

## KILOVAC EV200 Series Contactor With 1 Form X (SPST-NO) Contacts Rated 500+ Amps, 12-900 Vdc

### 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 coil or contacts, during long periods of non-operation
- Versatile coil/power connections
- UL Recognized for the U.S. and Canada (File E208033) All contact ratings & coil versions may not be UL Recognized
- CE marked for EC applications
- AIAG QS9000 designed, built and approved
- RoHS versions available



EV200 Series Contactor (CZONKA Relay, Type III)

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

### Ordering Information

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 NO Aux. Contacts  
G = Normally Open with NC 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)

**Coil Terminal Connector:** \_\_\_\_\_  
N = None  
C = Molex Mini-fit Jr, 2 Skt, 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

### Performance Data

**Contact Arrangement, Power Contacts** — 1 Form A (SPST-NO)

**Rated Operating Voltage** — 12 - 900 VDC

**Continuous (Carry) Current, Typical** — 500 A @ 85°C, 400 mcm conductors

*Consult Factory for required conductors for higher (500+ A) currents*

**Make/Break Current at Various Voltages** <sup>1</sup> — See graph next page

**Break Current at 320VDC** <sup>1</sup> — 2,000 A, 1 cycle <sup>3</sup>

**Contact Resistance, Typ. (@200A)** — 0.2 mohms

**Load Life** — See graph next page

**Mechanical Life** — 1 million cycles

**Contact Arrangement, Auxiliary Contacts** — 1 Form A (SPST-NO)

**Aux. Contact Current, Max.** — 2A @ 30VDC / 3A @ 125VAC

**Aux. Contact Current, Min.** — 100mA @ 8V

**Aux. Contact Resistance, Max.** — 0.417 ohms @ 30VDC / .150 ohms @ 125VAC

**Operate Time @ 25°C** — Close (includes bounce), Typ. — 15 ms  
Bounce (after close only), Max. — 7 ms  
Release (includes arcing), Max @ 2000A — 12 ms

**Dielectric Withstanding Voltage** — 2,200 Vrms @ sea level (leakage <1mA)

**Insulation Resistance @ 500VDC** — 100 megohms <sup>2</sup>

**Shock, 11ms 1/2 Sine, Peak, Operating** — 20 G

**Vibration, Sine, 80-2000Hz., Peak** — 20 G

**Operating Ambient Temperature** — -40°C to +85°C

**Weight, Nominal** — .95 lb. (.43 kg)

### Notes:

<sup>1</sup> Main power contacts

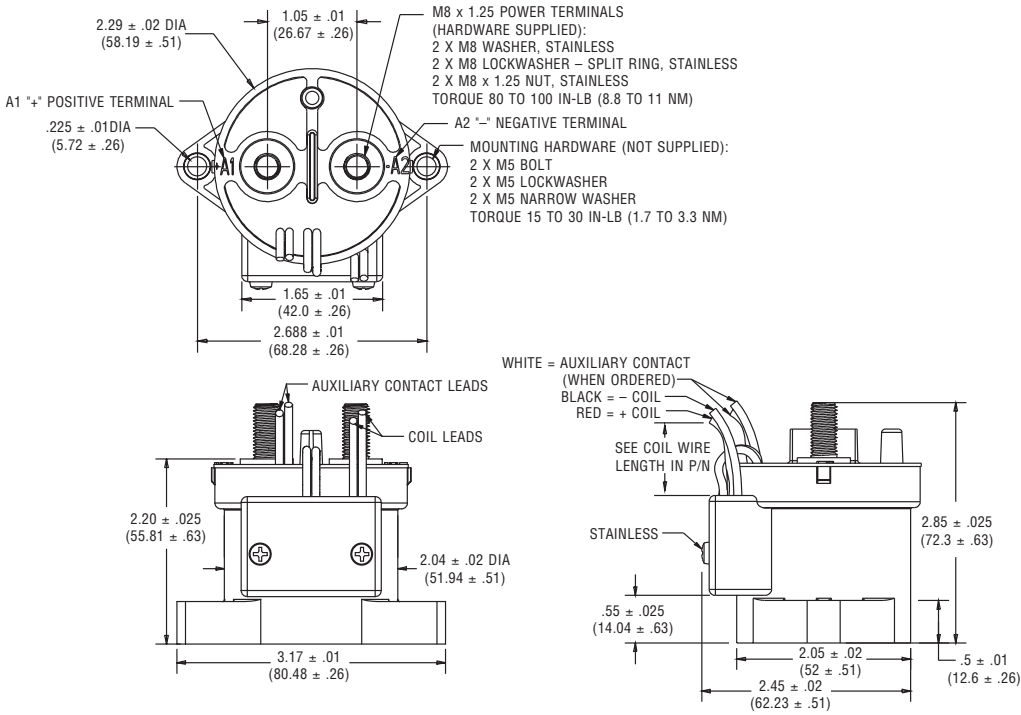
<sup>2</sup> 50 at end of life

<sup>3</sup> Does not meet dielectric & IR after test, 1700 amp for unit with Aux. Contacts

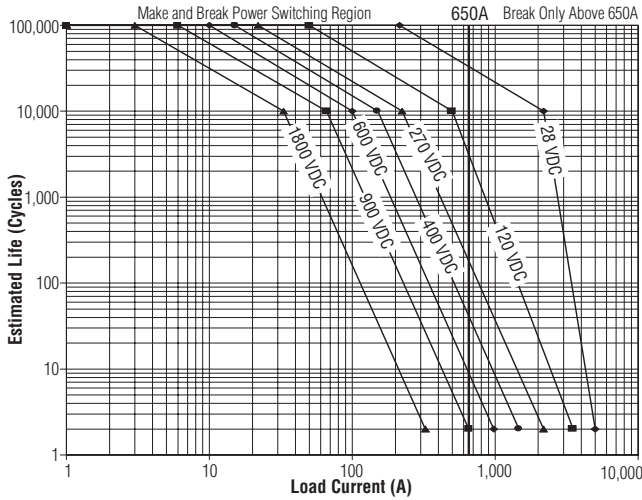
For factory-direct application assistance, dial 800-253-4560, ext. 2055, or 805-220-2055.

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

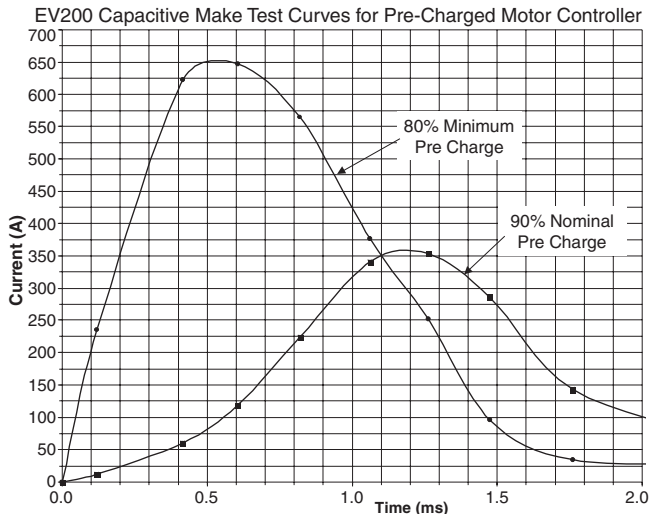
**Outline Dimensions**



**Estimated Make & Break Power Switching Ratings**



- NOTES:**
- 1) For resistive loads with 300µH 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.



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## KILOVAC EV200B Series Contactor With 1 Form Y (SPST-NC) Contacts Rated 500+ Amps, 12-900 Vdc

### Product Facts

- Normally closed version of popular EV200 series contactors
- Designed to be the smallest, lowest cost, lightest weight sealed contactor in the industry at its current rating
- Optional auxiliary contacts for monitoring position of power contacts
- Hermetically sealed — operates in explosive/harsh environments with no oxidation or contamination of coil or contacts during long periods of non-operation
- Not position sensitive, can be mounted in any orientation
- RoHS versions available



### Physical Data

**Contact Arrangements** — Main Contacts — SPST, Normally Closed

**Dimensions** — See drawing

**Weight, Nominal** — .95 lb. (.43 kg)

### Environmental Data

**Shock, 11ms 1/2 Sine (Operating)** — 30 G<sub>peak</sub> (Closed)  
10 G<sub>peak</sub> (Open)

**Sine Vibration, 10 G<sub>peak</sub>** — 55-2000 Hz

**Random Vibration, 7.1 Grms** — 15 Hz (.001 G<sup>2</sup>/Hz), 100 Hz (.04 G<sup>2</sup>/Hz), 1000 Hz (.04 G<sup>2</sup>/Hz), 1500 Hz (.02 G<sup>2</sup>/Hz)

**Operating Temperature Range** — -40°C to +85°C

### Electrical Data

**Voltage Rating** — Main Contacts (Max) — 750 Vdc

**Current Rating, Continuous** — Main Contacts 1 — 500A

**Contact Resistance** — Main Contacts 2 — 0.2 mΩ max above 300A  
0.3 mΩ max between 50 and 300A

**Hot Switching Performance (Positive Polarity)** <sup>3</sup> — 200A make/ break @ 270Vdc — 10,000 cycles  
600A make/ break @ 360Vdc — 100 cycles  
800A break only @ 360Vdc — 15 cycles  
1500A break only @ 360Vdc — 1 cycle

**Mechanical Life (Min)** — 1 million cycles

**Dielectric Withstand Voltage** — Terminal to Terminal/ Terminals to Coil — 1mA max @ 2,200 Vrms

**Insulation Resistance** — Terminal to Terminal/ Terminals to Coil — 100MΩ min @ 500Vdc new  
50MΩ min @ 500Vdc end of life

### Coil Data 4

**Nominal Coil Voltage** <sup>5</sup> — Low range — 9.6-14 Vdc  
High range — 19-28 Vdc

**Pick Up (Max) @ 25°C** — 9.6/18.5 Vdc

**Pick Up @ Max Coil Temperature** — 10.5/22 Vdc

**Hold (Min)** — 6/12 Vdc

### Ordering Information

Typical Part Number ►

**Series:** EV200 = 500+ Amp, 12-900VDC Contactor

**Contact Form:** B = Normally Closed  
D = Normally Closed, 1 SPDT Aux.

**Coil Voltage (with Economizer):** A = 12/24 Vdc

**Coil Terminals:** A = 15.3 in. (300 mm)

**Coil Terminal Connector:** N = None

**Mounting & Power Terminations:** A = Bottom Mount & Male 10 Max. M8 Threaded Terminals

**Dropout (Min)** — 4/9 Vdc

**Pickup Current, Peak** <sup>6</sup> @ 25°C — 6 A

**Operate Specs @ 25°C** — Operate Time (Typ) — 15 ms  
Operate Bounce (Max) — 5 ms  
Release Time (Typ) — 15 ms

**Economizer Operating Frequency** — 18 kHz

**Hold Current** — 0.9A/12 Vdc  
0.3A/24 Vdc

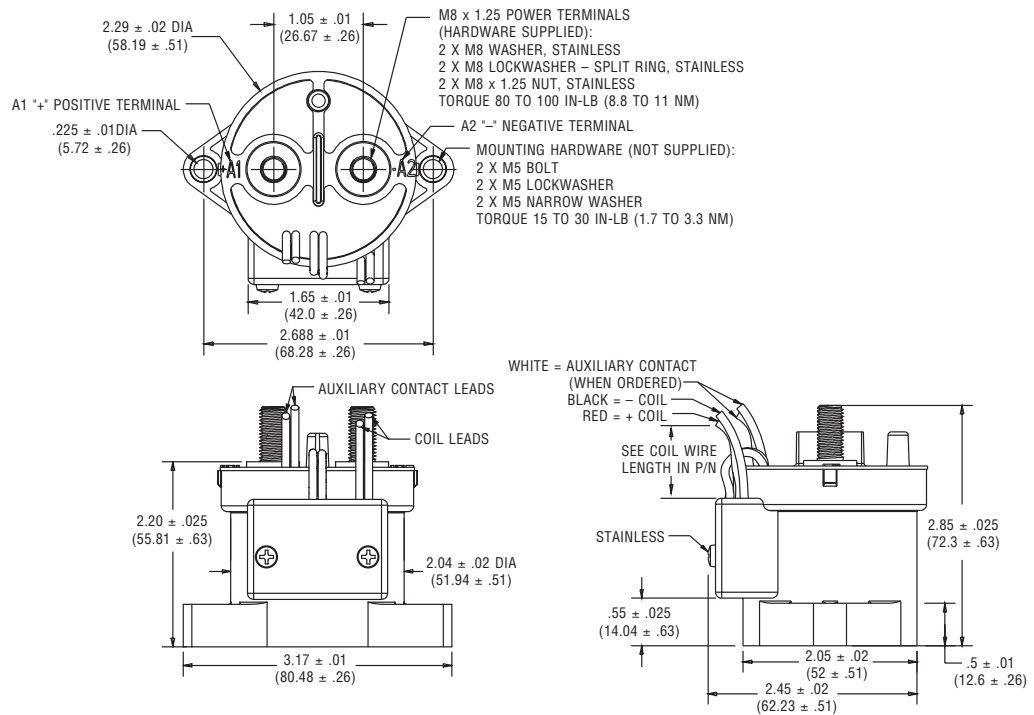
### Notes:

- 1 Ambient conditions and conductor design affect rating. Terminal temperature rise should be 75°C max above ambient. Keep relay terminals below 150°C max continuous, 175°C max for two hours, and 200°C for 1 minute.
- 2 Stabilized reading. Contact resistance may exceed spec in the first 10 minutes of current carry.
- 3 Units are polarity sensitive. Approximately 50% de-rating for reverse polarity switching. Consult factory for review of specific requirements.
- 4 Over temperature range unless noted.
- 5 Voltage ranged sensed by contactor 10 ms after application of source voltage.
- 6 Pickup duration 100 ms.

For factory-direct application assistance, dial 800-253-4560, ext. 2055, or 805-220-2055.

**KILOVAC EV200B Series Contactor** (Continued)

**Outline Dimensions**



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 805-220-2055.

## KILOVAC EV200P Series Latching Contactor With 1 Form X (SPST Latch) Contacts Rated 500+ Amps, 12-900 Vdc

### Product Facts

- Latching version of popular EV200 Series
- Designed to be the smallest, lowest cost, lightest weight sealed contactor in the industry at its current rating
- Optional auxiliary contacts for monitoring position of power contacts
- Hermetically sealed — operates in explosive/harsh environments with no oxidation or contamination of coil or contacts during long periods of non-operation
- Not position sensitive, can be mounted in any orientation
- RoHS versions available



### Physical Data

**Contact Arrangements** — Main Contacts — SPST, Latching  
Auxiliary Contacts 1 — Up to 2 Form A

**Dimensions** — See drawing

**Weight, Nominal** — .95 lb. (.43 kg)

### Environmental Data

**Shock, 11ms 1/2 Sine (Operating)** — 30 G<sub>peak</sub>

**Sine Vibration, 20 G<sub>peak</sub>** — 55-2000 Hz

**Random Vibration, 14.06 Grms** — 15 Hz (.002 G<sup>2</sup>/Hz), 100 Hz (.002 G<sup>2</sup>/Hz), 450 Hz (.12 G<sup>2</sup>/Hz), 900 Hz (.12 G<sup>2</sup>/Hz), 2000 Hz (.083 G<sup>2</sup>/Hz)

**Operating Temperature Range** — -40°C to +85°C

### Electrical Data

**Voltage Rating** — Main Contacts (Max) — 750 Vdc

**Current Rating, Continuous** — Main Contacts 2 — 500A

**Contact Resistance** — Main Contacts 3 — 0.2 mΩ max above 300A  
0.3 mΩ max between 50 and 300A

**Hot Switching Performance (Positive Polarity) 4** — 200A make/ break @ 270Vdc — 10,000 cycles  
600A make/ break @ 360Vdc — 100 cycles  
800A break only @ 360Vdc — 15 cycles  
2000A break only @ 360Vdc — 1 cycle

**Mechanical Life (Min)** — 1 million cycles

**Dielectric Withstand Voltage** — Terminal to Terminal/ Terminals to Coil — 1mA max @ 2,200 Vrms

**Insulation Resistance** — Terminal to Terminal/ Terminals to Coil — 100MΩ min @ 500Vdc new  
50MΩ min @ 500Vdc end of life

### Coil Data 5

**Nominal Coil Voltage 6** — 12 Vdc

**Pick Up/Latch (Max) @ 25°C** — 9 Vdc

**Hold (Min)** — N/A

**Reset (Max)/Dropout (Min)** — 9 Vdc

**Duty Cycle, Max 7** — 20%

**Coil Resistance @ 25°C** — 2.5 Ω

**Operate Specs @ 25°C** —

Operate Time (Typ) — 15 ms

Operate Bounce (Max) — 7 ms

Release Time (Max) — 15 ms

### Notes:

<sup>1</sup> Product can be configured alternately with form B or C auxiliary switches if required. This changes the product part number, depending on specific auxiliary configuration. Consult TE for availability and part number

<sup>2</sup> Ambient conditions and conductor design affect rating. Terminal temperature rise should be 75°C max above ambient. Keep relay terminals below 150°C max continuous, 175°C max for two hours, and 200°C for 1 minute.

<sup>3</sup> Stabilized reading. Contact resistance may exceed spec in the first 10 minutes of current carry.

<sup>4</sup> Units are polarity sensitive. Approximately 50% de-rating for reverse polarity switching. Consult factory for review of specific requirements.

<sup>5</sup> Over temperature range unless noted. Suggested coil pulse = 50-100 ms.

<sup>6</sup> 24V and 48V coils available on request — consult factory.

<sup>7</sup> Intermittent Duty Coil. Coil overheating can occur if duty cycle is exceeded. Limit average coil power to 10W maximum.

### Ordering Information

Typical Part Number ►

**EV200 P 4 A N A**

**Series:** EV200 = 500+ Amp, 12-900VDC Contactor

**Contact Form:** P = Latching  
F = Latching with 1 SPDT Aux.

**Coil Voltage:** 4 = 12 Vdc  
5 = 24 Vdc  
6 = 48 Vdc

**Coil Terminations:** A = 15.3 in. (300 mm)

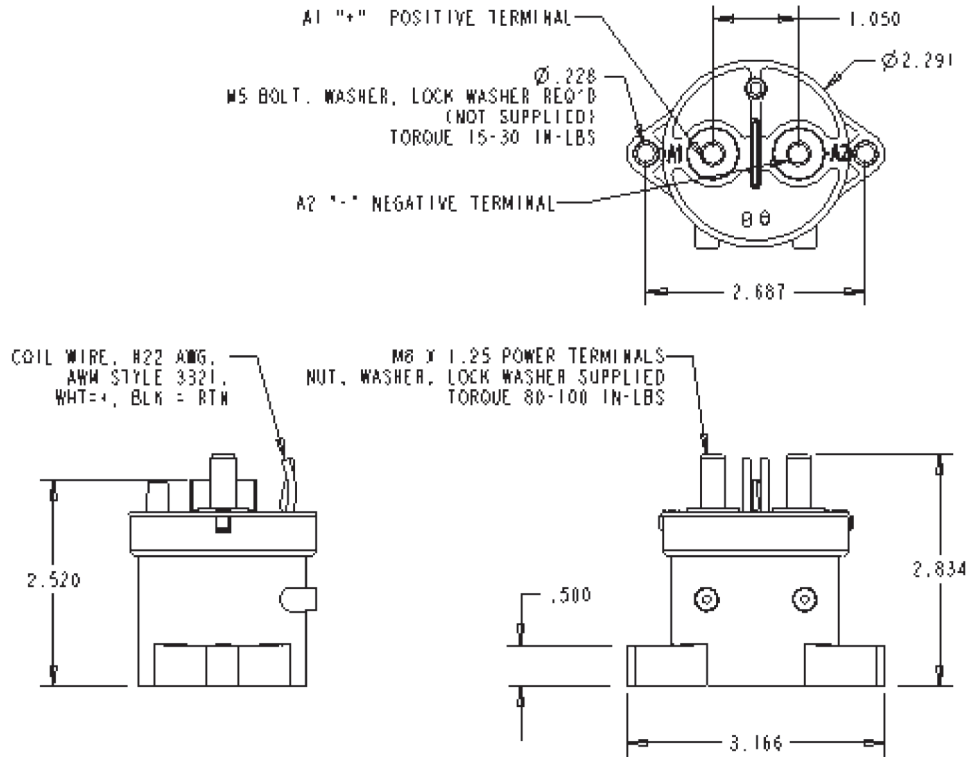
**Coil Termination Connector:** N = None

**Mounting & Power Terminals:** A = Bottom Mount & Male 10mm x M8 Threaded Terminals

For factory-direct application assistance, dial 800-253-4560, ext. 2055, or 805-220-2055.

**KILOVAC EV200P Series Latching Contactor** (Continued)

**Outline Dimensions**



For factory-direct application assistance, dial 800-253-4560, ext. 2055, or 805-220-2055.