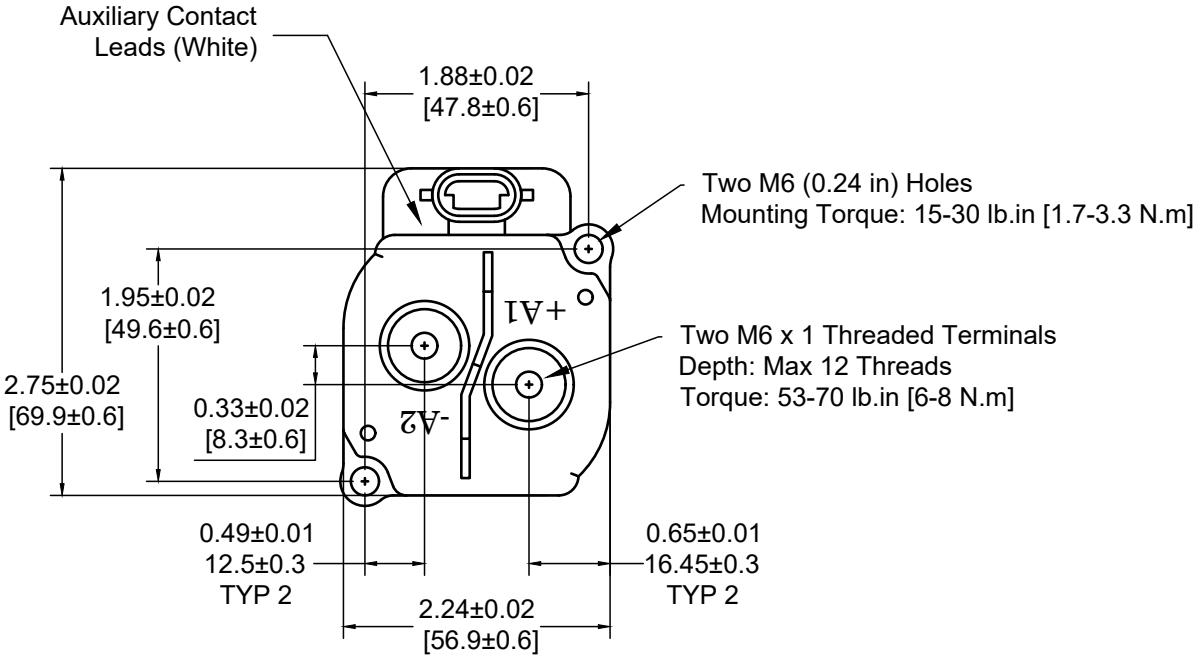
CURRENT-TIME CURVE

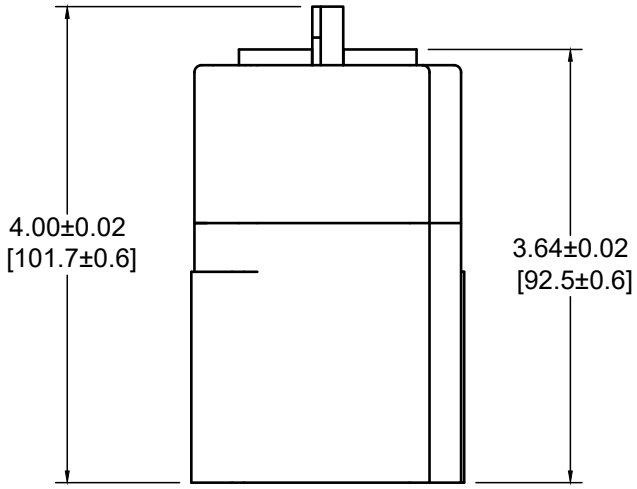
Contact operate @70% and 90% capacitive pre-charge

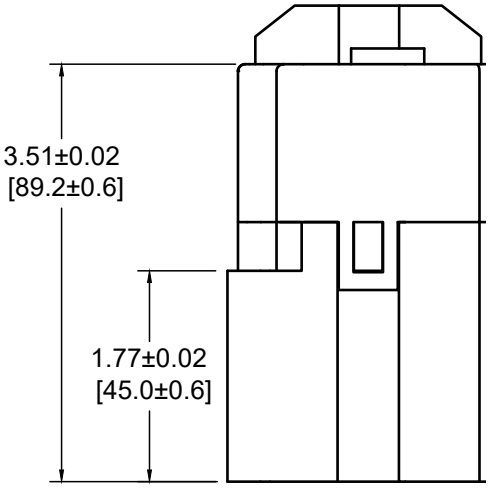


AEVT350 Series DC Contactor Specification

Outline Dimensions: inches (mm)







AEVT350 Series DC Contactor Specification

Application Note:

1. Be sure to use washer to prevent screws from loosening, all the terminals or copper bar must be in direct contact with the contactor's terminals.
   - Contact Terminal Torque: 53 - 70 lb.in (6 - 8 N.m)
   - Mounting Torque: 15 - 30 lb.in (1.7 - 3.3 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.

AEVT400 Series DC Contactor Specification

ALTRAN MAGNETICS

Application

- Operating voltage range: 12-1,800VDC, continuous 400A, break current of 2,300A
- Ideal for Circuit protection, control, battery switch and main power break, etc.
- Built-in coil economizer:
  - Holding power @4W with no limitation of temperature and voltage
  - EMI spectrum has been tested and approved
  - Built-in coil suppression
- Hermetically Sealed contact chamber to protect all moving parts
- Able to handle harsh environments
- Provided with sealed control wire connector

Nomenclauture

Example	AEVT400	—	C		A

Series code:
"AEVT400" =AEVT400 Series

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

Options:
Blank = Std. Options (Bottom Mount, Without Aux. Contact & Polarized Load Terminals)
"A" = With Aux. Contact (SPST-NO)

AEVT400 Series DC Contactor Specification

Performance Data

MAIN CONTACT	LIFE	DATA	
Contact arrangement	1 Form X (SPST-NO DM)	400A @ 450VDC (make/break)	2,000 cycles
Rated Operating Voltage	12-1,800VDC	400A @ 650VDC (make/break)	500 cycles
Continuous (Carry) Current	400A*1	Mechanical life	200,000 cycles
Short term Carry Current	450A (6.5 minutes) *2	**AUX. CONTACT**	
Max short circuit current	2,300A @ 450VDC (1 cycle)	Aux. Contact Arrangement	SPST-NO (1 Form A)
Dielectric Withstanding Voltage	Between open contacts: 4,000VDC (leakage ≤1mA)	Aux. Contact Rating (Max Wattage)	10W
	Between contact and coil: 2,200Vrms (leakage ≤1mA)	Aux. Contact Rating (Max Voltage)	100 VDC
Insulation Resistance	Terminal to Terminal / Terminal to Coil	Aux. Contact Resistance (Max)	500mΩ
	New: Min 100MΩ @500VDC		
Voltage Drop (@350A)	≤120mV		
ENVIRONMENTAL DATA		**OPERATE / RELEASE TIME**	
Shock, 11ms ½ sine, operating	20G Peak	Close (includes bounce)	18ms, Max.
Vibration, Sine, Peak, 20G	10—1,000Hz	Bounce (after close)	5ms, Max.
Operating Ambient Temperature	-40 to +85˚C	Release	15ms, Max.
Noise (@100mm)	70dB(a)		
Altitude	<4000m		
Weight	1.76 lb (0.8 kg)		
COIL DATA			
Voltage rating		**12Vdc**	**24Vdc**
Pickup voltage (25 ˚C)		10Vdc	19Vdc
Dropout voltage (25 ˚C)		4Vdc	9Vdc
Inrush current @ nominal voltage		2.8A	1.8A
Holding current @ nominal voltage		0.40A	0.11A

Note:

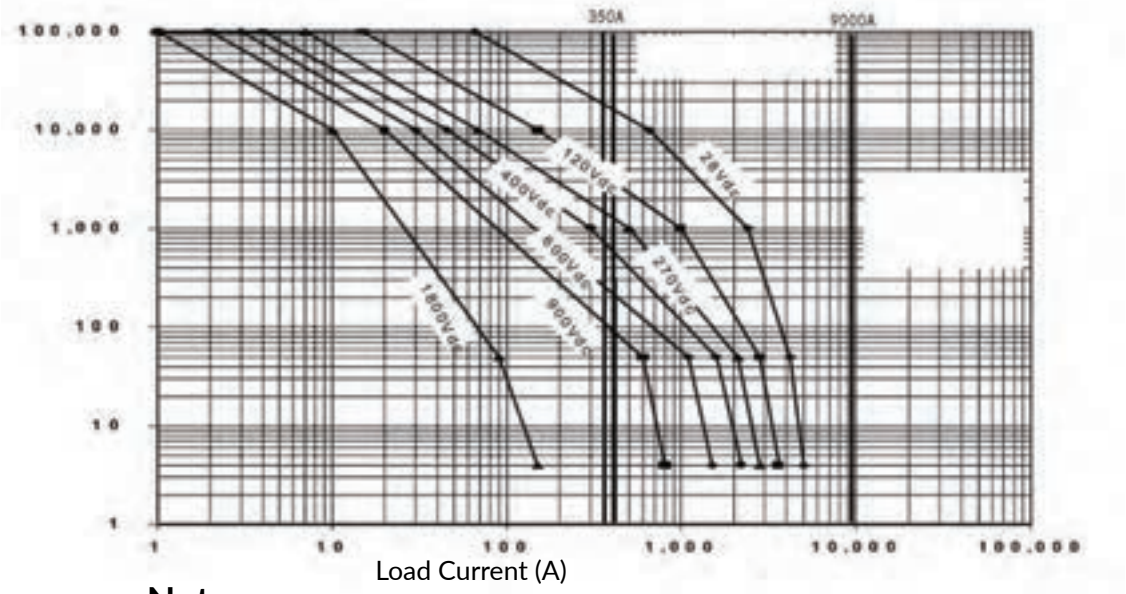
*1: Current is relevant to cross-sectional area of conductor.

*2: Ambient Temperature +65˚C

AEVT400 Series DC Contactor Specification

Contact Rating

Estimated Make & Break Resistive Load Ratings



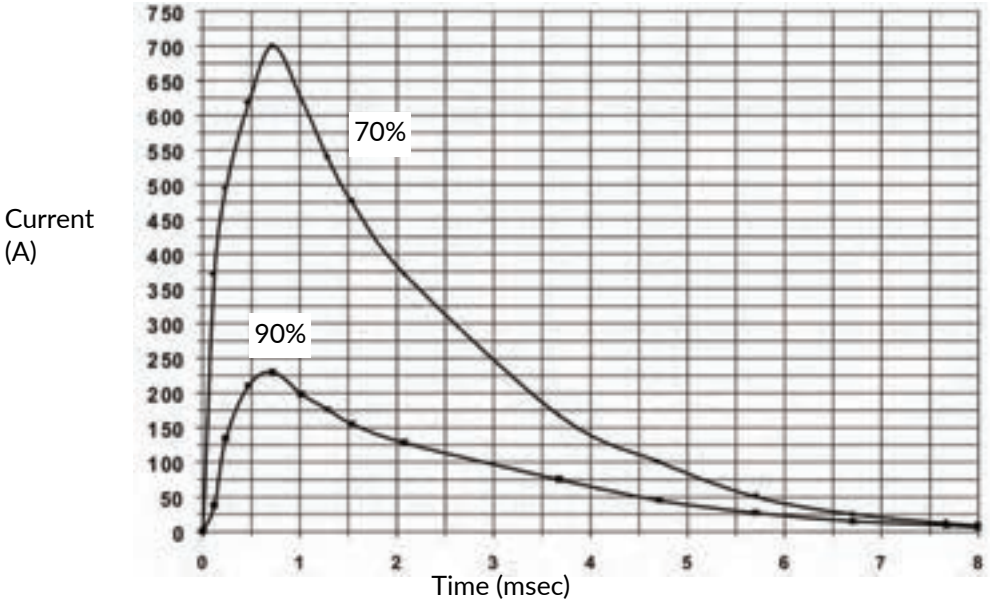
Note:

Test run under controlled conditions. User to verify in actual application.

AEVT400 Capacitive Make Test Curves for Pre-Charged Motor Controller

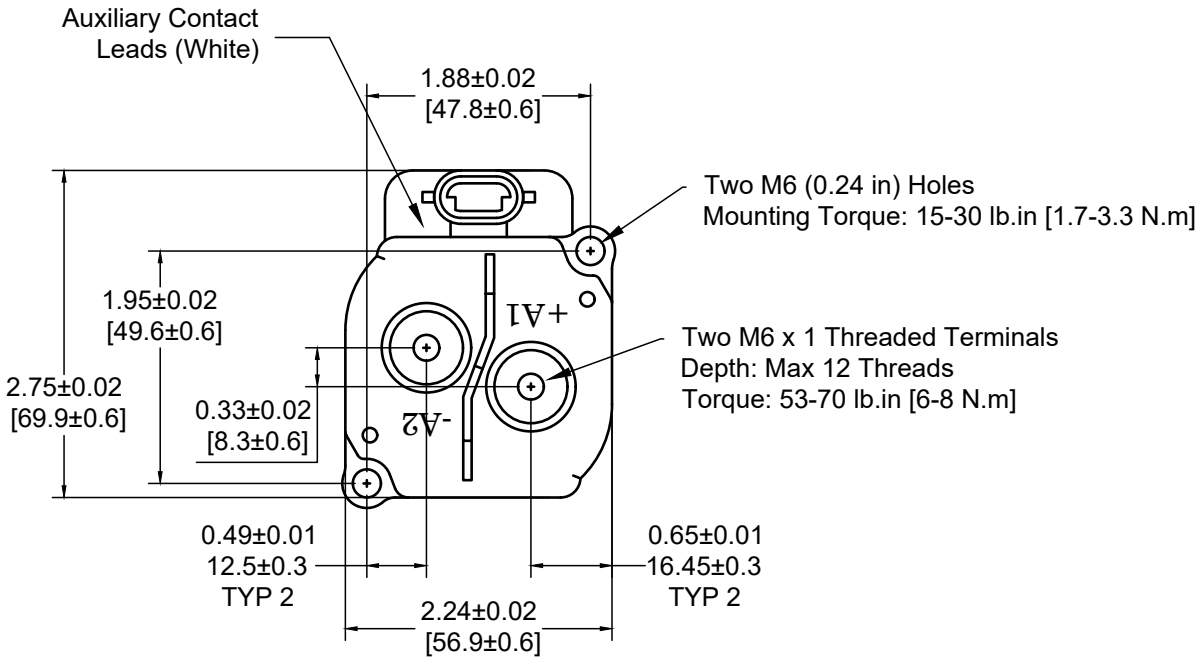
CURRENT-TIME CURVE

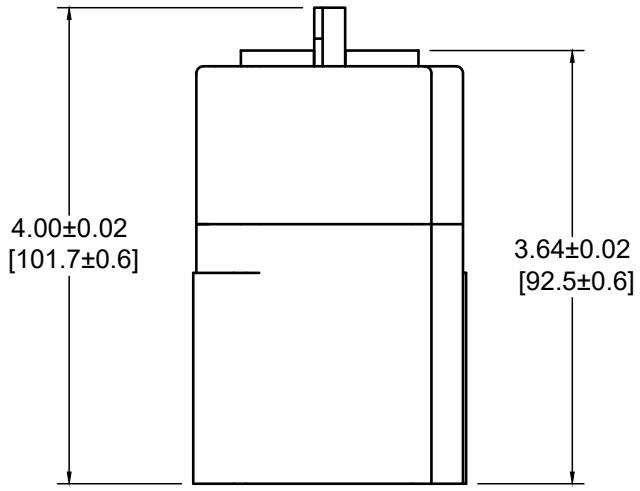
Contact operate @70% and 90% capacitive pre-charge

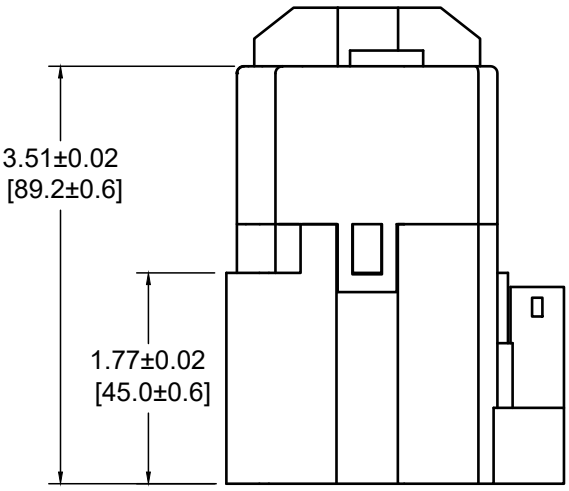


AEVT400 Series DC Contactor Specification

Outline Dimensions: mm (inches)







AEVT400 Series DC Contactor Specification

Application Note:

1. Be sure to use washer to prevent screws from loosening, all the terminals or copper bar must be in direct contact with the contactor's terminals.
   - Contact Terminal Torque: 53 - 70 lb.in (6 - 8 N.m)
   - Mounting Torque: 15 - 30 lb.in (1.7 - 3.3 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.

AEVT500 Series DC Contactor Specification

ALTRAN MAGNETICS

Product Facts

- Versatile power, voltage, and current operating range: 12-1800 Vdc;
- Excellent for safety disconnect and transfer switch applications;
- Built-in dual power coil economizer, 8w holding typical
- Hermetically “Super-sealed” environment uniquely protects contacts and all moving parts;
  can operate in harsh environment
- Auxiliary contacts optional
- 360KW power switch capable

Nomenclauture

Example	AEVT500	—	C	A

Series code:
“AEVT500”=AEVT500 series

Coil Voltage Code:
“B” = 12 VDC
“C” = 24 VDC

Options:
Blank = Std. Options (Bottom Mount, Without Aux. Contact & Polarized Load Terminals)
“A” = With Aux. Contact (SPST-NO)

AEVT500 Series DC Contactor Specification

Performance Data

MAIN CONTACT	LIFE	DATA	
Contact arrangement	1 Form X (SPST-NO DM)	500A @ 450VDC (make/break)	3,000 cycles
Rated Operating Voltage	12-1,800VDC	500A @ 650VDC (make/break)	1,000 cycles
Continuous (Carry) Current	500A*1	Mechanical life	200,000 cycles
		AUX. CONTACT	
Max short circuit current	3,300A @ 320VDC (1 cycle)	Aux. Contact Arrangement	SPST-NO (1 Form A)
Dielectric Withstanding Voltage	Between open contacts: 4,000VDC (leakage ≤1mA)	Aux. Contact Rating (Max Wattage)	10W
	Between contact and coil: 2,200Vrms (leakage ≤1mA)	Aux. Contact Rating (Max Voltage)	100 VDC
Insulation Resistance	Terminal to Terminal / Terminal to Coil	Aux. Contact Resistance (Max)	500mΩ
	New: Min 100MΩ @500VDC		
Voltage Drop (@350A)	≤70mV		
ENVIRONMENTAL DATA		**OPERATE / RELEASE TIME**	
Shock, 11ms ½ sine, operating	20G Peak	Close (includes bounce)	40ms, Max.
Vibration, Sine, Peak, 20G	10—1,000Hz	Release	20ms, Max.
Operating Ambient Temperature	-40 to +85˚C		
Weight	3.38 lb (1.53 kg)		
COIL DATA			
Voltage rating		**12Vdc**	**24Vdc**
Pickup voltage (25 ˚C)		9.9Vdc	19.7Vdc
Dropout voltage (25 ˚C)		2Vdc	4Vdc
Inrush current @ nominal voltage*2		3.3A	1.7A
Holding current @ nominal voltage*2		0.74A	0.37A

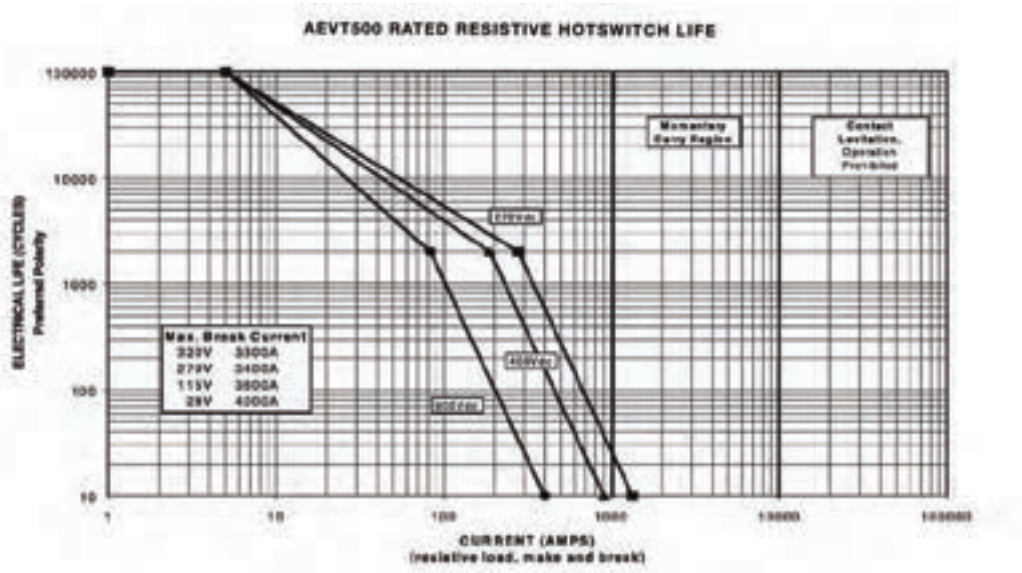
Note:

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

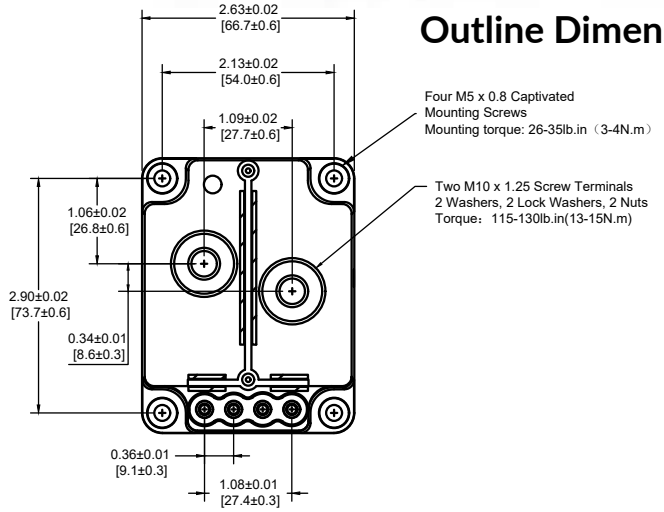
*2: Two coil design

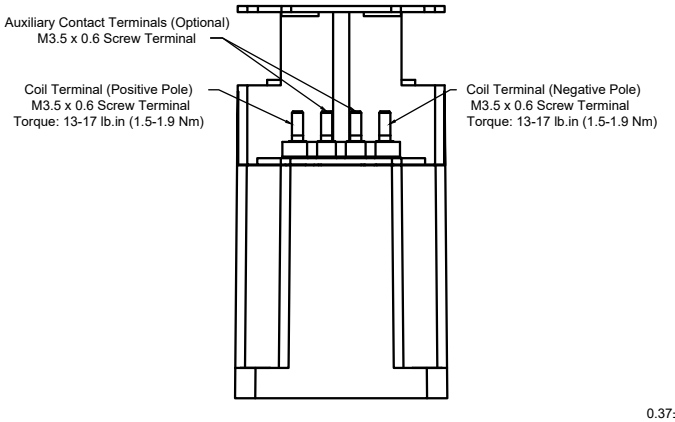
AEVT500 Series DC Contactor Specification

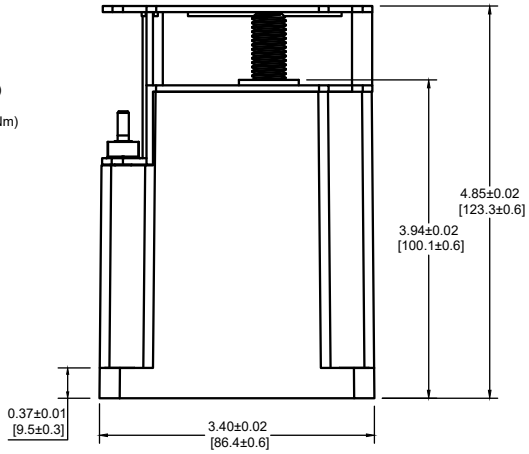
Contact Rating. Estimated Make & Break Resistive Load Ratings



Outline Dimensions: inches (mm)







AEVT500 Series DC Contactor Specification

Application Note:

1. Be sure to use washer to prevent screws from loosening, all the terminals or copper bar 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.

Notes:

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AMI-1000325 rev D