

EV500 "BUBBA" Contactor 600 Amps, Make & Break Load Switching

Product Facts

- Very high power sealed contactor
- Hydrogen dielectric for power switching high current loads
- Excellent for safety disconnect and transfer switch applications
- Suited for circuit protection control
- Hermetically "Super-sealed" environment uniquely protects contacts and all moving parts; can operate in harsh environments
- 600-1000 A continuous carry, dependent on temperature and conductors used
- 3,300 A interrupt, 1,000 A make, @ 320 Vdc
- 12 and 24 volt coil control options. Call TE for custom options
- 360 kW power switch capable
- 200°C hot power terminals capable
- Bi-directional power switching
- Auxiliary contacts optional
- Built-in dual power coil economizer, 8W holding typical
- Versatile power, voltage, and current operating range: 28-1800 Vdc*

Product Specifications

Contact Arrangement with Auxiliary Contacts —

Form X — SPST-NO
Form A — SPST-NO

Rated Resistive Load @ 270 Vdc, 85°C (Continuous/10 sec) —
600 A/1,600 A

Continuous Current Carry, Max., 25°C 1 — 750 A

Overload Current @ 320 Vdc, Max. —
Make (Closed Into) — 1,000 A
Break (Open) — 3,300 A

Contact Resistance, Max. —
0.0002 ohm

Dielectric at Sea Level (Leakage < 1mA) —

Open Power Terminal to Terminal — 2,000 Vrms

Closed Power Terminals to All Other Points — 2,000 Vrms

Shock, 11ms, 1/2 Sine (Peak), Operating — 30 g

Vibration, Sinusoidal (80-2000 Hz, Peak) — EV500-5 — 5 g
EV500-4 — 10 g

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

Load Life (Mechanical/Electrical) 2 — See next page

Operate Time @ 25°C —

Close (Includes Bounce), Typ. — 40 ms

Bounce (After Close Only), Max. — 5 ms

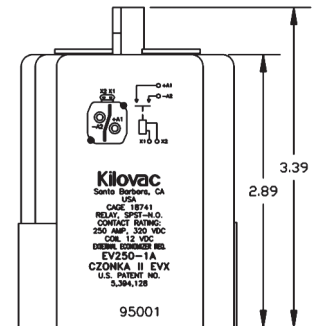
Release Time (Includes Arcing), Max. at 2500 A — 20 ms

Insulation Resistance @ 500 Vdc, Min. — 100 mohm

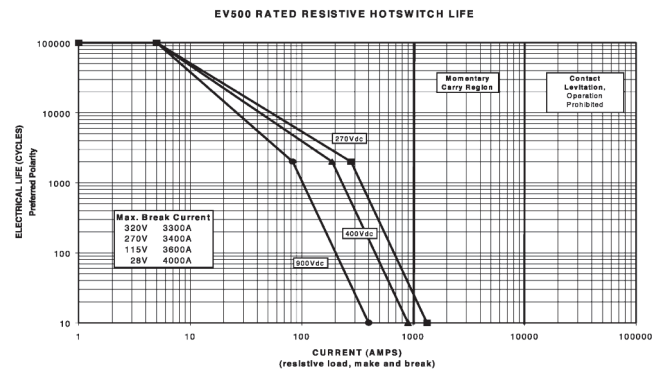
Weight, Nominal — 3.38 lb (1.53 kg)

Notes:

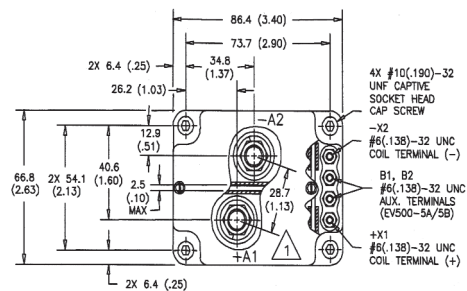
1. Current Carry: 750 A @ 25°C. Derate 2.5 A/°C to 600 A @ 85°C for still air, no heat sink. Reference National Electric Code for specific conductor size recommendation versus current. For > 600 A carry, call TE and request the "EV500 Current Carry study" for additional data.
2. See EV500 sales drawing for complete specifications, including normal capacitive pre-charge make, plus abnormal make and break ratings.



Electrical Life Cycles vs Power Switching



*Failure mode: Dielectric withstand voltage test @ 2000 Vdc, power terminal to terminal, leakage exceeds 1.0 A.



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

Coil Data

| | 12 V | 24 V |
|--------------------------|-------------------|----------|
| Type Driver | 2 Coil Electronic | |
| Volts, Nominal* | 12 Vdc | 24 Vdc |
| Pickup (Close), Max. | 9.9 Vdc | 19.7 Vdc |
| Hold, Min. | 9 Vdc | 18 Vdc |
| Dropout (Open), Min. | 2 Vdc | 4 Vdc |
| Current (@ VsNom / 25°C) | | |
| Inrush | 3.3 A | 1.7 A |
| Holding, Standby | 0.74 A | 0.37 A |
| Inrush Time, Max. | 300 ms | 300 ms |

Ordering Information

Sample Part Number ▶

EV500 4 A

Series: _____

Auxiliary Contacts: _____

4 = Without
5 = With

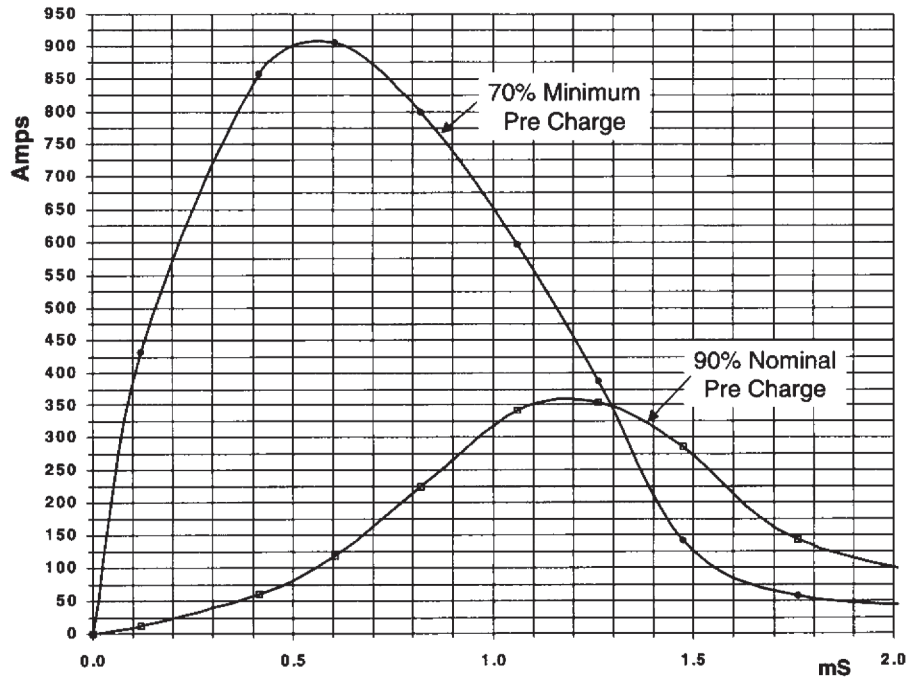
Coil Voltage: _____

A = 12 Vdc
B = 24 Vdc

Refer to EV500 Sales Drawing for complete specifications.

EV500 “BUBBA” Contactor 600 Amps, Make & Break Load Switching (Continued)

Current vs Time



Life Ratings and Qualification Test Plan

| Test # | Normal Operations | | Abnormal Operations | |
|--------------|---|------------|---------------------|------------|
| | 1 | 2 | 3 | 4 |
| Current | Reference Graph and Test Circuit Diagram (Sht. 8) | | -250 A | 3300 A |
| Voltage | | | 320 V | 320 V |
| Load Type | Capacitive | Capacitive | Resistive | Resistive |
| % Pre Charge | 90% | 70% | NA | N/A |
| Switch Mode | Make Only | Make Only | Make/Break | Break Only |
| Sequence | | | | |
| 1 | 10K cycles | 10 cycles | 2 | 2 |
| 2 | 10K | 10 | 2 | — |
| 3 | 10K | 10 | 2 | — |
| 4 | 10K | 10 | 2 | 2 |
| 5 | 10K | 10 | 2 | — |
| Etc. | Continue Cycling to Relay Failure | | | |

The testing objective is to verify proper relay function for a given number of consecutive and cumulative cycles under both normal and abnormal conditions in a variety of load switching applications. The life rating of 40K cycles minimum was calculated with 95% Weibull reliability.

**Electrical Data
(Over Temperature Range —
Max. Terminal Temp. = 200°C)**

Make/Break Life for Capacitive & Resistive Loads at 320 Vdc 1,2 —

@ 90% Capacitive Pre-Charge — 50,000 cycles

@ 70% Capacitive Pre-Charge — 50 cycles

@ -250 A (2 Consecutive, Reverse Polarity) 1 — 10 cycles

@ 3300 A (Break only, 2 Consecutive) 1 — 4 cycles

Mechanical Life — 100,000 cycles

Notes:

1 Resistive load includes inductance L = 25 µH.

2 Testing is limited at this time. Consult TE for official ratings.

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KILOVAC 28-1800 Vdc
Traditional Contactors