# High Voltage DC Contactor
# AGX14 Series
# 350A+/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
- ✓ Normally closed




## Certification Information

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

## Nomenclature

| AGX14 | - | B | A | B |
|---|---|---|---|---|

**Series code:**
**“AGX14” = AGX14**

**Type Code:**
**Blank = Main Contacts (NO)**
**“NC” = Main Contacts (NC)**

**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**



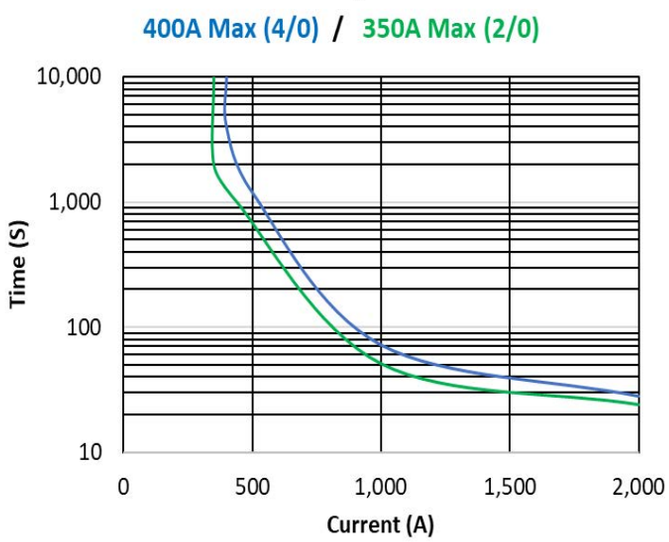
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| MAIN CONTACT | | |
|---|---|---|
| Contact Arrangement | | 1 Form X (SPST-NO) |
| Rated Operating Voltage | | 800 VDC |
| Rated Current | | 350 A |
| Contact resistance | | 0.4mohms |
| Max Short Circuit Current | | 2000A@320VDC |
| Dielectric Withstanding Voltage (initial) | Between Open Contacts | 4000Vms, 1min, <1mA |
| | Between Contacts to Coil | 2200Vms, 1min, <1mA |
| Insulation Resistance (Initial) | Terminal to Terminal | New: 100MΩ |
| | Terminals to Coil | End: 50MΩ |

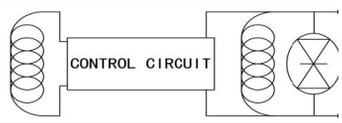
| AUX CONTACT | |
|---|---|
| Aux. Contact Arrangement | 1 Form A |
| Aux. Contact Current Max. | 2A@30VDC / 3A@125VAC |
| Aux Contact Current Min | 100mA@8V |
| Aux. Contact Resistance Max | 0.417ohms@30VDC<br>0.150ohms@125VAC |

## 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 | | 1.102Lb (500g) |

| 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 |



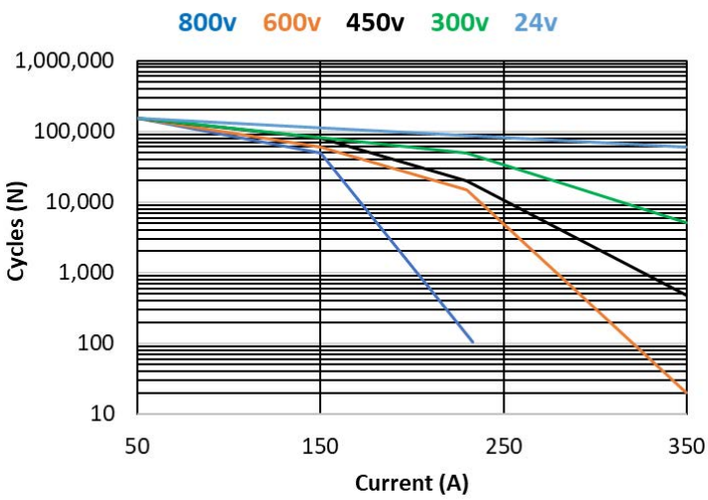
| EXPECTED LIFE | |
|---|---|
| Mechanical Life | 1 million Cycles |



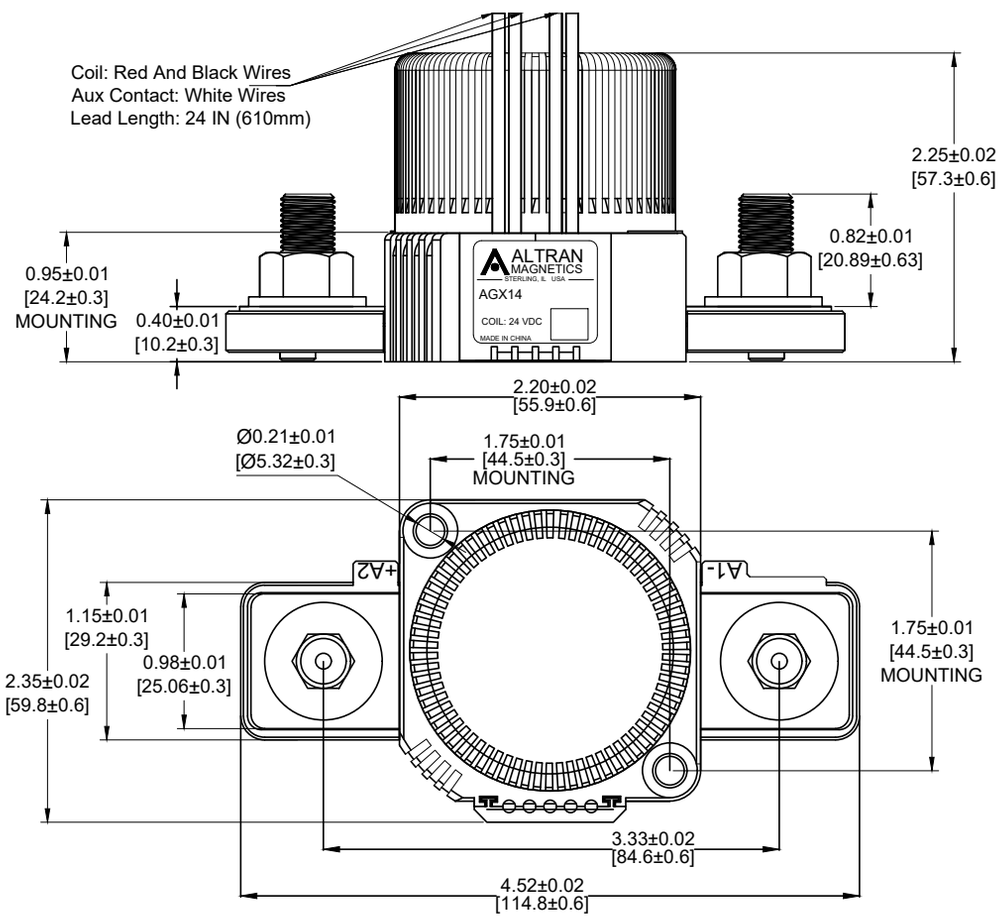
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## Electrical Life

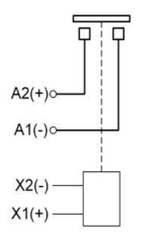
Estimated Make and Break Resistive Load Ratings



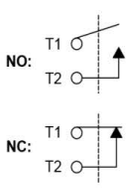

## Outline Dimensions : inches (mm)




**Power Contacts**




**Auxiliary contacts**
*(optional)*




| | |
|---|---|
| **Wire Size** | 20AWG |
| **Mounting Thread** | M10x1.5mm |



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## Application Notes

1. To prevent loosening, split washers should be used whenever the contactor is installed. All terminals or copper conductors must directly contact the contractor'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.
   - Mounting torque: 123 - 177 lb. in. (14-20 N.m) Max.
2. This contactor features an internal diode 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 cause the contactor to be unable to interrupt the maximum current specified. If lower coil back EMF is required, please get in touch with 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 current flows from A2(+) to A1(-). There are cases where the contactor will interrupt power in the opposite direction, but please get in touch with Altran to confirm suitability. The current flow's direction is irrelevant during make or when flowing on closed contacts. For bi-directional contractors, please get in touch with Altran.
4. Applications with capacitors will require a pre-charge circuit.
5. Electrical life rating is based on the circuit's resistive load with 27µH maximum inductance. Because your application may be 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, or contact resistance fails the specifications listed.
7. Coil drive power must be greater than coil power, or it will reduce performance capability.
8. Do not allow debris and oil to the main terminals; ensure 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. Determining all the performance parameters in each specific application is impossible. Therefore, customers should choose products that match their conditions of use. If in doubt, contact Altran. The customer will be responsible for validating that the products meet their application.
12. 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.



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