High Voltage DC Contactor
AGX11 Series
250A+/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

COIL ECONOMIZER
Economized coils 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, Photo Voltaic, Power Control, Circuit protection and much more

Sealing Type: Ceramic

- ✓ Low-profile chassis mount power terminals
- ✓ Chassis mount

Certification Information

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

Nomenclature

AGX11	B	A	B

Series code:
“AGX11” = AGX11

Coil Voltage Code:
“B” = 12VDC
“C” = 24VDC
“E” = 48VDC

Coil Termination
“A” = Flying leads 38cm(15in)

Auxiliary Contact:
Blank = None
“B” = SPST, Normally Open
“C” = SPST, Normally Closed

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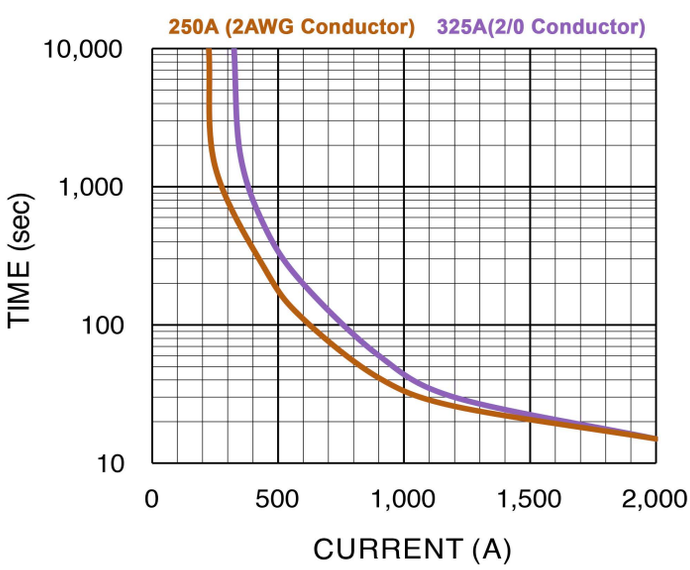
MAIN CONTACT		
Contact Arrangement		1 Form X (SPST-NO)
Rated Operating Voltage		800 VDC
Rated Current		250A
Contact resistance		0.4mohms
Dielectric Withstanding Voltage (initial)	Between Open Contacts	4000Vms, 1min, <1mA
	Between Contacts to Coil	2200Vms, 1min, <1mA
Insulation Resistance (Initial)	Terminal to Terminal	New: 100MΩ End: 50MΩ
	Terminals to Coil	

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

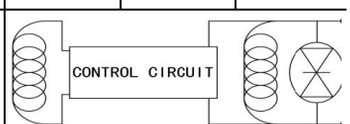
Carry Current

(with 85°C terminal Temperature rise):



OPERATE / RELEASE TIME	
Operate Time	20ms
Release Time	12ms

ENVIRONMENTAL DATA		
Shock	Functional	196m/s² Sine half-wave pulse
	Destructive	490m/s² Sine half-wave pulse
Operating Temperature		-55°C to +85°C
Altitude		<4000m
Weight		1.0Lb (0.46g)

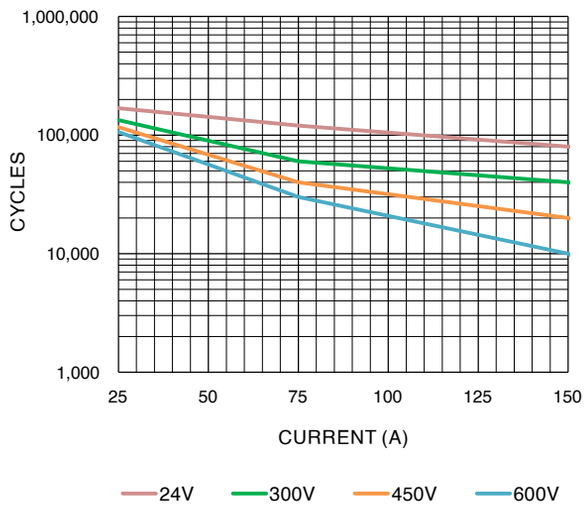
COIL DATA			
Nominal Voltage	12VDC	24VDC	48VDC
Coil Voltage (Max.)	16V	32V	64V
Max. Pick-up Voltage	8V	16V	40V
Drop-out Voltage (25°C)	0.5-4V	2-7.5V	4-15V
Pick-Up Current, Max (75 ms)	3.9A	1.6A	0.97A
Coil current (25°C)	0.23A	0.097A	0.042A
Coil Power (25°C)	2.8W	2.3W	2.0W
Internal Coil Suppression			
Coil Back EMF	55V	55V	125V
Transients, Max(13ms)	±50V	±50V	±75V
Reverse Polarity	16V	32V	64V

EXPECTED LIFE	
Mechanical Life	1M Cycles

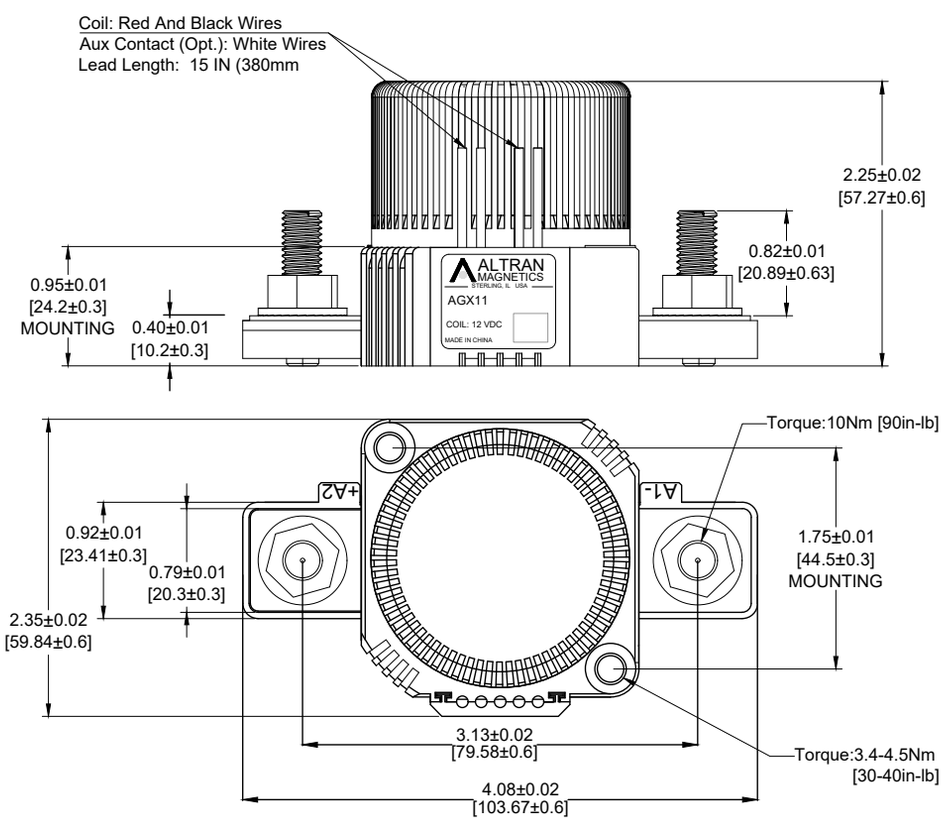
*Please refer to the electrical endurance graph below

Electrical Life

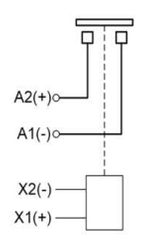
Estimated Make and Break Resistive Load Ratings



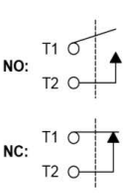
Outline Dimensions : inches (mm)



Power Contacts



Auxiliary contacts *(optional)*



Wire Size	20AWG
Mounting Thread	M8x1.25mm

Application Notes

1. To prevent loosening, split washers should be used whenever the contactor is installed. All terminals or copper conductors must be in direct contact with the contactor's main terminals. Please control the nut 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.

    - Main Terminal: 10Nm [90in-lb] max
    - Mounting Torque: 3.4-4.5Nm[30-40in-lb]

2. Contactors feature internal transorb for coil suppression. No external diodes should be added across the coil. The use of additional external coil suppression can slow the release time and invalidate the life cycle ratings, or can cause the contactor not to be able to interrupt the maximum current specified. If lower coil back EMF is required, please contact Altran for assistance.

3. Power switching lifecycles are based on current flow from A2(+) to A1(-). For best breaking performance, the contactor should be installed so that the current flows from A2(+) to A1(-). There are cases where the contactor will interrupt power in the opposite direction but please contact Altran to confirm suitability. The direction of current flow is not relevant during make or when flowing on closed contacts. For bi-directional contactors, please contact Altran.

4. Applications with capacitors will require a pre-charge circuit.

5. Electrical life rating is based on resistive load with 27µH maximum inductance in the circuit. Because your application maybe different, we suggest you test the contactor in your circuit to verify life is as required.

6. End of life is defined as when the dielectric, insulation resistance or contact resistance fails the specifications listed.

7. Supply power must be greater than coil power or it will reduce performance capability.

8. Please do not allow debris and oil to the main terminals; Make sure that the main terminals are in reliable contact with the load conductor, otherwise the temperature rise of the terminal/conductor connection may be too high due to the excessive contact resistance.

9. Do not use if dropped.

10. Avoid mounting the relay in strong magnetic fields (near a transformer or magnet) or close to an object that radiates heat.

11. Is impossible to determine all the performance parameters in each specific application, therefore, customers should choose the products matching them according to their conditions of use If in doubt, contact Altran, however, the customer will be responsible for validating that the products meet their application.

12. 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.