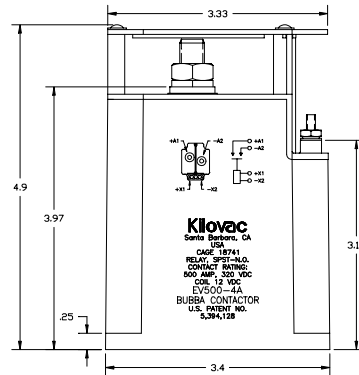
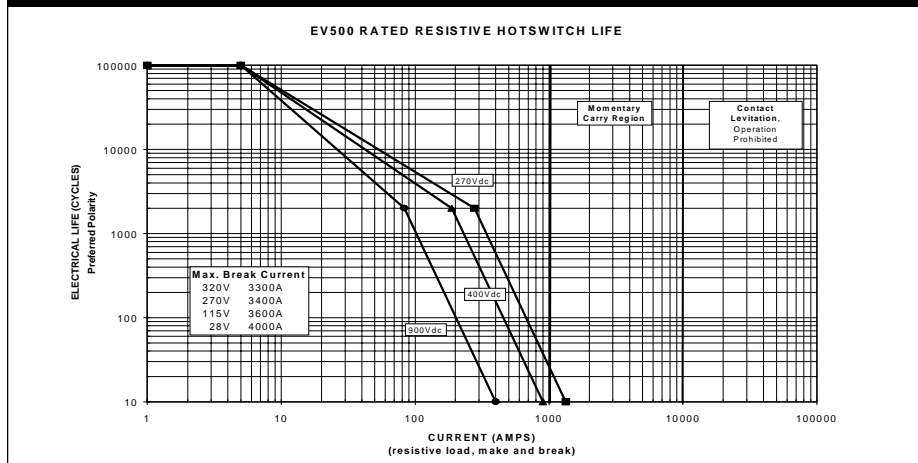


## Kilovac EV500 "BUBBA" - 600 Amps Make & Break Load Switching



**Note:** Dimensions in inches. Multiply values by 25.4 for dimensions in mm.

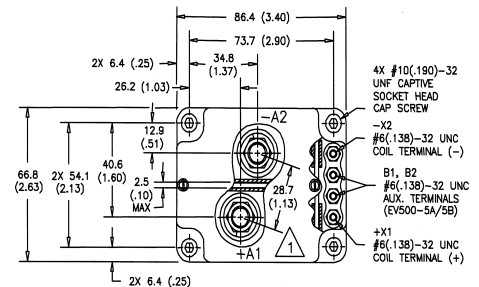
### ELECTRICAL LIFE CYCLES vs POWER SWITCHING



\* Failure Mode: Dielectric withstand voltage test @ 2000Vdc, power terminal to terminal, leakage exceeds 1.0 mA.

### Features:

- Very high power sealed contactor
- Hydrogen dielectric for power switching high current loads
- Excellent for safety disconnect and transfer switch applications
- Ideal for circuit protection control
- Hermetically "super-sealed" environment uniquely protects contacts and all moving parts; can operate in harsh environments
- 600-1000A 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 factory 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 320-1800Vdc \*



### PRODUCT SPECIFICATIONS

Part Number	UNIT	EV500
Contact Arrangement with:	Form X	SPST-NO
Auxiliary Contacts .....	Form A	SPST-NO
Rated Resistive Load @ 270 Vdc, 85°C (continuous/10 sec.) ...	A	600/1,600
Current Carry, Max. continuous, 25°C <sup>2</sup> .....	A	750
Overload Current @ 320 Vdc, Max. ....		
Make (Closed into) .....	A	1,000
Break (Open) .....	A	3,300
Contact Resistance, Max. ....	ohms	0.0002
Dielectric at Sea Level (leakage < 1mA)		
Open Power Terminal to Terminal .....	Vrms	2,000
Closed Power Terminals to All Other Points .....	Vrms	2,000
Shock, 11 ms 1/2 Sine (peak), operating .....	G's Peak	30
Vibration, Sinusoidal 80-2000 Hz, peak (EV500-5/EV500-4) ...	G's	5/10
Operating Ambient Temperature Range .....	°C	-40 to +85
Load Life (mechanical/electrical) <sup>1</sup> .....	cycles	See Page 21
Operate Time, 25°C .....		
Close (includes bounce) Typ. ....	ms	40
Bounce (after close only), Max. ....	ms	5
Release Time (includes arcing), Max. at 2500 A .....	ms	20
Insulation Resistance @ 500 Vdc, Min. ....	Mohm	100
Weight, Nominal .....	pound (kg)	3.38 (1.53)

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

### COIL DATA

Parameter	12V	24V	Units
Type Driver	2 coil electronic		
Voltage* (nominal )	12	24	Vdc
Pickup (close), max.	9.9	19.7	
Hold, min.	9	18	
Dropout (open), min.	2	4	
Current (@VsNom/ 25°C)			
Inrush	3.3	1.7	A
Holding, standby	0.74	0.37	A
Inrush Time, max.	300	300	ms

### PART NUMBER SELECTION

Sample Part No. **EV500** 4 A

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

4 = without

5 = with

Coil Voltage \_\_\_\_\_

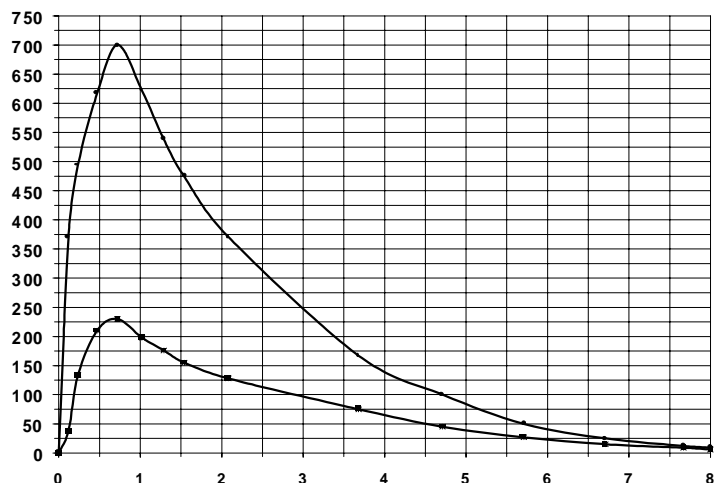
A = 12 Vdc

B = 24 Vdc

**Refer to EV500 Sales Drawing for complete specifications.**

## CURRENT vs TIME

CONTACTS CLOSED INTO 70% AND 90% CAPACITOR PRE CHARGE



LIFE RATINGS AND QUALIFICATION TEST PLAN				
	Normal Operations		Abnormal Operations	
Test #	1	2	3	4
Current	reference graph and test circuit diagram (sht. 8)		-250 A	2500 A
Voltage			320 V	320 V
Load Type	Capacitive	Capacitive	Resistive	Resistive
% Pre Charge	90%	70%	N/A	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	Cycles	50,000
@ 70% capacitive pre-charge	Cycles	50
@ -250 A (2 consecutive, reverse polarity) (1)	Cycles	10
@ 3300 A (break only, 2 consecutive) (1)	Cycles	4
Mechanical Life	Cycles	100,000

(1) Resistive load includes inductance L = 25 uH.

(2) Testing is limited at this time. Consult factory for official ratings.