

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

VARIOUS APPLICATIONS
 Pre-charge contactor, 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

Nomenclature

AXV200 A B A

Series code:
 "AXV200" - AXV200 Series

Coil Termination:
 Nil: Flying Leads

Coil Voltage Code:
 Standards Coils (w/Economizer):
 "B" = 12 VDC, Internal Coil Suppression
 "C" = 24 VDC, Internal Coil Suppression
 "E" = 48 VDC, Internal Coil Suppression
 "M" = 12-24 VDC PWM
 "G" = 48 VDC PWM
 "P" = 12-24 VDC
 "Q" = 48 VDC

Blank = Std.Options (Bottom Mount)
 "A" Normally Open Aux. Contacts
 "B" Normally Closed Aux. Contacts

MAIN CONTACT

Contact Arrangement	1 Form X (SPST-NO)	
Max. Switching Voltage	1500 VDC	
Rated current	350A	
Short Term Current	3000A@450VDC(1s)	
Dielectric Withstanding Voltage (initial)	Between Open Contacts	4250VDC 1mA 1min
	Between Contacts to Coil	4250VDC 1mA 1min
Insulation Resistance (Initial)	Terminal to Terminal	Min. 1000 M Ω @1000 VDC
	Terminals to Coil	
Contact Voltage Drop (initial)	Max. 6V@20A	
Limit Breaking	2000A@450VDC, 1 Cycle	

OPERATE / RELEASE TIME

Operate Time (includes bounce)	30ms Max. @20°C
Release Time	12ms Max. @20°C

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	
Humidity	5% to 85%RH	
Weight	1.014 Lb (460g)	
Altitude	≤4000	

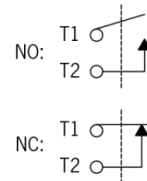
EXPECTED LIFE

Electrical Endurance (Break only) 250A@1000VDC	1000 Cycle
Electrical Endurance (Make/Break) 100A@1000VDC	50 Cycle
Electrical Endurance (Make/Break) 50A@1000VDC	6000 Cycle
Mechanical Life	200,000 Cycles

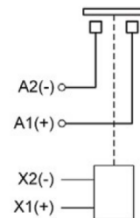
AUX. CONTACT

Aux Contact Arrangement	1 Form A
Aux Contact Current Max	2A@30VDC/ 3A@125VAC
Aux Contact Current Min	100mA@8V
Aux. Contact Resistance Max.	0.417ohms@30VDC/ 0.150ohms@125VAC

Auxiliary contacts



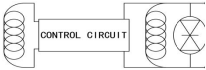
Power Contacts



Note:

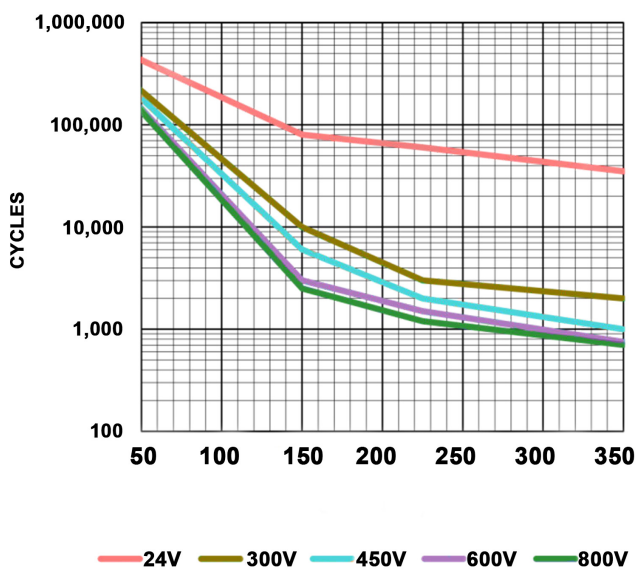
1. Do not meet dielectric & IR after the test.
2. ON:OFF= 1s:9s.
3. The ambient environment of application should not cause any dewing or icing inside the relay. Otherwise, the relay may fail to work consequently.

COIL DATA

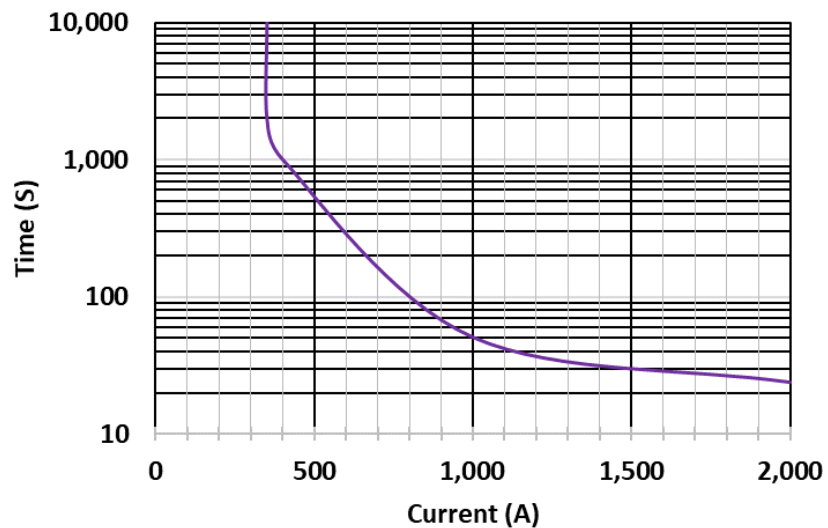
Coil P/N Designation	B	C	E	M	G	P	Q
Rated Voltage	12VDC	24VDC	48VDC	12-24VDC	48VDC	12-24VDC	48VDC
Coil Type	Dual	Dual	Dual	PWM	PWM	External PWM	External PWM
Coil Voltage, Max (V)	16VDC	32VDC	64VDC	36VDC	72VDC		
Max. Pickup Voltage	8VDC	16VDC	40VDC	9VDC	32VDC		
Min. Drop-out Voltage	0.5VDC	2VDC	4VDC	6VDC	18VDC		
Pick-Up Current, Max (75 ms)	3.9A	1.6A	0.97A	3.8A	1.3A		
Coil Current	0.23A	0.097A	0.042A	0.13A	0.03A		
Coil Power	2.8W	2.3W	2W	2W	2W		
Internal Coil Suppression					N/A		
Coil Back EMF	55V	55V	125V	0V	0V		
Reverse Polarity	16V	32V	64V	100	100		

Power Switching Cycles

DC POWER SWITCHING CYCLES



Current Carry Curve vs Time (@85°C)



Outline Dimensions : inches (mm)

Upright Mounting

• **Auxiliary Leads**

- T1=White Lead 22AWG
- T2=White Lead 22AWG

• **Coil Leads**

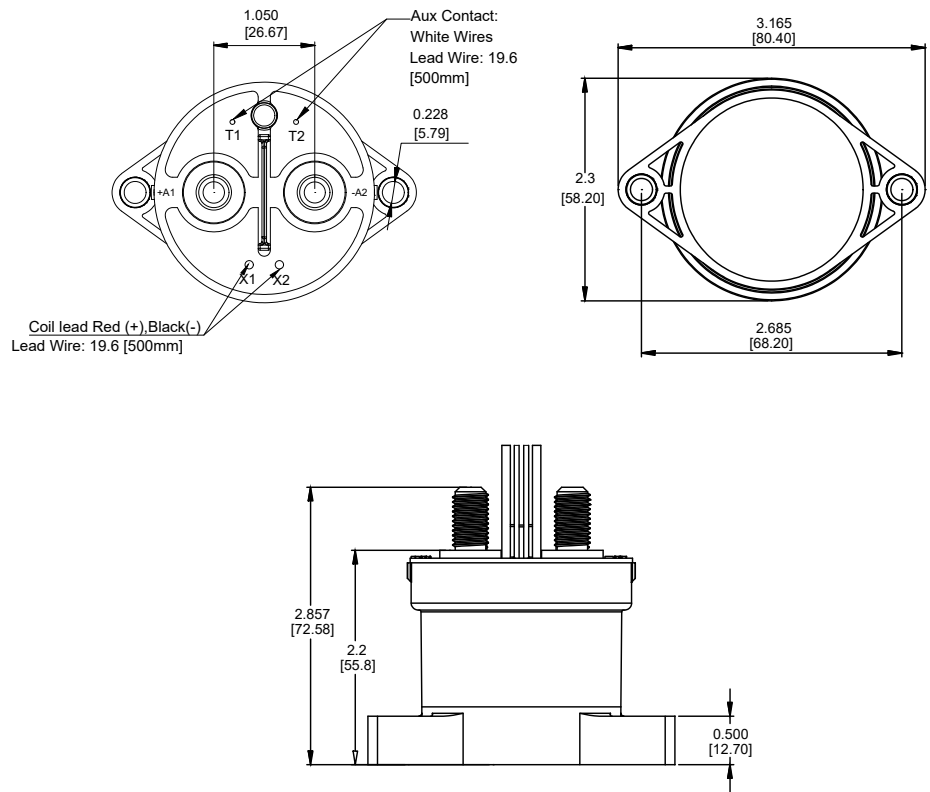
- X1=Red Lead(+)
- X2=Black Lead(-)

• **Upright Mounting**

- M5 or No. 10 Screws
- Torque 1.7-4 Nm [15-35 in-lb]

• **Upright Mount Power Connection**

- Silver plated Copper M8x1.25 stud M8x1.25 flanged nut
- Torque 10 Nm [90 in-lb] max



Application Notes

1. To prevent loosening, split washers should be used whenever the contactor is installed. All terminals or conductors must directly contact the contactor's main terminals. Please control the tightening torque of each part within the specified range in the table below. If the torque exceeds the recommended range, it may cause damage to the sealed cavity and thread damage.
 - Contact torque: (M8) 80-100 lb. in. (8.8 - 11 N.m)
 - Mounting torque: 15 - 30 lb. in. (1.7 - 3.3 N.m) Max.
2. Products with a coil economizer are already equipped with back EMF circuits, so there is no need to use surge protectors.
3. Avoid installing the contactor in a robust magnetic field environment (near transformers or magnets) and placing the contactor near objects with heat radiation.
4. When continuous current is applied to the relay contacts, the coil is turned on immediately after the power is cut off. At this time, as the coil's temperature increases, the coil's resistance 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.
5. When the voltage is applied to products with a coil economizer, the circuit will automatically switch to the holding voltage about 100ms later. Please do not repeat the on-off operation during this period, or the coil economizer of the contactor may be damaged.
6. When the voltage applied to the coil exceeds the maximum allowable applied voltage, the coil temperature may rise, leading to coil damage and interlayer short circuit.
The rated values in the contact parameters are values for 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 measures are taken, the electrical life may be maintained, and the continuity may be suitable. Please consider sufficient margin space in the design.
7. Coil drive power must be greater than coil power, or it will reduce performance capability.
8. Please do not allow debris and oil to adhere to the main terminals; make sure that the central terminals are in reliable contact with the load conductor; otherwise, the temperature rise of the terminal/conductor connection may be too high due to excessive contact resistance.
9. The load conductor must have the corresponding current load capacity and heat dissipation capacity (it is recommended to use a copper bar with a 50mm^2) to prevent overheating and affecting the life of the contactor.
10. Determining the performance parameters of contactors in each application is impossible. Therefore, customers should choose the products according to their conditions of use. If in doubt, contact Altran. The customer will be responsible for validating that the products meet their application.
11. This device does not have silver-plated main terminals and due to various environmental conditions an oxide can form and degrade the electrical performance of the device. Terminal cleaning sticks, designed to remove this oxide, are available upon request.
12. Do not use if dropped.
13. Altran reserves the right to make product changes as needed. Customers should reconfirm the specification's contents or ask us to supply a new specification if necessary.