

**KHA Series Panel Plug-in Relay**

- Compact package
- Two and four pole form C contact arrangements
- Polycarbonate or nylon dust cover
- Various mounting configurations
- Indicator lamp and push-to-reset options available
- Various contact materials available for specific load requirements



Typical applications

Industrial sewing/stitching machines, fitness, elevators, pumps, robotics, solar panels.



**Approvals**

UL E22575; CSA LR15734  
Technical data of approved types on request.

**Contact Data**

|  |  |
|--|--|
| Contact arrangement                    | 2 form C (2CO), 4 form C (4CO)                       |
| Rated voltage                          | 240VAC   |
| Rated current                          | 1-5A   |
| Contact material                       | Ag, AgCdO, Au-AgNi,<br>Au overlay Ag, Au diffused Ag |
| Contact style                          | Single contact or bifurcated crossbar                |
| Min. recommended contact load          |  |
| Ag (single contact)                    | 100mA, 12VDC   |
| AgCdO (single contact)                 | 300mA, 12VDC   |
| Au-AgNi (single contact)               | 10mA, 12VDC  |
| Au overlay Ag (bifurcated crossbar)    | Dry circuit  |
| Au diffused Ag (single contact)        | 50mA, 12VDC  |
| Initial contact resistance             |  |
| Ag, AdCdO                              | 100mΩ  |
| Au-AgNi, Au overlay Ag, Au diffused Ag | 200mΩ  |
| Frequency of operation                 | 360 ops./hour  |
| Operate/release time max.              | 13/6ms   |

**Contact ratings**

| Type           | Load                          | Cycles |
|----------------|-------------------------------|--------|
| <b>UL 508</b>  |                               |        |
| Ag             | 5A, 120VAC, general purpose   |        |
|                | 2.5A, 240VAC, general purpose |        |
|                | 1/10HP, 120/240VAC            |        |
|                | 180VA, 250VAC, pilot duty     |        |
| AgCdO          | 42VA, 28VDC, pilot duty       |        |
|                | 5A, 120VAC, general purpose   |        |
|                | 2.5A, 240VAC, general purpose |        |
|                | 1/10HP, 120/240VAC            |        |
| Au-AgNi        | 180VA, 250VAC, pilot duty     |        |
|                | 42VA, 28VDC, pilot duty       |        |
|                | 5A, 240VAC, general purpose   |        |
|                | 5A, 28VDC, resistive          |        |
| Au overlay Ag  | 2A, 120VAC, resistive         |        |
|                | 1A, 120VAC                    |        |
| Au diffused Ag | 1A, 30VDC                     |        |
|                | 5A, 120VAC, general purpose   |        |
|                | 2.5A, 240VAC, general purpose |        |
|                | 1/10HP, 120/240VAC            |        |
|                | 180VA, 250VAC, pilot duty     |        |
|                | 42VA, 28VDC, pilot duty       |        |

Note: The relay should only carry ≤15A continuously (all poles combined).  
Mechanical endurance 10x10<sup>6</sup> ops.

**Coil Data**

|                                     |                            |
|-------------------------------------|----------------------------|
| Coil voltage range                  | 5 to 240VDC<br>6 to 240VAC |
| Coil insulation system according UL | Class B                    |

**Coil versions, DC coil**

| Coil code | Rated voltage VDC | Operate voltage VDC | Release resistance Ω±10% | Rated coil power mW |
|-----------|-------------------|---------------------|--------------------------|---------------------|
| 5         | 5                 | 3.75                | 32                       | 800                 |
| 6         | 6                 | 4.5                 | 40                       | 900                 |
| 12        | 12                | 9.0                 | 160                      | 900                 |
| 24        | 24                | 18.0                | 690                      | 850                 |
| 48        | 48                | 36.0                | 2600                     | 900                 |
| 110       | 110               | 82.5                | 11000                    | 1100                |

220/240 Use 110V relay with series dropping 5W resistor of 11KΩ

All figures are given for coil without preenergization, at ambient temperature +23°C.

**Coil versions, AC coil**

| Coil code | Rated voltage VAC | Operate voltage VAC | Coil resistance Ω±15% | Rated coil power VA |
|-----------|-------------------|---------------------|-----------------------|---------------------|
| 6         | 6                 | 5.1                 | 10.5                  | 1.2                 |
| 12        | 12                | 10.2                | 43                    | 1.2                 |
| 24        | 24                | 20.4                | 160                   | 1.25                |
| 48        | 48                | 40.8                | 668                   | 1.2                 |
| 120       | 120               | 102.0               | 3900                  | 1.35                |
| 240       | 240               | 204.0               | 12000                 | 1.5                 |

All figures are given for coil without preenergization, at ambient temperature +23°C.

**Insulation Data**

|                               |                      |
|-------------------------------|----------------------|
| Initial dielectric strength   |                      |
| between open contacts         | 1000V <sub>rms</sub> |
| between contact and coil      | 1500V <sub>rms</sub> |
| between adjacent contacts     | 1500V <sub>rms</sub> |
| between coil and frame        | 1500V <sub>rms</sub> |
| Initial insulation resistance |                      |
| between insulated elements    | 100MΩ at 500VDC      |

**Other Data**

|                                      |  |
|--------------------------------------|--|
| Material compliance:                 | EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at <a href="http://www.te.com/customer-support/rohssupportcenter">www.te.com/customer-support/rohssupportcenter</a> |
| Ambient temperature                  | -45°C to 70°C  |
| Category of environmental protection | IEC 61810 RT1 - dust protected   |

**KHA Series Panel Plug-in Relay (Continued)**

**Other Data** (continued)

|                |  |
|----------------|--|
| Terminal type  | solder/plug-in .105" (2.67mm),<br>PCB-tht .112" (2.84mm) |
| Weight         | 45g  |
| Packaging/unit | tray/50 pcs., box/250pcs.                                |

**Accessories**

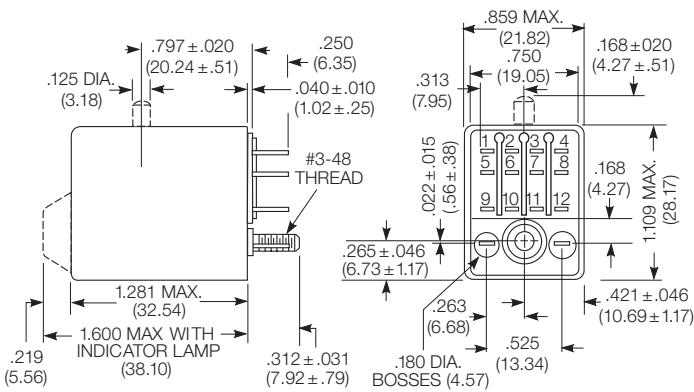
For details see datasheet      Sockets and Accessories, KHA Relays

| Product Code | Description                                |
|--------------|--|
| 27E894       | DIN socket (use 20C426 clip)               |
| 27E166       | Panel/track mount socket (use 20C297 clip) |
| 27E006       | Solder/grounding socket (use 20C217 clip)  |
| 27E007       | PCB/grounding socket (use 20C217 clip)     |

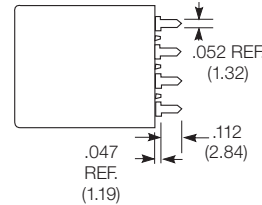
**NOTE:** Relays with contact current <50mA are not recommended for use in sockets.

**Dimensions**

KHAU and KHAX types



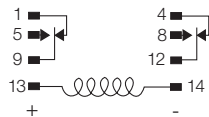
PCB terminals  
KHAE and KHAF types



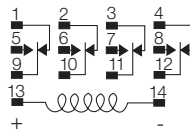
Printed circuit terminal thickness .022 (.558)

**Terminal assignment**

2 form C



4 form C



Polarity shown for LED indicator

**PCB layout**

Bottom view on solder pins  
4 pole version

