

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



us File E208033



**EV200 Series Contactor
(CZONKA® Relay, Type III)**

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. 2055, or 805-220-2055.

Performance Data

| Parameter | Units | Value for EV200 Series |
|--|---------|---|
| Contact Arrangement, power contacts | | 1 Form X (SPST-NO-DM) |
| Rated Operating Voltage | VDC | 12 - 900 |
| Continuous (Carry) Current, Typical | A | 500 @ 85°C, 400 mcm conductors <i>Consult Factory for required conductors for higher (500+ A) currents</i> |
| Make/Break Current at Various Voltages ^{1/} | A | See next page |
| Break Current at 320VDC ^{1/} | A | 2,000, 1 cycle ^{3/} |
| Contact Resistance, Typ. (@200A) | mohms | 0.2 |
| 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/} |
| 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/} Main power contacts

^{2/} 50 at end of life

^{3/} 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 = 500+ 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)
 R = 28VDC with Mechanical 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:

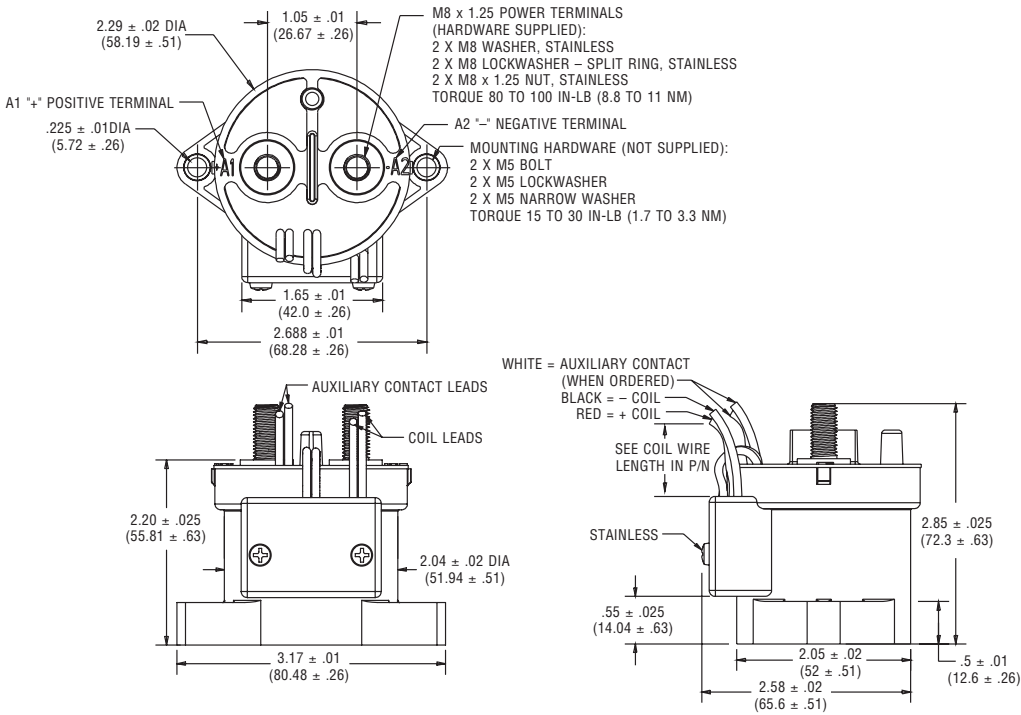
A = Bottom Mount & Male 10mm x M8 Terminals

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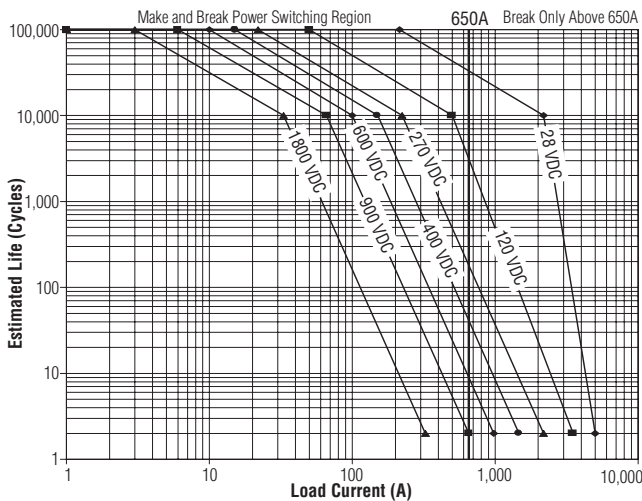
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KILOVAC EV200 Series (CZONKA® Relay, Type III) (Continued)

Outline Dimensions



Estimated Make & Break Power Switching Ratings



- NOTES:**
- 1) For resistive loads with 300H maximum inductance. Consult factory for inductive loads.
 - 2) Estimates based on extrapolated data. User is encouraged to confirm performance in application.
 - 3) End of life when dielectric strength between terminals falls below 50 megohms @ 500VDC.
 - 4) The maximum make current is 650A 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

