SERIES KCA
RELAY - NONLATCH - AC COIL
3 PDT, 25 AMP

APPLICATION NOTES:
102
007

APPLICABLE SOCKET:
SO-1062-8917
SO-1057-8912 (D-MOUNT)

PRINCIPLE TECHNICAL CHARACTERISTICS

Contacts rated at
Low level, 28 Vdc; 115 Vac, 400 Hz, 1Ø and
115/200 Vac, 400 Hz, 3Ø

Weight
0.188lb max

Dimensions
1.01in x 1.01in x 1.00in

Hermetically sealed, corrosion resistant metal can.
Detail specifications and ordering data appear on the following pages.

CONTACT ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Contact rating per pole and load type [1]</th>
<th>@28 Vdc</th>
<th>@115 Vac 400 Hz</th>
<th>@115/200 Vac 400 Hz, 3Ø</th>
<th>@115/200 Vac 60 Hz, 3Ø [7]</th>
<th>@230/400 Vac 400 Hz, 3Ø [8]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inductive [2]</td>
<td>12</td>
<td>15</td>
<td>15</td>
<td>2.5</td>
<td>5</td>
</tr>
<tr>
<td>Motor</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Lamp</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Overload</td>
<td>50</td>
<td>80</td>
<td>80</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Rupture</td>
<td>60</td>
<td>100</td>
<td>100</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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Data sheets are for initial product selection and comparison. Contact Esterline Power Systems prior to choosing a component.

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### COIL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CODE</th>
<th>Vac 400 Hz</th>
<th>Vac 50 thru 400 Hz</th>
<th>Vac 400 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal operating voltage</td>
<td>E</td>
<td>F</td>
<td>J</td>
</tr>
<tr>
<td>Maximum operating voltage</td>
<td>28</td>
<td>115</td>
<td>28</td>
</tr>
<tr>
<td>Maximum pickup voltage</td>
<td>30</td>
<td>122</td>
<td>30</td>
</tr>
<tr>
<td>- Cold coil at +125°C</td>
<td>22</td>
<td>90</td>
<td>23</td>
</tr>
<tr>
<td>- During high temp test at +125°C</td>
<td>24.4</td>
<td>95.4</td>
<td>24.6</td>
</tr>
<tr>
<td>- During continuous current test at +125°C</td>
<td>25.6</td>
<td>103.5</td>
<td>25.9</td>
</tr>
<tr>
<td>Maximum drop-out voltage</td>
<td>10</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Coil current maximum milliAmperes at +25°C</td>
<td>225</td>
<td>40</td>
<td>120</td>
</tr>
</tbody>
</table>

### GENERAL CHARACTERISTICS

- **Temperature range**
  - -70°C to +125°C
- **Minimum operating cycles (life) at rated load**
  - 50,000 [2]
- **Minimum operating cycles (life) at 25% rated load**
  - 200,000
- **Dielectric strength at sea level**
  - All circuits to ground and circuit to circuit: 1250 Vrms
  - Coil to ground: 1000 Vrms
- **Dielectric strength at altitude 80,000 ft**
  - 500 Vrms [4]
- **Insulation resistance**
  - Initial (500 Vdc): 100 M Ω min
  - After environmental tests (500 Vdc): 50 M Ω min
- **Sinusoidal vibration (A, D, E and W mounting)**
  - 0.12DA / 10 to 70 Hz
  - 30G / 70 to 3000 Hz
- **Sinusoidal vibration (J mounting)**
  - 0.12DA / 10 to 57 Hz
  - 20G /57 to 3000 Hz
- **Random vibration**
  - Applicable specification: MIL-STD-202
  - Method: 214
  - Test condition - A, D and E mounting: 1G (0.4G²/Hz, 50 to 2000 Hz)
  - Test condition - G and J mounting: 1E (0.2G²/Hz, 50 to 2000 Hz)
  - Duration: 15 minutes each plane
- **Shock (A, D, E and W mounting)**
  - 200G / 6 ms
- **Shock (G and J mounting)**
  - 100G / 6 ms
- **Maximum contact opening time under vibration and shock**
  - 10 µs
- **Operate time at nominal voltage@25°C**
  - 20 ms max
- **Release time at nominal voltage@25°C**
  - 50 ms max
- **Contact make bounce at nominal voltage@25°C**
  - 1 ms max
- **Contact release break bounce at nominal voltage@25°C**
  - 0.1 ms max
- **Weight maximum**
  - 0.188lb

Unless otherwise noted, the specified temperature range applies to all relay characteristics.
NOTES

[2] DC inductive load 10,000 cycles, AC inductive load 20,000 cycles.
[3] For full rated load, max. temp. and altitude use no. 12 wire or larger.
   Relays to be mounted to limit mounting bracket temp. to 135° C.
[4] 500 Vrms with silicone gasket compressed, 350 Vrms all other conditions.
[6] Special models available upon request.
[7] 60 Hz load life 10,000 cycles.
[8] Temperature range:
   Non-operating -62° C to +95° C
   Operating -54° C to +71° C

NUMBERING SYSTEM

Basic series designation
1-Mounting Style (A,D,E,J,W)
2-Terminal Types (1,2,4) [1]
3-Coil Voltage see coil characteristics (E,F,J,K or T)

MOUNTING STYLES

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TERMINAL TYPES

TERMINAL TYPE 1
FINISH:
CASE-PAINTED LEACH BLUE
TERMINALS-TIN/LEAD

FINISH:
CASE-PAINTED LEACH BLUE
TERMINALS-TIN/LEAD

TERMINAL TYPE 2
FINISH:
Case-painted Leach blue
Terminals-tin/lead

TERMINAL TYPE 4
FINISH:
CASE-PAINTED LEACH BLUE
PINS-GOLD PLATED

SCHEMATIC DIAGRAM
STANDARD TERMINAL LAYOUT
WIRING DIAGRAM

COIL POLARITY NOT APPLICABLE

STD. TOL: .XX ± .03; .XXX ± .010