KILOVAC
KHR500 HIGH-VOLTAGE
600 AMP CONTACTORS
HANDLE HIGH INRUSH CURRENTS UP TO 4000 AMPS, IN A SMALL, LIGHTWEIGHT HERMETICALLY SEALED CONTACTOR FOR HARSH AND EXPLOSIVE ENVIRONMENTS
**KH500 CONTACTORS**  
Small, Lightweight, and Hermetically Sealed

**CAPABLE**
- 600 A carry
- 3300 A break at 400 Vdc
- 4000 A make current
- Bidirectional load switching

**HERMETICALLY SEALED**
- Safe for application in harsh and explosive environments
- Not position sensitive
- Rugged, robust design

**EFFICIENT**
- Smaller and up to 64% lighter than our popular EV500 BUBBA contactors
- Integrated dual-coil electronic “cut throat” economizer
- Switches voltages from 28 to 1000 Vdc

**APPLICATIONS**
- Aerospace
- Ground vehicles
- Marine
- Solar
- Automotive
- Energy storage systems

TE Connectivity’s (TE) KILOVAC KHR500 “BUBBA II” feature smaller size and lighter weight than our popular EV500 “BUBBA” high-voltage contactors. Capable of handling inrush currents as high 4000 A, the contactors are hermetically sealed for use in hazardous or explosive environments.

TE Connectivity’s (TE) KILOVAC KHR500 contactors feature smaller size and lighter weight than our popular EV500 high-voltage contactors. Capable of handling inrush currents as high 4000 A, the contactors are hermetically sealed for use in hazardous or explosive environments.

Configured as a single-pole, single-throw device, the contactors can handle voltages from 28 to 1000 Vdc and continuous 600 A currents.

Because it is not polarity sensitive, the contactor allows bidirectional load switching. An integrated coil economizer reduces the power required to hold the contacts closed to 320 mA at 24 Vdc.

A single-pole, double-throw auxiliary switch supports 3 A @ 125 Vrms or 1 A @ 30 Vdc, and low-level signals down to 5 V/10 mA.

**MECHANICAL/ENVIRONMENTAL**
- **Contact Arrangement:**
  - Power Contacts: SPST (1 Form X)
  - Auxiliary Switches: SPDT (1 Form C)
- **Shock:** (11 ms 1/2 sine, (operating): 25 g (Z axis)/35 g (X, Y axes) peak
- **Sine Vibration** (20 g peak): 55 to 2000 Hz
- **Random Vibration** (13.3 Grms):
  - @ 15 Hz: .002 g²/Hz
  - @ 100 Hz: .002 g²/Hz
  - @ 450 Hz: .12 g²/Hz
  - @ 900 Hz: .12 g²/Hz
  - @ 2000 Hz: .083 g²/Hz
- **Operating Temperature Range:** -55 to +125°C
- **Weight:** 0.56 kg (1.2 lb.)
- **Mechanical Life:** 100,000 cycles, min.
- **Hermetically Sealed for Operation in Harsh/Explosive Environments**

**ELECTRICAL**
- **Main Contact Arrangement:** SPST (1 Form X)
- **Auxiliary Contact Arrangement:** SPDT (1 For C)
- **Voltage Rating:**
  - Main Contact: 28 to 1000 Vdc
  - Auxiliary Contacts: (3 A @ 125 Vrms or 1 A @ 30 Vdc)
- **Current Rating:**
  - Main Contacts, Continuous: 600 A
- **Contact Resistance:**
  - Main Contacts: 0.3 mΩ max @ 600 A
  - Auxiliary Contacts: 150 mΩ @ 1 A
- **Hot Switching Performance @ 400 Vdc:**
  - 200 A Make/Break: 4000 cycles
  - 600 A Make/Break: 10 cycles
  - 3000 A Make/Break: 3 cycles
  - 4000 A Make or Pulse through Closed Contacts
    - (1 ms risetime, 10 ms pulse duration): 10 cycles
- **Dielectric Withstand Voltage:** 1 mA max @ 2800 Vrms
- **Insulation Resistance @ 500 Vdc:**
  - 100 MΩ initial, 50 MΩ end of life

**COIL DATA**
- 24/28 Vdc models at 20°C
  - Consult TE for 12 Vdc model or other voltages
- **Coil Voltage:** 24 Vdc nom./32 Vdc max.
- **Pick Up:** 13 Vdc
- **Dropout Voltage (max.):** 8 Vdc
- **Coil Resistance:** 3.2 Ω/85 Ω Pickup/Hold
- **Inrush Current (max @ 24 Vdc):** 4.5 A
- **Inrush Time (max.):** 100 ms
- **Timing:**
  - Operate Time: 25 ms typ.
  - Operate Bounce: 5 ms max.
  - Release Time: 15 ms max.
  - Simultaneity (Aux/Main): 5 ms max.
**KILOVAC KHR500 Contactors**

**Series**

**Contact Form**
- **A**: Form X, SPST-NO, Double Make
- **K**: Form X, SPST-NO, Double Make with 1 SPDT Auxiliary Contact

**Coil Voltage**
- **S**: 24/28 Vdc, Electric Cut-Throat Economizer
- **V**: 12 Vdc, Electric Cut-Throat Economizer

**Coil Leads**
- **A**: 15" Coil/Auxiliary Leads (No Connector)

**Coil/Auxiliary Connector**
- **N**: None

**Mounting**
- **L**: Bottom Mount, No. 10 Hole, 5/16-24 Female Terminal Main Power Connection

### Part Numbers

<table>
<thead>
<tr>
<th>Part No.</th>
<th>24/28 VDC</th>
<th>12 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Aux Contact</td>
<td>KHR500ASANL</td>
<td>KHR500AVANL</td>
</tr>
<tr>
<td>Aux Contact</td>
<td>KHR500KSANL</td>
<td>KHR500KVANL</td>
</tr>
</tbody>
</table>

### Schematic

- **A2**: NO (Brown)
- **A1**: NC (White)
- **COM**: COM (Green)
- **+**: COIL WIRES AND AUX WIRES 22 AWG 6" LENGTH (FROM TOP CAP)
- **-**: COIL +VDC (RED)

### Continuous Current vs. Ambient Temperature

- 2 x 3/0 AWG or 350 kcmil Conductor
- Max Terminal Temp <170°C
- Contacts Closing into >10 A dc

### Product Dimensions

- Ø .23 [5.84] 2X #10 MOUNTING HARDWARE (NOT SUPPLIED) TORQUE 30 IN-LBS MAX
- Ø 2.29 [58.17] 2X 5/16-24 UNF (2X) 7 THREADS DEPTH HARDWARE SUPPLIED: FLAT WASHER LOCK WASHER 5/16-24 X 3/8 BHCS MAX TORQUE 100 IN-LBS

**TE Components . . . TE Technology . . . TE Know-how . . .**

AMP | Agastat | CII | Hartman | Kilovac | Microdot | Nanonics | Polamco | Raychem | Rochester | DEUTSCH | SEACON | Phoenix | L.L. Rowe | Phoenix Optix | SEACON

Get your product to market faster with a smarter, better solution.
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