

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 contact resistance

NO SPECIFIC MOUNTING ARRANGEMENT

Mountable in any orientation without reduction of performance

VARIOUS APPLICATIONS

Battery Disconnect, EV and Charging, Energy Storage Systems, Photo Voltaic, Power Control, Circuit protection and much more

SPECIFIC ATTRIBUTES

- Normally closed, latching coil options available
- Side mount available

Sealing Type: Epoxy/Resin



Certification Information

1. Meet RoHS (2011/65/EU)
2. CE Certified
3. UL Approved

Nomenclature

AREV250 - M - AN

Series code:

"AREV250" = AREV250

Type Code:

Blank = Main Contacts (NO)

"NC" = Main Contacts (NC)

"L" = Latching

Coil Voltage Code:

Standard Coils (w/Economizer):

"M" = 12 - 24 V DC

"E" = 48 VDC

"G" = 48 - 72 VDC

Latching Coils:

"B" = 12 VDC

"C" = 24 VDC

"E" = 48 VDC

Latching Coil Wiring Options:

"E" = 48 VDC

"2" = 2 Wire, Single Coil

"3 H" = 3 Wire, Dual Coil (High side drive)

"3 L" = 3 Wire, Dual Coil (Low side drive)

"4" = 4 Wire, Dual Coil

Options:

Blank = Std. Options (Bottom Mount, Without Aux. Contact & Polarized Load Terminals)

"S" = Side Mount

"A" = With Aux. Contact (SPST-NO)

"B" = With Aux. Contact (SPST-NC)

"C" = With Aux. Contact (SPDT)

"N" = Non-Polar Load Terminals

Product Data Sheet

MAIN CONTACT

Contact Arrangement	1 Form X (SPST-NO DM)	
Load Connection	M8 Thread Male	
Rated Load Voltage	12-900VDC	
Max Breaking Limit	2,000A @320VDC, 1 Cycle	
Dielectric Withstanding Voltage	Between Open Contacts	4000Vms, 1 min., < 1mA
	Between Contacts to Coil	2200Vms, 1 min., < 1mA
Insulation Resistance @ 500VDC	New: 100M Ω End of Life: 50M Ω	
Voltage Drop (200A)	≤60mV	

EXPECTED LIFE

Load Life (Resistor Load) 250A/450VDC	10,000 Cycles
Mechanical Life	200,000 cycles

AUX. CONTACT

Aux Contact Arrangement	1 From 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

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	
Altitude	<4000m	
Weight	0.95 Lb (0.43 kg)	

OPERATE TIME @ 25°C

Close (includes bounce)	30ms, Max.
Bounce (after close only)	5ms, Max.
Release (include arcing)	10ms, Max.

COIL DATA

Coil Code	M	E	
Rated Voltage*	12-24VDC	48VDC	48-72VDC
Max Operate Voltage	36VDC	72VDC	80VDC
Pick-Up Voltage (20°C) Max.	9VDC	36VDC	36VDC
Pick-Up Voltage (20°C) Min.	6VDC	18VDC	18VDC
Coil Current (20°C @ Rated Voltage)	Inrush: 3.8A Holding: 0.13	Inrush: 1.3A Holding: 0.03A	Inrush: 1.3A Holding: 0.03A
Coil Power (20°C @ Rated Voltage)	2W	2W	2W
Max Pick-Up Voltage (85°C)	9.6VDC	38.4VDC	38.4VDC
Coil Resistance + 5% (20°C)	3.1 Ω	40 Ω	40 Ω

LATCHING SINGLE COIL (2 WIRE)

Coil Code	B2	C2	E2
Rated Voltage*	12VDC	24VDC	48VDC
Max Operate Voltage	16VDC	28VDC	52VDC
Must Set and Reset Voltage (20°C) Max.	9VDC	18VDC	36VDC
Coil Current (20°C@Rated Voltage)	4.0A	2.4A	1.2A
Max Pick-Up Voltage (85°C)	11.1VDC	19.2VDC	38.4VDC
Coil Resistance ± 5% (20°C)	3 Ω	10 Ω	40 Ω

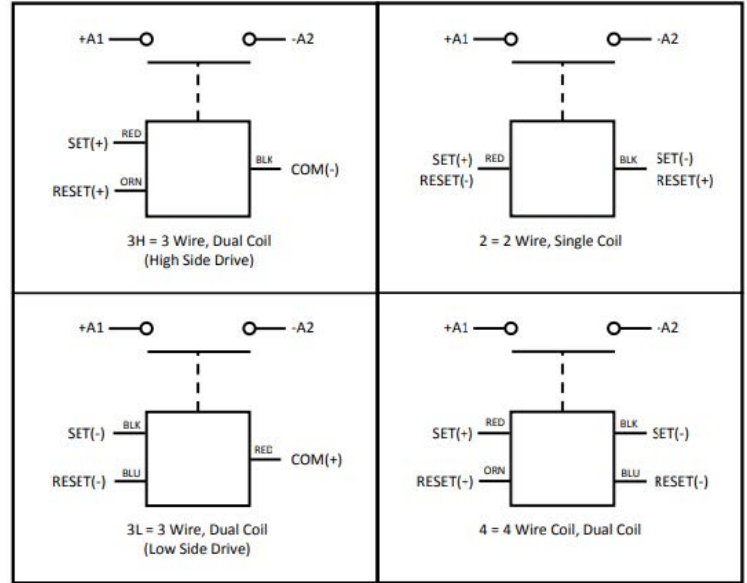
Short Time Overload Current 70mm2

250A @85°C	Continuous
400A @40°C	5 Minutes
500A @40°C	2 Minutes
600A @40°C	10 Seconds

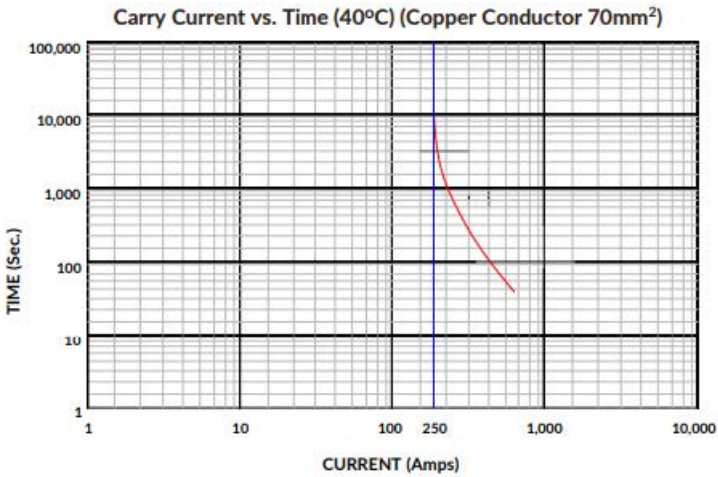
LATCHING DUAL COIL (3&4 WIRE)

Coil Code	B3H,B3, B4	C3H,C3L, C4	4 E3H, E3L, E4	
Rated Voltage*	12VDC	24VDC	48VDC	
Set Coil (20°C)	Max. Voltage	16VDC	28VDC	52VDC
	Must Set Voltage (Max.)	9VDC	18VDC	36VDC
	Rated Current	6 A	2.7A	1.7A
	Coil Resistance ± 5%	2 Ω	8.8 Ω	28 Ω
Reset Coil (20°C)	Max. Voltage	16VDC	28VDC	52VDC
	Must Set Voltage (Max.)	9VDC	18VDC	36VDC
	Rated Current	4 A	2.5 A	1.2 A
	Coil Resistance ± 5%	3 Ω	9.6 Ω	40 Ω

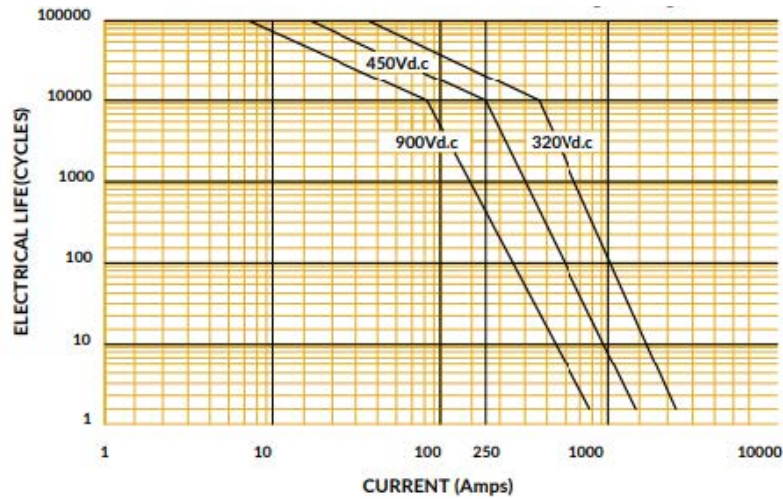
Latching Coil Wiring



Performance Data

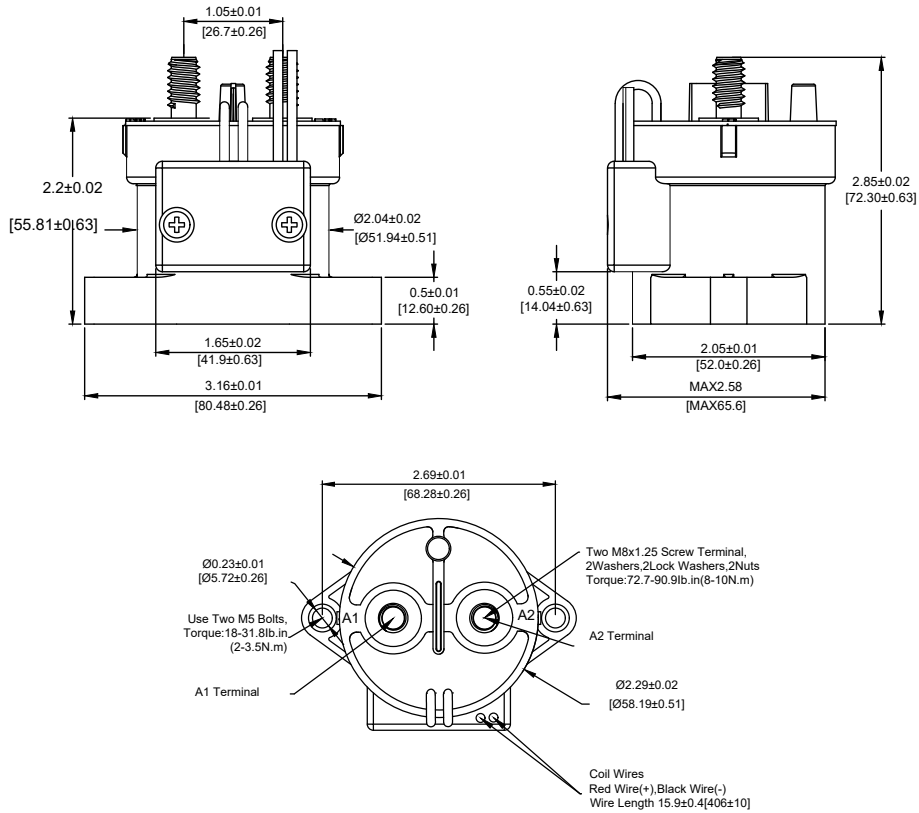


Estimated Make & Break Power Switching Ratings

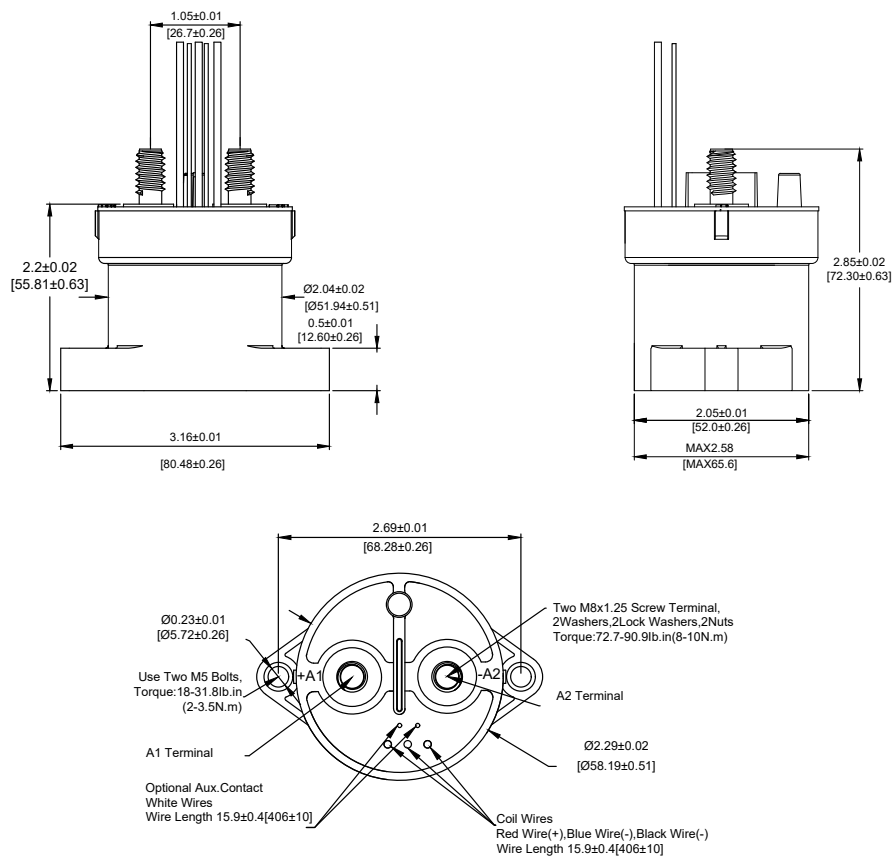


Outline Dimensions (mm)

Standard Contactor



Latching Contactor



Application Notes

1. To prevent loosening, washers should be used whenever the contactor is installed. All terminals or copper bar must be in direct contact with the contactor's main terminals. Please control the screw 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.
 - a. Contact torque: 70-90 lb. in. (8-10 N.m)
 - b. Mounting torque: 15-30 lb. in. (1.7-3.3 N.m)
2. Products with polarity marked on the load end must be used correctly according to the product label. When the load connection polarity is reversed, the electrical characteristics promised in this manual cannot be guaranteed.
3. Products with a coil economizer are already equipped with back EMF circuits, so there is no need to use surge protectors.
4. Avoid installing the contactor in a strong magnetic field environment (near transformers or magnets) and avoid placing the contactor near objects with heat radiation.
5. 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.
6. 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.
7. 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.
8. Supply power must be greater than coil power or it will reduce performance capability.
9. Please do not allow debris and oil to adhere 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.
10. The load conductor must have the corresponding current load capacity and heat dissipation capacity (it is recommended to use a copper bar with min 50mm²), to prevent overheating and affecting the life of the contactor.
11. 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.
12. Do not use if dropped.
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.