# 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***

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

## 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.

## 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.**



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www.te.com

Dimensions are shown for reference purposes only. Specifications subject to change.

Dimensions are in millimeters unless otherwise specified.

USA: +1 800 522 6752
Asia Pacific: +86 0 400 820 6015
UK: +44 800 267 666

For additional support numbers please visit www.te.com

## EV500 "BUBBA" Contactor 600 Amps, Make & Break Load Switching (Continued)

**Current vs Time**

### 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 | 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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ООО «ЛайфЭлектроникс» “LifeElectronics” LLC

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