

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

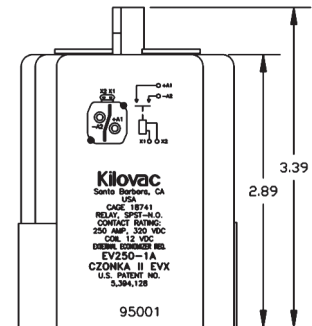
Release Time (Includes Arcing), Max. at 2500 A — 20 ms

Insulation Resistance @ 500 Vdc, Min. — 100 mohm

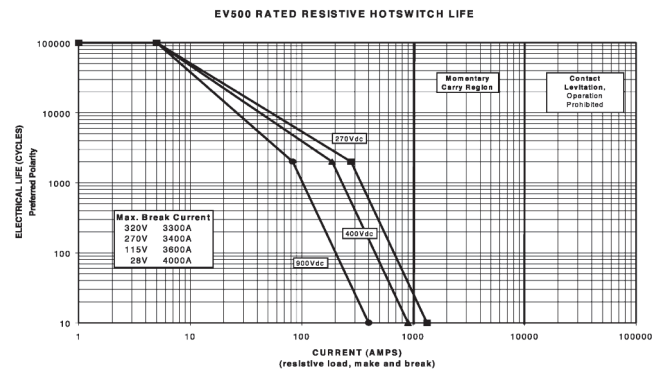
Weight, Nominal —
3.38 lb (1.53 kg)

Notes:

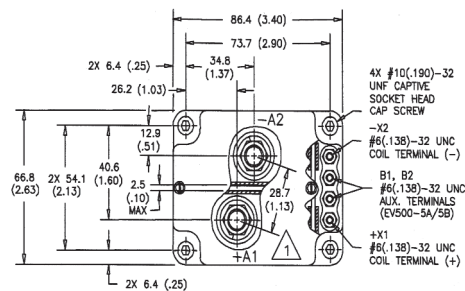
1. Current Carry: 750 A @ 25°C. Derate 2.5 A/°C to 600 A @ 85°C for still air, no heat sink. Reference National Electric Code for specific conductor size recommendation versus current. For > 600 A carry, call TE and request the "EV500 Current Carry study" for additional data.
2. See EV500 sales drawing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



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.

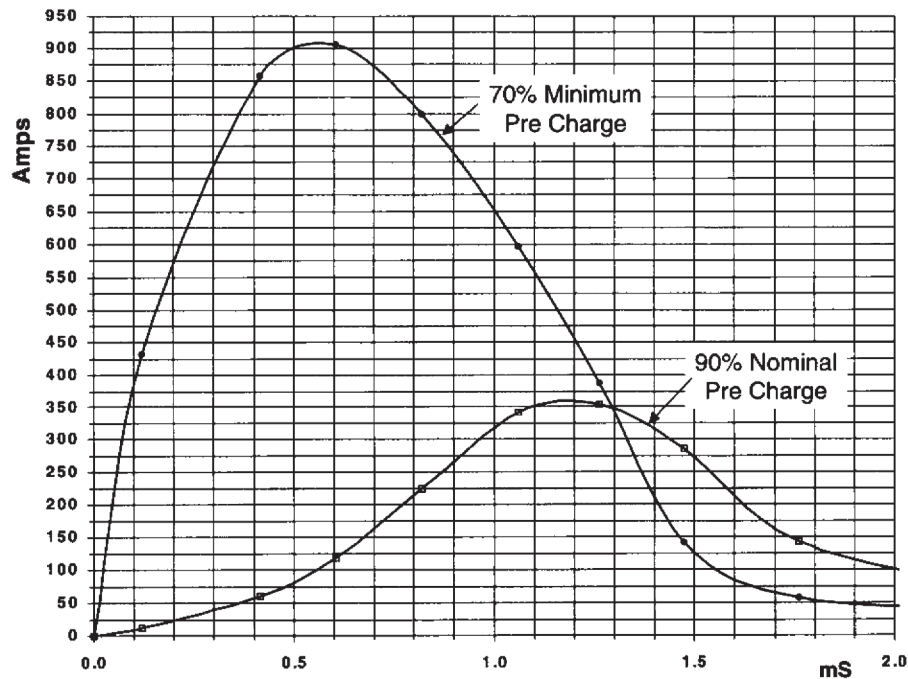
Coil Data

	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

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

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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