

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, 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 |
|----------------|--|--------|
| UL 508 | | |
| Ag | 5A, 120VAC, general purpose 2.5A, 240VAC, general purpose 1/10HP, 120/240VAC 180VA, 250VAC, pilot duty 42VA, 28VDC, pilot duty | |
| AgCdO | 5A, 240VAC, general purpose 5A, 28VDC, resistive 1/10HP, 120/240VAC 180VA, 250VAC, pilot duty 42VA, 28VDC, pilot duty | |
| Au-AgNi | 2A, 120VAC, resistive | |
| Au overlay Ag | 1A, 120VAC 1A, 30VDC | |
| Au diffused Ag | 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 $\leq 15A$ continuously (all poles combined).
 Mechanical endurance 10×10^6 ops.

Coil Data

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

Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance $\Omega \pm 10\%$ | 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 | | 650 | 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 $\Omega \pm 15\%$ | 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 _{rms} |
| between contact and coil | 1500V _{rms} |
| between adjacent contacts | 1500V _{rms} |
| between coil and frame | 1500V _{rms} |

| | |
|--|-----------------|
| 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 www.te.com/customersupport/rohssupportcenter

Ambient temperature -45°C to 70°C

Category of environmental protection IEC 61810

RTI - dust protected

KHA Series Panel Plug-in Relay (Continued)

Other Data (continued)

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

Accessories

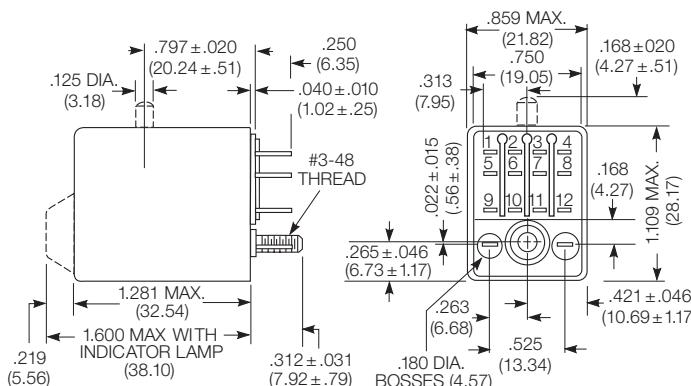
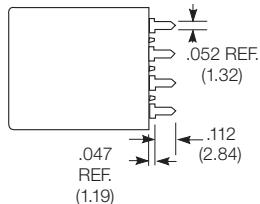
 For details see datasheet [Sockets and Accessories, KHA Relays](#)

| 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

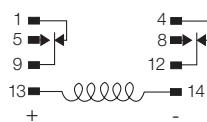
KHAU and KHAX types


 PCB terminals
 KHAE and KHAF types


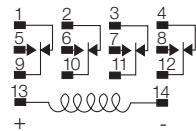
Printed circuit terminal thickness .022 (.558)

Terminal assignment

2 form C



4 form C

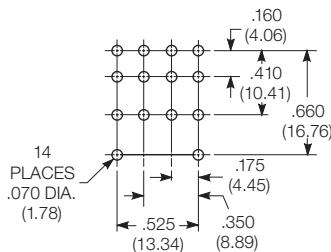


Polarity shown for LED indicator

PCB layout

Bottom view on solder pins

4 pole version



KHA Series Panel Plug-in Relay (Continued)

| Product code structure | Typical product code | KHA | U | -17 | A | 1 | 1 | B | -120 |
|---|----------------------|-----|---|-----|---|---|---|---|------|
| Type | | | | | | | | | |
| KHA General purpose multi-contact relay Note: Some KHA models available in KH construction. Specify KH instead of KHA. | | | | | | | | | |
| Version | | | | | | | | | |
| E Printed circuit terminals, nylon dust cover, contacts rated opposite polarity (UL & CSA) U Solder terminals, clear polycarbonate dust cover, contacts rated same polarity (UL & CSA) F Printed circuit terminals, nylon dust cover, contacts rated same polarity (UL & CSA) X Solder terminals, clear polycarbonate dust cover, contacts rated opposite polarity (UL & CSA) | | | | | | | | | |
| Contact arrangement | | | | | | | | | |
| 11 2 form C (2CO) 17 4 form C (4CO) | | | | | | | | | |
| Coil input | | | | | | | | | |
| A AC D DC | | | | | | | | | |
| Mounting and termination | | | | | | | | | |
| 1 Socket mount, solder terminals on U versions; printed circuit terminals on E versions T Top flange mount, solder terminals on U versions; printed circuit terminals on E versions Note 1: Mounting options with solder terminals and stud on narrow, broad and end side on request | | | | | | | | | |
| Contact material | | | | | | | | | |
| 1 Ag 2 AgCdO 3 Au-AgNi (Note 2) 6 Bifurcated crossbar, Au overlay Ag 8 Au diffused Ag | | | | | | | | | |
| Note 2: contact material code 3 is not available with relay version E | | | | | | | | | |
| Options | | | | | | | | | |
| B Push to test button. (not available on version E relays with 4 form C contacts) N Neon indicator. Only available with version U, 120VAC or 110VDC coils. H Neon indicator and push to test button. Only available with version U, 120VAC or 110VDC coils L LED indicator. Only available with version U, 6-48VAC or VDC coils. M LED indicator and push to test button. Only available with version U, 6-46VAC or VDC coils. | | | | | | | | | |
| Coil voltage | | | | | | | | | |
| Coil code: please refer to coil versions table | | | | | | | | | |

| Product Code | Arrangement | Contact Material | Coil | Terminals | Options | Part Number |
|-----------------|----------------|---------------------------|--------|----------------|-----------------------|-------------|
| KHAU-11A11-120 | 2 form C, 2 CO | Ag | 120VAC | Solder/Plug-in | None | 1-1393122-0 |
| KHAU-11D11-24 | | | 24VDC | | | 1-1393122-5 |
| KHAE-17D12-24 | 4 form C, 4 CO | AgCdO | | PCB | | 1393122-1 |
| KHAU-17A11-12 | | Ag | 12VAC | Solder/Plug-in | | 1-1393122-9 |
| KHAU-17A11-24 | | | 24VAC | Solder | | 2-1393122-1 |
| KHAU-17A11-120 | | | 120VAC | | Indicator | 2-1393122-0 |
| KHAU-17A11N-120 | | | | | None | 2-1393122-6 |
| KHAU-17A12-120 | | AgCdO | | | | 2-1393122-8 |
| KHAU-17A13-120 | | Au-Ag-Ni | | | | 3-1393122-6 |
| KHAU-17A16-24 | | Bifurcated, Au overlay Ag | 24VAC | | | 3-1393122-8 |
| KHAU-17A16-120 | | Ag | 120VAC | | | 3-1393122-7 |
| KHAU-17A18-120 | | Au diffused Ag | | | | 3-1393122-9 |
| KHAU-17D11-6 | | Ag | 6VDC | | | 4-1393122-7 |
| KHAU-17D11-12 | | | 12VDC | | | 4-1393122-3 |
| KHAU-17D11-24 | | | 24VDC | | | 4-1393122-4 |
| KHAU-17D11-48 | | | 48VDC | | | 4-1393122-5 |
| KHAU-17D11-110 | | | 110VDC | | | 4-1393122-2 |
| KHAU-17D12-12 | | AgCdO | 12VDC | | | 5-1393122-5 |
| KHAU-17D12-24 | | | 24VDC | | | 5-1393122-7 |
| KHAU-17D12-48 | | | 48VDC | | | 5-1393122-8 |
| KHAU-17D12-110 | | | 110VDC | | | 5-1393122-4 |
| KHAU-17D16-12 | | Bifurcated, Au overlay Ag | 12VDC | | | 7-1393122-0 |
| KHAU-17D16-24 | | Ag | 24VDC | | | 7-1393122-1 |
| KHU-17A11N-120 | | | 120VAC | | Indicator, Old Const. | 2-1393123-8 |
| KHU-17D11-12 | | | 12VDC | | Old Construction | 4-1393123-0 |
| KHU-17D12-24 | | AgCdO | 24VDC | | | 4-1393123-8 |

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[TE Connectivity:](#)

[KHAU-17D12M-24](#)