

## 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

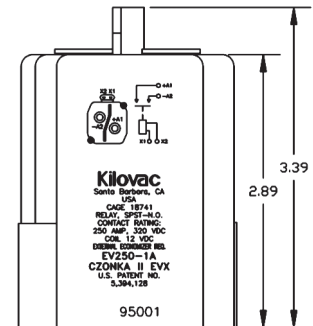
**Release Time (Includes Arcing), Max. at 2500 A —** 20 ms

**Insulation Resistance @ 500 Vdc, Min. —** 100 mohm

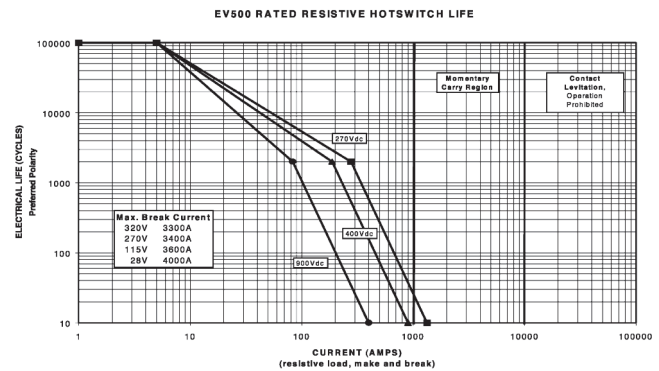
**Weight, Nominal —** 3.38 lb (1.53 kg)

#### Notes:

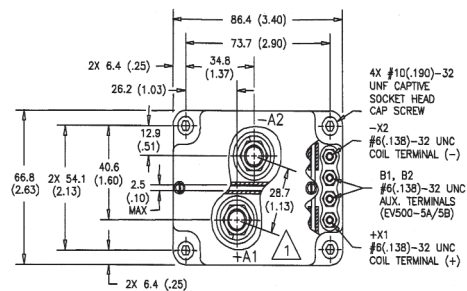
1. Current Carry: 750 A @ 25°C. Derate 2.5 A/°C to 600 A @ 85°C for still air, no heat sink. Reference National Electric Code for specific conductor size recommendation versus current. For > 600 A carry, call TE and request the "EV500 Current Carry study" for additional data.
2. See EV500 sales drawing 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: \_\_\_\_\_

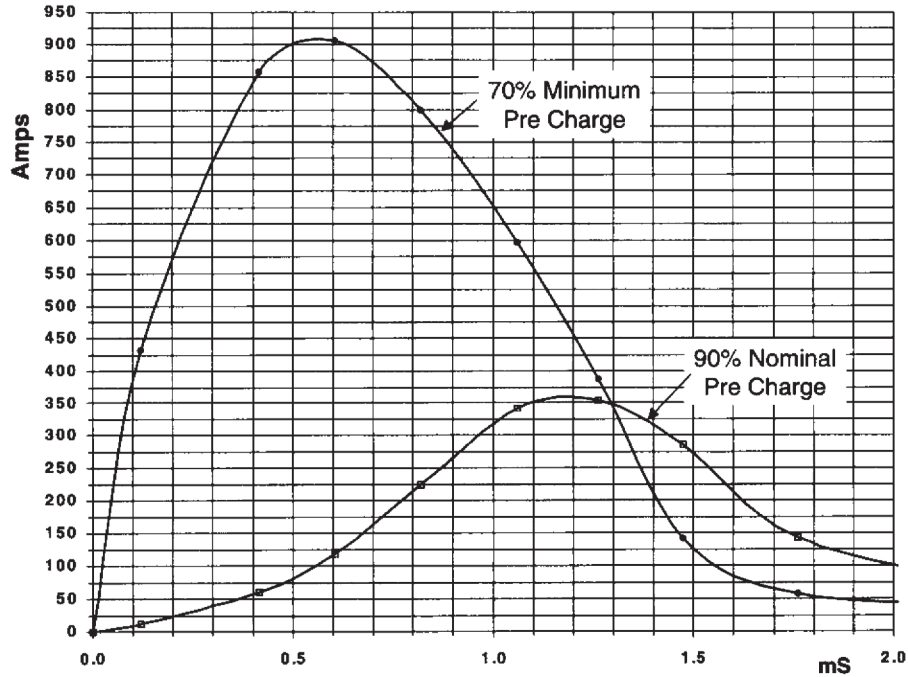
Auxiliary Contacts: \_\_\_\_\_

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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# Mouser Electronics

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