

Product Facts

- Designed to be the smallest, lightest weight, lowest cost sealed contactor in the industry with its current rating (500+A carry, 2000A interrupt at 320VDC).
- Built-in coil economizer – only 1.7W hold power @ 12VDC and it limits back EMF to 0V. Models requiring external economizer also available.
- Optional auxiliary contact for easy monitoring of power contact position.
- Hermetically sealed – intrinsically safe, operates in explosive/harsh environments with no oxidation or contamination of coils or contacts, including long periods of non-operation.
- Versatile coil/power connections.
- CE marked for EC applications.
- AIAG QS9000 designed, built and approved



File E208033



Typical EV200 applications include battery switching and back-up, DC voltage power control, circuit protection and safety.

For factory-direct application assistance, dial 800-253-4560, ext. 2053, or 805-220-2053.

Performance Data

Parameter	Units	Value for EV200 Series
Contact Arrangement, power contacts		1 Form A (SPST-NO)
Rated Operating Voltage	VDC	12 - 900
Continuous (Carry) Current	A	400 @ 85°C, 1/0 cable
Carry Current, 100s	A	325 ^{1/2}
Carry Current, 10s	A	500 ^{1/2}
Continuous (Carry) Current, Typical	A	500 @ 50°C, 300 mcm conductors
Consult Factory for required conductors for higher (500+ A) currents		
Starter Application (up to 10 repeats with 10s off between)		
Inrush, 250ms	A	2,000
Cranking, 10s	A	500
Make/Break Current at Various Voltages ^{1/2}	A	See next page
Break Current at 320VDC ^{1/2}	A	2,000, 1 cycle ^{1/2}
Contact Resistance, Max. (@200A)	mohms	0.4
Contact Resistance, Typ. (@200A)	mohms	0.1 - 0.3
Load Life	Cycles	See next page
Mechanical Life	Cycles	1 million
Contact Arrangement, auxiliary contacts		1 Form A (SPST-NO)
Aux. Contact Current, Max.	A	2A @ 30VDC / 3A @ 125VAC
Aux. Contact Current, Min.	mA	100mA @ 8V
Aux. Contact Resistance, Max.	ohms	0.417 @ 30VDC / .150 @ 125VAC
Operate Time @ 25°C		
Close (includes bounce), Typ.	ms	15
Bounce (after close only), Max.	ms	7
Release (includes arcing), Max @ 2000A	ms	12
Dielectric Withstanding Voltage	Vrms	2,200 @ sea level (leakage <1mA)
Insulation Resistance @ 500VDC	megohms	100 ^{2/2}
Shock, 11ms 1/2 sine, peak, operating	G	20
Vibration, sine, 80-2000Hz., peak	G	20
Operating Ambient Temperature	°C	-40 to +85
Weight, Nominal	lb.(kg)	.95 (.43)

^{1/2} Main power contacts

^{2/2} 50 at end of life

^{3/2} Estimated

^{4/2} Does not meet dielectric & IR after test, 1700 amp for unit with Aux. Contacts

Coil Operating Voltage (valid over temperature range)

Voltage (will operate)	9-36VDC	32-95VDC	48-95VDC
Voltage (Max.)	36VDC	95VDC	95VDC
Pickup (close) Voltage Max.	9VDC	32VDC	48VDC
Hold Voltage (Min.)	7.5VDC	22VDC	34VDC
Dropout (open) Voltage (Min.)	6VDC	18VDC	27VDC
Inrush Current (Max.)	3.8A	1.3A	0.7A
Holding Current (Avg.)	0.13A@12V, 0.07A@24V	0.03A@48V	0.02A@72V
Inrush Time (Max.)	130ms	130ms	130ms

Part Numbering System

Typical Part Number

EV200 A A A N A

Series:

EV200 = 600 Amp, 12-900VDC Contactor

Contact Form:

A = Normally Open H = Normally Open with Aux. Contacts

Coil Voltage:

A = 9-36VDC (1 = requires external coil economizer)
D = 32-95VDC (2 = requires external coil economizer)
J = 48-95VDC (3 = requires external coil economizer)

Coil Wire Length:

A = 15.3 in (390 mm) B = 6.0 in (152 mm)

Coil Terminal Connector:

N = None
B = Yazaki 7282-5558-10 male, 7114-4102-02, 7158-3030-50
+red is pin 2 (B length only)
C = Molex Mini-fit Jr, 2 Ckt, Female 18-24, P/N 39-01-2020 &
39-00-0060 +red is pin 1 (A length only)

Mounting & Power Terminals:

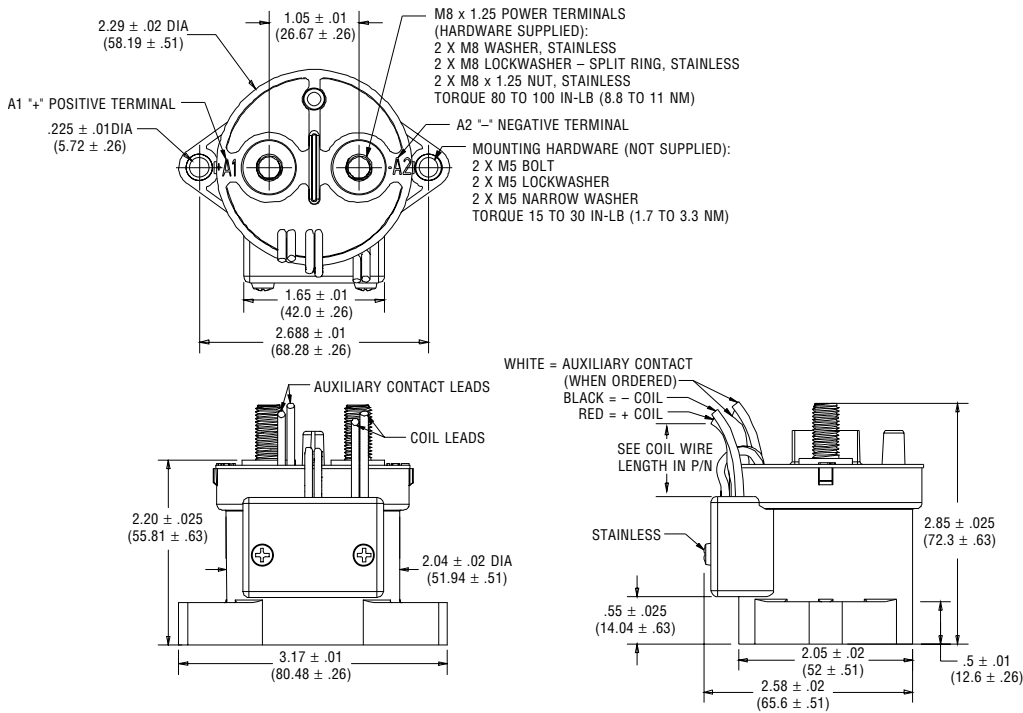
A = Bottom Mount & Male 10mm x M8 Terminals

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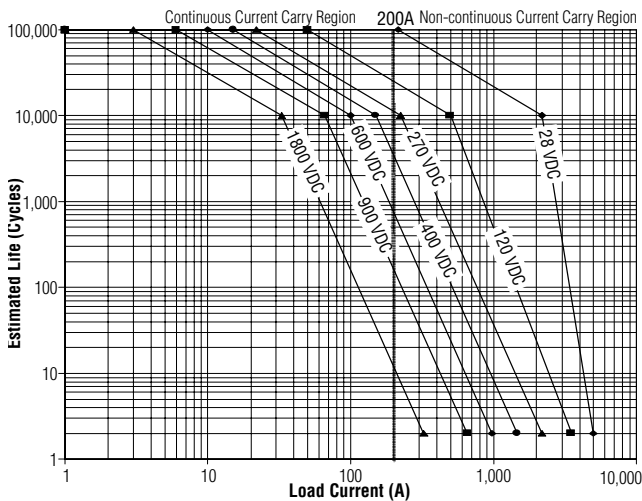
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Outline Dimensions



Estimated Make & Break Power Switching Ratings



NOTES:

- 1) For resistive loads with 300μH maximum inductance
- 2) Estimates based on extrapolated data. User is encouraged to verify rating in actual application.
- 3) End of life when dielectric strength between terminals falls below 50 megohms @ 500VDC.
- 4) The maximum contact make and break power is estimated at 208KW. Break only above 208KW to avoid contact welding.

Electrical Load Life Ratings for Typical EV Applications

Make/Break Life Capacitive & Resistive Loads at 320VDC (1) (2)		
@90% capacitive pre-charge (make only) see chart below	Cycles	50,000
@80% capacitive pre-charge (make only) see chart below	Cycles	50
@200A make/break (2 consecutive, reverse polarity) (1)	Cycles	12
2,000A (break only) (1)	Cycles	1*
Mechanical Life	Cycles	1 million

- (1) Resistive load includes inductance L = 25μH. Load @ 2500A tested @ 200μH.
 (2) Life based on projected Weibull Life with 95% reliability.
 * Does not meet dielectric and IR after test.

EV200 Capacitive Make Test Curves for Pre-Charged Motor Controller

