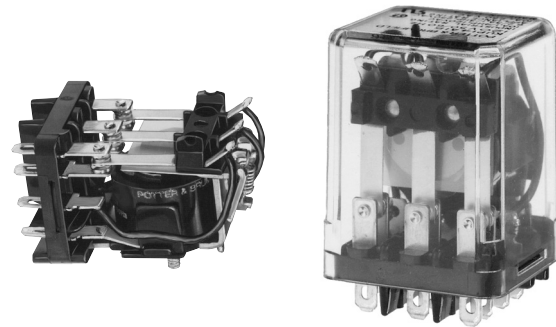


KUP Series Panel Plug-in Relay

- AC coils: 5-240VAC, 50/60 Hz.; DC coils 6-110VDC
- Contact arrangements of 1 form X, 1-3 form A and 1-4 form C
- Wide selection of termination and mounting styles
- PC terminals available
- Push-to-test button and indicator lamp options
- Sockets available for panel, DIN rail or PCB mounting
- Class B coil insulation



Typical applications

Vending, commercial sewing, tool/die equipment, robotics, timers, welding, HVAC, medical, power generators

Approvals

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

Contact Data

| | | | |
|-------------------------------|--|--------------|--------------|
| Contact arrangement | 1 Form X (NO-DM); 1-3 Form A (NO); 1-4 Form C (CO) | | |
| Rated voltage | 240VAC | | |
| Rated current | 10A | | |
| Contact material | Ag | AgCdO | AgSnOInO |
| Min. recommended contact load | 100mA, 12VDC | 300mA, 12VDC | 300mA, 12VDC |
| Frequency of operation | 360 ops./hr | 360 ops./hr | 360 ops./hr |
| Operate/releases time max. | 15/10ms | | |
| Bounce time max. | 17ms | | |

Contact ratings

| Type | Load | Cycles |
|------------------------|------------------------|--------------------|
| UL 508 | | |
| Ag, 1, 2 and 3 pole | | |
| | 5A, 240VAC | |
| | 5A, 28VDC | |
| | 1/6HP, 120VAC | |
| | 2.5A, 120VAC, tungsten | |
| | 1/3HP, 240VAC | |
| | 0.5A, 120VDC | |
| | 5FLA, 15LRA, 250VAC | |
| Ag, 4 pole | | |
| | 5A, 240VAC | |
| | 2.5A, 120VAC, tungsten | |
| | 0.5A, 120VDC | |
| | 1/6HP, 120VAC | |
| | 1/3HP, 240VAC | |
| AgCdO, 1, 2 and 3 pole | | |
| | 10A, 240VAC | |
| | 10A, 32VDC | |
| | 5FLA, 15LRA, 250VAC | |
| | 1/3HP, 120VAC | |
| | 5A, 120VAC, tungsten | |
| | 1/2HP, 250VAC | |
| | 0.5A, 125VDC | |
| | 10FLA, 40LRA, 125VAC | |
| | 3A, 600VAC | |
| | 1/2HP, 480VAC | |
| | 1/2HP, 600VAC | |
| | 1HP, 480 VAC, 3 phase | |
| AgCdO, 4 pole | | |
| | 10A, 240VAC | |
| | 5A, 120VAC, tungsten | |
| | 0.5A, 120VDC | |
| | 10A, 28VDC, resistive | |
| | 10FLA, 30LRA, 125VAC | |
| | 5FLA, 15LRA, 250 VAC | 30x10 ³ |
| | 125VA, 250 VAC | |

| | | |
|--|-------------------------|---------------------|
| AgCdO, 4 pole (continued) | | |
| | 1/3HP, 120VAC | |
| | 1/2HP, 250VAC | |
| Total load not to exceed 30 A, 28 VDC, 120 VAC and 20 A, 250 VAC | | |
| AgSnOInO | | |
| | 10A, 277VAC, pf = 0.8 | 100x10 ³ |
| Mechanical endurance | 10x10 ⁶ ops. | |

Coil Data

| | |
|-------------------------------------|----------------------------|
| Coil voltage range | 5 to 110VDC 6 to 240VAC |
| Coil insulation system according UL | Class B |

Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Coil resistance Ω±10% | Rated power W |
|-----------------|-------------------|---------------------|-----------------------|---------------|
| 1, 2 and 3 pole | | | | |
| 5 | 5 | 3.75 | 21 | 1.2 |
| 6 | 6 | 4.5 | 32.1 | 1.125 |
| 12 | 12 | 9.0 | 120 | 1.2 |
| 24 | 24 | 18.0 | 472 | 1.25 |
| 48 | 48 | 36.0 | 1800 | 1.3 |
| 110 | 110 | 82.5 | 10000 | 1.25 |
| 4 pole | | | | |
| 5 | 5 | 3.75 | 14 | 1.8 |
| 6 | 6 | 4.5 | 20 | 1.8 |
| 12 | 12 | 9.0 | 80 | 1.8 |
| 24 | 24 | 18.0 | 320 | 1.8 |
| 48 | 48 | 36.0 | 1250 | 1.85 |
| 110 | 110 | 82.5 | 6720 | 1.8 |

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 power VA |
|--------------|-------------------|---------------------|-----------------------|----------------|
| 1 and 2 pole | | | | |
| 6 | 6 | 5.1 | 6 | 2.0 |
| 12 | 12 | 10.2 | 24 | 2.0 |
| 24 | 24 | 20.4 | 85 | 2.0 |
| 120 | 120 | 102.0 | 2250 | 2.1 |
| 240 | 240 | 204.0 | 9110 | 2.1 |
| 3 and 4 pole | | | | |
| 6 | 6 | 5.1 | 4.2 | 2.8 |
| 12 | 12 | 10.2 | 18 | 2.8 |
| 24 | 24 | 20.4 | 72 | 2.8 |
| 120 | 120 | 102.0 | 1700 | 2.9 |
| 240 | 240 | 204.0 | 7200 | 2.9 |

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

KUP Series Panel Plug-in Relay (Continued)

Insulation Data

| | |
|-------------------------------|----------------------|
| Initial dielectric strength | |
| between open contacts | 1200V _{rms} |
| between contact and coil | 2200V _{rms} |
| between adjacent contacts | 2200V _{rms} |
| Initial insulation resistance | |
| between insulated elements | 100MΩ, 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

| | |
|---------|---|
| DC coil | Enclosed relays, 4 pole: -45°C to 50°C |
| | Enclosed relays, 1-3 pole: -45°C to 70°C |
| | Open relays: 15°C higher maximum |
| AC coil | Enclosed relays, 3 and 4 pole: -45°C to +45°C |
| | Enclosed relays, 1 and 2 pole: -45°C to +55°C |
| | Open relays: 15°C higher maximum |

Maximum allowable ambient temperature vs voltage (KUP enclosed)



Dimensions

KU bracket type



KU stud type



Seated Heights For KU (open) Relays

- 1.391" (35.33mm) for #6-32 stud with .218" (5.54mm) locating tab.
- 1.52" (38.6mm) for bracket with 2-#6 32 tapped holes.
- 1.282" (32.56mm) for #6-32 tapped core with .125" (3.18mm) or .218" (5.54mm) locating tab.
- 2.046" (51.97mm) for relay with printed circuit terminals.

STUD TYPE also available with .125" (3.18mm) tab, as well as without stud and locating tab. Models without stud have core tapped #6-32 THREAD, .25" (6.4mm) minimum depth.

- *Dimensions with .250" (6.35mm) terminals.
- ** Dimensions with .110" (2.79mm) or .205" (5.21mm) terminals.
- *** Dimensions with .187" (4.75mm) terminals.

Relay front diagrams

Models with 6.35mm (.250) QC terminals



1-3 pole models with all other terminals



4 pole models



Other Data (continued)

| | |
|--------------------------------------|--|
| Category of environmental protection | |
| IEC 61810 | RT0 - open relay; RTI - dust protected |
| Terminal type | |
| | Quick connects (QC), .187, .205 or .250; PCB-THT |
| Terminal retention, push force | |
| QC .205 | 17 lbs for 3s |
| QC .187, QC .250, PCB | 25 lbs for 3s |
| Weight | |
| | 85g |
| Packaging/unit | |
| | tray/25 pcs., box/150pcs. |

Accessories

For details see datasheet Sockets and Accessories, KUP Relays

| Product Code | Description |
|--------------|--|
| 27E893 | DIN socket (use 20C318 clip) |
| 27E121 | Track mount socket (use 20C314 clips) |
| 27E043 | Chassis mount/solder eyelet socket (use 20C254 clip) |
| 27E046 | Chassis mount/PCB socket (use 20C254 clip) |
| 27E067 | Chassis mount/quick connect socket (use 20C254 clip) |
| 27E396 | Snap-in/quick connect socket (use 20C254 clip) |

KUP Series Panel Plug-in Relay (Continued)

Dimensions (continued)

KUP plain case

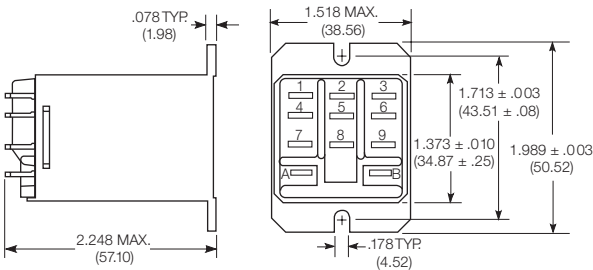


X Is For Terminal Dimensions.
See Terminal Drawings.

KUP core / stud mount case



KUP top flange case



† Dimensions with .250" (6.35mm) terminals.
‡ Dimensions with .187" (4.75mm and .205" 5.21mm) terminals.

*Dimensions with .250" (6.35mm) terminals.
** Dimensions with .110" (2.79mm) or .205" (5.21mm) terminals.
*** Dimensions with .187" (4.75mm) terminals.

KUP bracket mount case



KUP stud on end case



Terminal dimensions

4.75mm (.187) quick connect



5.21mm (.205) quick connect



1.19mm (.047) printed circuit



6.35mm (.250) quick connect



Terminal assignment

1 Form X



1 Form C

1 Form A (delete 2)



2 Form C

2 Form A (delete 1 & 3)



3 Form C

3 Form A (delete 1, 2 & 3)



4 Form C



KUP Series Panel Plug-in Relay (Continued)

PCB layout

Bottom view on solder pins

1 form X version



3 pole version
(Omit unnecessary holes for form A and 2 pole types)



4 pole version



Product code structure

Typical product code **KUP -14 A 1 5 -120**

| Type | KU Open style relay | KUP Enclosed relay |
|---------------------|---|--|
| Contact arrangement | 1 1 form A (1 NO) 7 2 form A (2 NO) 14 3 form C (3 CO) | 3 1 form X (1 NO-DM) 11 2 form C (2 CO) 17 4 form C (4 CO) 5 1 form C (1 CO) 12 3 form A (3 NO) |
| Coil Input | A AC, 50/60Hz | D DC |

Mounting and options

KU

- 1** #6-32 mounting stud, 5.54mm (.218in) locating tab
- 3** #6-32 tapped core, 3.18mm (.125in) locating tab
- 4** #6-32 tapped core, 5.54mm (.218in) locating tab
- 5** #6-32 tapped core, no locating tab

KUP

- 1** Socket mount (plain) case
- 2** Socket mount (plain) case with push-to-test button 1)
- 3** Socket mount (plain) case with indicator lamp 2)
- 4** Socket mount (plain) case with indicator lamp and push-to-test button 1) 2)
- 5** Bracket mount case
- A** Plain case with #6-32 stud and locating tab
- E** Plain case with #6-32 tapped core and locating tab
- T** Top flange case 1)

1) Not available with four pole models (Contact arrangement 17).

2) Indicator lamps are available on models with the following coils: 6-24VAC and VDC, 110VDC and 120-240VAC. Only models with 120-240VAC coils are UL recognized.

Terminal and contact material

1 and 2 pole models

- | | |
|--|---|
| 1 4.75mm (.187in) quick connect/solder; Ag, 5A | 3 1.19mm (.047in) PCB; Ag, 5A |
| 5 4.75mm (.187in) quick connect/solder; AgCdO, 10A | 7 1.19mm (.047in) PCB; AgCdO, 10A |
| J 6.35mm (.250in) quick connect/solder; Ag, 5A | K 6.35mm (.250in) quick connect/solder; AgCdO, 10A |
| P 4.75mm (.187in) quick connect/solder; AgSnOInO, 10A | S 1.19mm (.047in) PCB, AgSnOInO; 10A |
| W 6.35mm (.250in) quick connect/solder; AgSnOInO, 10A | |

3 pole models

- | | |
|--|---|
| 1 4.75mm (.187in) quick connect/solder; Ag, 5A | 3 1.19mm (.047in) PCB; Ag, 5A |
| 5 4.75mm (.187in) quick connect/solder; AgCdO, 10A | 7 1.19mm (.047in) PCB; AgCdO, 10A |
| P 4.75mm (.187in) quick connect/solder; AgSnOInO, 10A | S 1.19mm (.047in) PCB, AgSnOInO; 10A |

4 pole models

- | | |
|---|--|
| 1 4.75mm (.187in) quick connect/solder; Ag, 5A 3) | 3 1.19mm (.047in) PCB; Ag, 5A |
| 4 2.79mm (.110in) quick connect/solder; Ag, 5A | 5 4.75mm (.187in) quick connect/solder; AgCdO, 10A 3) |
| 7 1.19mm (.047in) PCB; AgCdO, 10A | 9 2.79mm (.110in) quick connect/solder; AgCdO, 10A |
| P 4.75mm (.187in) quick connect/solder; AgSnOInO, 10A 3) | S 1.19mm (.047in) PCB, AgSnOInO; 10A |
| U 2.79mm (.110in) quick connect/solder; AgSnOInO, 10A 2) | |

3) 4 pole KUP with 4.75mm (.187in) terminals will not plug into sockets. Must use 2.79mm (.110) terminals for socket mounting.

Au flashed contact option

- Leave Blank** No Au flashing on contacts
- F** Optional Au flashing on contacts

Coil voltage

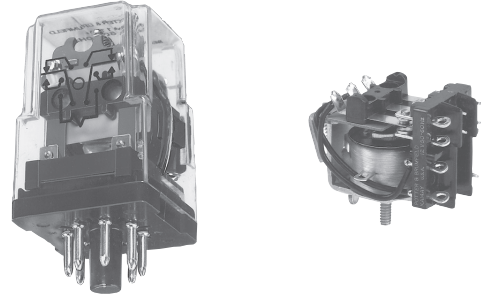
Coil code: please refer to coil versions table

KUP Series Panel Plug-in Relay (Continued)

| Product Code | Arrangement | Material | Coil | Terminals | Mounting | Part Number | |
|----------------|----------------|-------------------|--------|-------------------------------------|---|---|--------------------------------|
| KUP-5A15-24 | 1 form C, 1 CO | AgCdO | 24VAC | 4.75mm (.187in) QC | Socket mount, plain case | 6-1393118-0 | |
| KUP-5A15-120 | | | 120VAC | | | | 5-1393119-9 |
| KUP-5A15-240 | | | 240VAC | | | 6-1393118-1 | |
| KUP-5A55-120 | | | 120VAC | | Bracket mount case | 6-1393118-3 | |
| KUP-5D15-12 | | | 12VDC | | | Socket mount, plain case | 6-1393118-6 |
| KUP-5D15-24 | | | 24VDC | | | 6-1393118-7 | |
| KUP-5D55-12 | | | 12VDC | | Bracket mount case | 7-1393118-0 | |
| KUP-5D55-24 | | | 24VDC | | | | 7-1393118-1 |
| KUP-11A11-120 | 2 form C, 2 CO | Ag | 120VAC | | 4.75mm (.187in) QC | Socket mount, plain case | 1-1393117-7 |
| KUP-11A15-12 | | AgCdO | 12VDC | | | | |
| KUP-11A15-24 | | | 24VAC | | | | 2-1393117-1 |
| KUP-11A15-120 | | | 120VAC | | | | 1-1393117-9 |
| KUP-11A15-240 | | | 240VAC | | | | 2-1393117-2 |
| KUP-11A35-120 | | | 120VAC | | | Socket mount case w/ indicator lamp | 2-1393117-5 |
| KUP-11A55-24 | | | 24VAC | Bracket mount case | | | 3-1393117-0 |
| KUP-11A55-120 | | | 120VAC | | | 2-1393117-9 | |
| KUP-11AT5-120 | | | | Top flange case | | 1-1393117-4 | |
| KUP-11D11-24 | | Ag | 24VDC | | | Socket mount, plain case | 4-1393117-2 |
| KUP-11D15-5 | | AgCdO | 5VDC | | | 4-1393117-8 | |
| KUP-11D15-12 | | | 12VDC | | | 4-1393117-4 | |
| KUP-11D15-24 | | | 24VDC | | | 4-1393117-5 | |
| KUP-11D15-36 | | | 36VDC | | | 4-1393117-6 | |
| KUP-11D15-110 | | | 110VDC | | 4-1393117-3 | | |
| KUP-11D35-24 | | | 24VDC | Socket mount case w/ indicator lamp | 5-1393117-3 | | |
| KUP-11D55-6 | | | 6VDC | | Bracket mount case | 6-1393117-0 | |
| KUP-11D55-12 | | | 12VDC | | 5-1393117-6 | | |
| KUP-11D55-24 | | | 24VDC | | 5-1393117-8 | | |
| KUP-11D55-48 | | | 48VDC | | 5-1393117-9 | | |
| KUP-11D55-110 | | | 110VDC | | 5-1393117-5 | | |
| KUP-14A11-120 | 3 form C, 3 CO | Ag | 120VAC | 4.75mm (.187in) QC | Socket mount, plain case | 7-1393117-3 | |
| KUP-14A15-12 | | AgCdO | 12VAC | | | | 7-1393117-7 |
| KUP-14A15-24 | | | 24VAC | | | 7-1393117-9 | |
| KUP-14A15-120 | | | 120VAC | | | 7-1393117-8 | |
| KUP-14A15-240 | | | 240VAC | | | 8-1393117-0 | |
| KUP-14A25-120 | | | 120VAC | | Socket mount w/ test button | 8-1393117-3 | |
| KUP-14A35-120 | | | | | | Socket mount w/ indicator lamp | 8-1393117-7 |
| KUP-14A35-240 | | | 240VAC | | | 8-1393117-9 | |
| KUP-14A35F-120 | | AgCdO w/ Au flash | 120VAC | | | 9-1393117-0 | |
| KUP-14A45-120 | | AgCdO | | | Socket mount w/ test button, indicator lamp | 9-1393117-4 | |
| KUP-14A55-24 | | | 24VAC | | | Bracket mount case | 1393118-2 |
| KUP-14A55-120 | | | 120VAC | | | 9-1393117-9 | |
| KUP-14A55-240 | | | 240VAC | | | 1393118-3 | |
| KUP-14D11-24 | | Ag | 24VDC | | 4.75mm (.187in) QC | Socket mount, plain case | 1-1393118-0 |
| KUP-14D15-6 | | AgCdO | 6VDC | | | | |
| KUP-14D15-12 | | | 12VDC | | | | 1-1393118-3 |
| KUP-14D15-24 | | | 24VDC | | | | 1-1393118-4 |
| KUP-14D15-48 | | | 48VDC | | | | 1-1393118-7 |
| KUP-14D15-110 | | | 110VDC | | | | 1-1393118-2 |
| KUP-14D25-24 | | | 24VDC | | | Socket mount w/ test button | 2-1393118-3 |
| KUP-14D35-24 | | | | | | | Socket mount w/ indicator lamp |
| KUP-14D35-110 | | | 110VDC | | | | 2-1393118-6 |
| KUP-14D35F-110 | | AgCdO w/ Au flash | | | | | 2-1393118-9 |
| KUP-14D45-110 | | AgCdO | | | | Socket mount w/ test button, indicator lamp | 3-1393118-1 |
| KUP-14D55-12 | | | 12VDC | | | | Bracket mount case |
| KUP-14D55-24 | | | 24VDC | | | | 3-1393118-8 |
| KUP-17A19-120 | 4 form C, 4 CO | | 120VAC | | | 2.79mm (.110in) QC | Socket mount, plain case |
| KUP-17A55-24 | | | 24VAC | | Bracket mount case | | |
| KUP-17D19-24 | | | 24VDC | | Socket mount, plain case | | 5-1393118-0 |
| KUP-17D55-24 | | | 24VDC | | | | Bracket mount case |

KRPA Series Panel Plug-in Relay

- 5 to 10A current capability
- Contact arrangements of 1, 2 and 3 form C (CO)
- Octal type termination for quick installation
- Indicator lamp available on certain models



Typical applications
Baggage handling, lighting, inspection equipment, marine.

Approvals

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

Contact Data

| | | |
|-------------------------------|---|---------------|
| Contact arrangement | 1 form C (CO), 2 form C (CO), 3 form C (CO) | |
| Rated voltage | 240VAC | |
| Rated current | 10A | |
| Contact material | Ag | AgCdO |
| Min. recommended contact load | 100mA, 12VDC | 300mA, 12VDC |
| Frequency of operation | 360 ops./hour | 360 ops./hour |

Contact ratings

| Type | Load | Cycles |
|----------------------|----------------|-------------------------|
| UL 508 | | |
| KRPA, Ag | 5A, 120VAC | 100x10 ³ |
| | 3A, 240VAC | 100x10 ³ |
| | 1/10HP, 120VAC | 1x10 ³ |
| | 1/6HP, 240VAC | 1x10 ³ |
| KRPA, AgCdO | 10A, 240VAC | 100x10 ³ |
| | 1/3HP, 120VAC | 1x10 ³ |
| | 1/2HP, 240VAC | 1x10 ³ |
| KA, Ag | 5A, 120VAC | |
| | 3A, 240VAC | |
| | 1/10HP, 120VAC | |
| | 1/6HP, 240VAC | |
| KA, AgCdO | 10A, 120VAC | |
| | 6A, 240VAC | |
| | 1/6HP, 120VAC | |
| | 1/3HP, 240VAC | |
| Mechanical endurance | | 10x10 ⁶ ops. |

Coil Data

| | |
|-------------------------------------|----------------------------|
| Coil voltage range | 6 to 220VDC 6 to 240VAC |
| Coil insulation system according UL | Class B |

Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Coil resistance Ω±10% | Rated coil power W |
|-----------|-------------------|---|-----------------------|--------------------|
| 6 | 6 | 4.5 | 32 | 1.15 |
| 12 | 12 | 9.0 | 120 | 1.2 |
| 24 | 24 | 18.0 | 472 | 1.25 |
| 48 | 48 | 36.0 | 1800 | 1.3 |
| 110 | 110 | 82.5 | 10000 | 1.2 |
| - | 220 | Use 110V relay with 10KΩ, 5W resistor in series | | |

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

Coil Data (continued)

Coil versions, AC coil

| Coil code | Rated voltage VAC | Operate voltage VAC | Coil resistance Ω±15% | Rated coil power VA |
|-----------|-------------------|---------------------|-----------------------|---------------------|
| 6 | 6 | 5.1 | 6 | 2.01 |
| 12 | 12 | 10.2 | 24 | 2.02 |
| 24 | 24 | 20.4 | 85 | 2.02 |
| 120 | 120 | 102.0 | 2250 | 2.1 |
| 240 | 240 | 204.0 | 9110 | 2.1 |

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 | | 1000V _{rms} |
| between adjacent contacts | | 1000V _{rms} |
| Initial insulation resistance | | |
| between insulated elements | | KRPA: 1000MΩ KA: 100MΩ |

Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter

| | | |
|--------------------------------------|--|--|
| Ambient temperature | | |
| DC coil | | KRPA: -45°C to 70°C KA: -45°C to 85°C |
| AC coil | | KRPA: -45°C to 55°C KA: -45°C to 70°C |
| Category of environmental protection | | |
| IEC 61810 | | RT1 - dust protected KRPA and RTO - open style KA |
| Terminal type | | KRPA: 8- or 11-pin octal-type plug KA: solder terminals |
| Weight | | 85g |
| Packaging/unit | | tray/25 pcs., box/150pcs. |

Accessories

For details see datasheet Sockets and Accessories, KRPA Relays

| Product Code | Description |
|--------------|---|
| 27E891 | Two pole DIN socket (use 20C318 clip) |
| 27E892 | Three pole DIN socket (use 20C318 clip) |
| 27E122 | Two pole track mount socket (use 20C318 clip) |
| 27E123 | Three pole track mount socket (use 20C318 clip) |

KRPA Series Panel Plug-in Relay (Continued)

| Product Code | Arrangement | Contact Material | Coil | Option | Part Number | | |
|---------------|----------------|------------------|-----------|-------------|-------------|-------------|-------------|
| KA-5AG-120 | 1 form C, 1 CO | AgCdO | 120VAC | Open style | 7-1393099-1 | | |
| KA-5AY-120 | | Ag | | | 7-1393099-3 | | |
| KA-5DG-6 | | AgCdO | | | 6VDC | 7-1393099-9 | |
| KA-5DG-12 | | | | | 12VDC | 7-1393099-7 | |
| KA-5DG-110 | 2 form C, 2 CO | | 110VDC | | 7-1393099-6 | | |
| KA-11AG-120 | | | 120VAC | | 3-1393099-6 | | |
| KA-11AY-6 | | Ag | 6VAC | | 4-1393099-1 | | |
| KA-11AY-24 | | | 24VAC | | 4-1393099-0 | | |
| KA-11AY-120 | | | 120VAC | | 3-1393099-9 | | |
| KA-11DG-12 | | AgCdO | 12VDC | | 4-1393099-3 | | |
| KA-11DG-24 | | | 24VDC | | 4-1393099-5 | | |
| KA-11DG-110 | | | 110VDC | | 4-1393099-2 | | |
| KA-14AG-120 | | 3 form C, 3 CO | | 120VAC | | 5-1393099-0 | |
| KA-14AY-120 | | | Ag | | | 5-1393099-4 | |
| KA-14DG-24 | AgCdO | | 24VDC | | 5-1393099-7 | | |
| KA-14DG-110 | | | 110VDC | | 5-1393099-5 | | |
| KRPA-5AG-24 | 1 form C, 1 CO | | | 24VAC | None | 9-1393104-9 | |
| KRPA-5AG-120 | | | | 120VAC | | 9-1393104-8 | |
| KRPA-5DG-6 | | | 6VDC | 1393105-5 | | | |
| KRPA-5DG-12 | | | 12VDC | 1393105-3 | | | |
| KRPA-5DG-24 | | | 24VDC | 1393105-4 | | | |
| KRPA-5DY-12 | | Ag | 12VDC | | | 1393105-6 | |
| KRPA-5DY-24 | | | 24VDC | | | 1393105-7 | |
| KRPA-11AG-6 | | 2 form C, 2 CO | AgCdO | 6VAC | | | 2-1393104-8 |
| KRPA-11AG-12 | | | | 12VAC | | | 2-1393104-4 |
| KRPA-11AG-24 | | | | 24VAC | | | 1-1393105-2 |
| KRPA-11AG-120 | | | 120VAC | | 2-1393104-5 | | |
| KRPA-11AG-240 | | | 240VAC | | 2-1393104-7 | | |
| KRPA-11AN-12 | | | 12VAC | Indicator | 3-1393104-1 | | |
| KRPA-11AN-24 | | | 24VAC | | 3-1393104-3 | | |
| KRPA-11AN-120 | | | 120VAC | | 3-1393104-2 | | |
| KRPA-11AN-240 | | | 240VAC | | 3-1393104-4 | | |
| KRPA-11AY-6 | Ag | | AgCdO | 6VAC | None | 3-1393104-9 | |
| KRPA-11AY-12 | | 12VAC | | 3-1393104-5 | | | |
| KRPA-11AY-24 | | 24VAC | | 3-1393104-7 | | | |
| KRPA-11AY-120 | | 120VAC | | 3-1393104-6 | | | |
| KRPA-11AY-240 | | 240VAC | | 3-1393104-8 | | | |
| KRPA-11DG-6 | | | | 6VDC | | | 4-1393104-7 |
| KRPA-11DG-12 | | | | 12VDC | | | 4-1393104-3 |
| KRPA-11DG-24 | | | | 24VDC | | | 4-1393104-5 |
| KRPA-11DG-48 | | | | 48VDC | | | 4-1393104-6 |
| KRPA-11DG-110 | | | | 110VDC | | | 4-1393104-2 |
| KRPA-11DG-125 | | 125VDC | | 4-1393104-4 | | | |
| KRPA-11DG-24 | | 24VDC | | 4-1393104-5 | | | |
| KRPA-11DG-48 | | 48VDC | | 4-1393104-6 | | | |
| KRPA-11DN-12 | | 12VDC | Indicator | 5-1393104-0 | | | |
| KRPA-11DN-24 | | 24VDC | | 5-1393104-1 | | | |
| KRPA-11DN-110 | | 110VDC | | 4-1393104-9 | | | |
| KRPA-11DY-12 | Ag | AgCdO | 12VDC | None | 5-1393104-6 | | |
| KRPA-11DY-24 | | | 24VDC | | 5-1393104-7 | | |
| KRPA-14AG-12 | 3 form C, 3 CO | AgCdO | 12VAC | | 6-1393104-4 | | |
| KRPA-14AG-24 | | | 24VAC | | 6-1393104-7 | | |
| KRPA-14AG-120 | | | 120VAC | | 6-1393104-5 | | |
| KRPA-14AG-240 | | | 240VAC | | 6-1393104-8 | | |
| KRPA-14AN-24 | | | 24VAC | Indicator | 7-1393104-4 | | |
| KRPA-14AN-120 | | | 120VAC | | 7-1393104-3 | | |
| KRPA-14AN-240 | | | 240VAC | | 7-1393104-5 | | |
| KRPA-14AY-24 | | | Ag | AgCdO | 24VAC | None | 7-1393104-8 |
| KRPA-14AY-120 | | | | | 120VAC | | 7-1393104-7 |
| KRPA-14AY-240 | | | | | 240VAC | | 7-1393104-9 |
| KRPA-14DG-12 | AgCdO | AgCdO | 12VDC | | 8-1393104-2 | | |
| KRPA-14DG-24 | | | 24VDC | | 8-1393104-4 | | |
| KRPA-14DG-48 | | | 48VDC | | 8-1393104-5 | | |
| KRPA-14DG-110 | | | 110VDC | | 8-1393104-1 | | |
| KRPA-14DG-125 | | | 125VDC | | 8-1393104-3 | | |
| KRPA-14DN-24 | | | | 24VDC | Indicator | 9-1393104-0 | |
| KRPA-14DY-24 | | | Ag | | | None | 9-1393104-3 |

T92 Series Two-pole 30A PCB or Panel Mount Relay

- 40A, 2 form A (NO) and 2 form C (CO) switching capability
- Designed to control compressor loads to 3.5 tons, 110LRA / 25.3FLA
- Meets requirements of UL 508 and UL 873 spacings - 8mm through air, 9.5mm over surface
- Meets requirements of VDE 8mm spacing, 4kV dielectric coil-to-contact
- Meets requirements of UL Class F construction
- UL approved for 600VAC switching (1.5HP)
- New screw terminal version (consult factory for availability, ratings)

Typical applications

HVAC, residential / commercial appliances, industrial controls.

Approvals

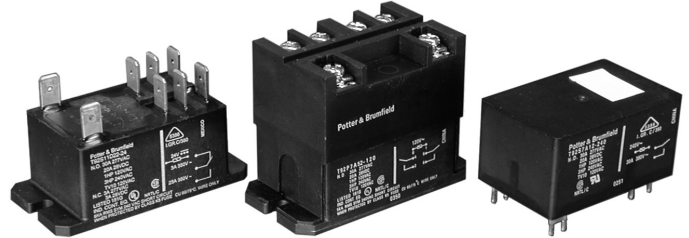
UL E22575 (Recognized and Listed); CSA LR48471; VDE 40019600
Technical data of approved types on request.

Contact Data

| | |
|---|-------------------------------|
| Contact arrangement | 2 form A (NO), 2 form C (CO) |
| Rated voltage | 277VAC |
| Max. switching voltage | 600VAC |
| Rated current | 30A NO; 3A NC |
| Limiting continuous current | 40A NO; 3A NC |
| Limiting making current | 40A NO; 3A NC |
| Limiting breaking current | 40A NO; 3A NC |
| Contact material | AgSnOInO, AgCdO |
| Min. recommended contact load | 500ma (NO)/ 100ma (NC), 12VAC |
| Frequency of operation, with load | 360hr |
| Operate/release time max., including bounce | 25/25ms |
| Initial contact resistance | < 100 mΩ at 6VDC 1A |

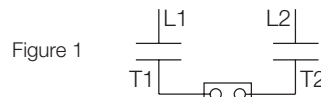
Contact ratings ¹⁾

| Type | Load | Cycles |
|----------------------------|--|---------------------|
| UL508 | | |
| AgCdO | | |
| NO | 40A, 277VAC, resistive | 6x10 ³ |
| NO | 30A, 120/277VAC, resistive | 100x10 ³ |
| NO | 10A, 600VAC, general purpose | 100x10 ³ |
| NO | 1HP, 120VAC | 100x10 ³ |
| NO | 3HP, 240VAC | 1x10 ³ |
| NO | 1.5HP, 480 or 600VAC | 100x10 ³ |
| NO | 110LRA/25.3FLA, 240VAC (DC coil only) | 100x10 ³ |
| NO | 60LRA/14FLA, 240VAC (AC coil only) | 100x10 ³ |
| NO | 3A, 240VAC, pilot duty | 100x10 ³ |
| NO | 20A, 28VDC, resistive | 100x10 ³ |
| NO | TV10, 120VAC | 100x10 ³ |
| NC | 3A, 277VAC | 100x10 ³ |
| NC | 2A, 480VAC | 100x10 ³ |
| NC | 1A, 600VAC | 100x10 ³ |
| AgSnOInO | | |
| NO | 40A, 240VAC, resistive 85°C | 50x10 ³ |
| NO | 30A, 120/277VAC, resistive (DC coil only) | 200x10 ³ |
| NO | 30A, 120/277VAC, resistive (AC coil only) | 100x10 ³ |
| NO | 20A, 480VAC, resistive | 100x10 ³ |
| NO | 1.5HP, 120VAC, 2 pole making/breaking (Fig. 1) | 100x10 ³ |
| NO | 3HP, 240VAC, 3 phase (DC coil only) | 100x10 ³ |
| NO | 3HP, 480VAC, 3 phase (DC coil only) | 100x10 ³ |
| NO | 2HP, 600VAC, 3 phase (DC coil only) | 100x10 ³ |
| VDE | | |
| AgCdO, flange mount relays | | |
| NO | 20A, 400VAC | 100x10 ³ |
| NC | 3A, 400VAC | 30x10 ³ |
| CO | 20A NO / 3A NC, 400VAC | 30x10 ³ |
| AgCdO, PC mount relays | | |
| NO | 30A, 400VAC | 100x10 ³ |
| NC | 3A, 400VAC | 30x10 ³ |
| CO | 30A NO / 3A NC, 400VAC | 30x10 ³ |

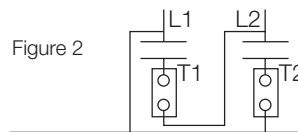


Contact ratings ¹⁾ (continued)

ARI 780-86 Endurance Test (section 6.6):
HVAC Definite Purpose Contactor Standard
Normally Open Contacts
Single Phase/Two Pole (Both poles together switching a single load)
110 LRA, 25.3 FLA, 200K operations (DC Coil)



Single Phase Per Pole (Single load per pole)
110 LRA, 18 FLA, 200K operations (DC Coil).
60 LRA, 14 FLA, 200K operations (AC Coil).



¹⁾ Contact ratings at 25°C (unless otherwise noted) with relay properly vented.
FLA, LRA ratings are compatible with 3.5 ton compressor applications.

Mechanical endurance 10x10⁶ ops.

Coil Data

| | |
|-------------------------------------|---------------------------|
| Coil voltage range | 5 to 110VDC; 12 to 240VAC |
| Max. coil power | 1.7W; 4.0VA |
| Max. coil temperature | 155°C |
| Coil insulation system according UL | Class F |

Coil versions, DC coil (D type)

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% | Rated coil power W |
|-----------|-------------------|---------------------|---------------------|-----------------------|--------------------|
| 5 | 5 | 3.75 | 0.6 | 14.9 | 1.7 |
| 6 | 6 | 4.5 | 0.6 | 22 | 1.7 |
| 9 | 9 | 6.75 | 0.9 | 48 | 1.7 |
| 12 | 12 | 9 | 1.2 | 86 | 1.7 |
| 18 | 18 | 13.5 | 1.8 | 197 | 1.7 |
| 22 | 22 | 16.5 | 2.2 | 294 | 1.7 |
| 24 | 24 | 18 | 2.4 | 350 | 1.7 |
| 36 | 36 | 27 | 3.6 | 767 | 1.7 |
| 48 | 48 | 36 | 4.8 | 1390 | 1.7 |
| 110 | 110 | 82.5 | 11 | 7255 | 1.7 |
| 120 | 120 | 90 | 12 | 8514 | 1.7 |

T92 Series Two-pole 30A PCB or Panel Mount Relay (Continued)

Coil versions, AC coil (A type) (continued)

| Coil code | Rated voltage VAC | Frequency Hz | Operate voltage VAC, 60Hz | Release voltage VAC, 60Hz | Coil resistance $\Omega \pm 10\%$ | Rated coil power VA |
|-----------|-------------------|--------------|---------------------------|---------------------------|-----------------------------------|---------------------|
| 12 | 12 | 60 | 9.6 | 1.2 | 9.1 | 4 |
| 24 | 24 | 60 | 19.2 | 2.4 | 36.6 | 4 |
| 110 | 110 | 60 | 88 | 11 | 793 | 4 |
| 120 | 110/120 | 50/60 | 96 | 12 | 950 | 4 |
| 208 | 208 | 60 | 166.4 | 20.8 | 2841 | 4 |
| 240 | 220/240 | 50/60 | 192 | 24 | 3800 | 4 |
| 277 | 250/277 | 50/60 | 221.6 | 27.7 | 5485 | 4 |

Coil versions, AC coil (F type)

| Coil code | Rated voltage VAC | Frequency Hz | Operate voltage VAC, 60Hz | Release voltage VAC, 60Hz | Coil resistance $\Omega \pm 10\%$ | Rated coil power VA |
|-----------|-------------------|--------------|---------------------------|---------------------------|-----------------------------------|---------------------|
| 12 | 12 | 50 | 9.6 | 1.2 | 11.2 | 3.5 |
| 24 | 24 | 50 | 19.2 | 2.4 | 44.4 | 3.5 |
| 48 | 48 | 50 | 38.4 | 4.8 | 179.2 | 3.5 |
| 240 | 240 | 50 | 192 | 24 | 4355 | 3.5 |

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

Coil Data (continued)

Ambient temperature vs. coil voltage

Assumptions:

1. Thermal resistance = 35°C per Watt (DC only.)
2. Still air.
3. Nominal coil resistance.
4. Max. mean coil temperature = 155°C (change of resistance method).
5. Coil temperature rise due to load = 6.3°C @ 30 amps.
6. Curves are based on 1.7W at 25°C (DC only.)



Dimensions

T92 – Mounting and termination code 1



Insulation Data

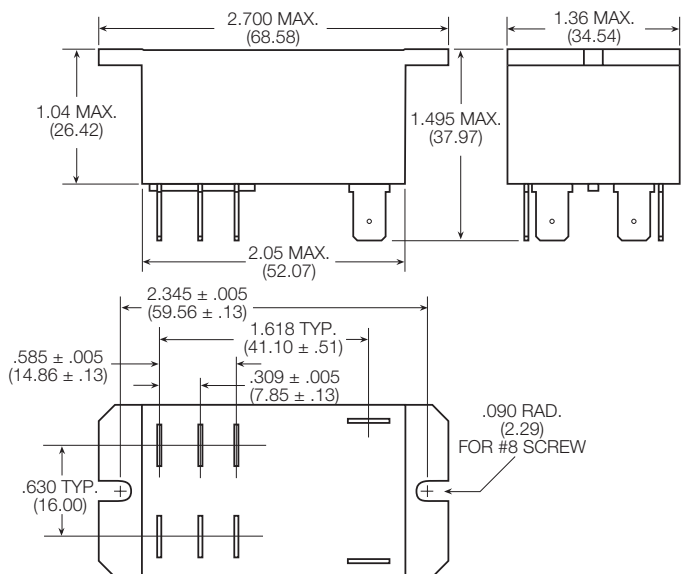
| | |
|---------------------------------|------------------------------|
| Initial dielectric strength | |
| between open contacts | 1500V _{rms} |
| between contact and coil | 4000V _{rms} |
| between adjacent contact | 2000V _{rms} |
| Initial surge withstand voltage | |
| between contact and coil | 8kV |
| Initial insulation resistance | |
| between insulated elements | 1x10 ⁹ Ω |
| Clearance/creepage | |
| between contact and coil | 8mm clearance/9.5mm creepage |

Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter

| | |
|--------------------------------------|---|
| Ambient temperature | |
| DC coil | -55°C to 85°C |
| AC coil | -55°C to 65°C |
| Category of environmental protection | |
| IEC 61810 | RTI - dust protected, RTII - flux proof, RTIII - wash tight |
| Vibration resistance (functional) | 1.65mm max excursions, 10-55 Hz |
| Shock resistance (functional) | 10g for 11msec |
| Shock resistance (destructive) | 100g |
| Terminal type | PCB-tht or quick connect |
| Weight | 86g |
| Resistance to soldering heat THT | |
| IEC 60068-2-20 | 260°C |
| Packaging/unit | tray/30 pcs., box/120 pcs. |

T92 – Mounting and termination code 2, 3 and 4



T92 Series Two-pole 30A PCB or Panel Mount Relay (Continued)

Dimensions

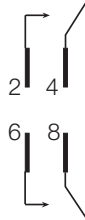
T92 – Mounting and termination code 5



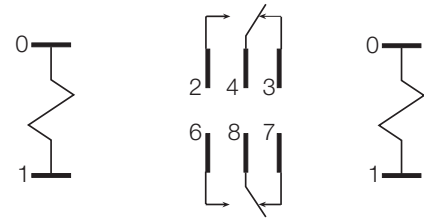
Terminal assignment

Bottom view on pins

2 form A



2 form C



PCB layout

Bottom view on pins

T92 - Mounting and termination code 1



An alternate PC board layout utilizes .076 ± .003 (1.93 ± .076) diameter holes on the same center-to-center spacing shown above. Use of the rectangular holes is recommended for improved solderability.

Only necessary terminals are present on single throw models. Consequently, some holes will be unnecessary for single throw models.

Product code structure

Typical product code

T92 S 11 D 2 2 -24

| | |
|---------------------------------|--|
| Type | T92 Printed circuit board / panel mount power relay T92 |
| Enclosure | P Dust protected plastic case S Wash-tight, tape sealed, plastic case (Mounting and termination code 1) Top sealed, not wash-tight, not tape sealed on bottom (Mounting and termination codes 2, 3 & 4) |
| Contact arrangement | 7 2 form A (2 NO) 11 2 form C (2 CO) |
| Coil Input | A AC voltage, 60Hz or 50/60 Hz (consult coil versions table) D DC voltage F AC voltage, 50Hz |
| Mounting and termination | 1 Printed circuit board mount; printed circuit board terminals. 2 Panel mount via flanged cover; .250" (6.35mm) x .032" (.81mm) QC terminal 3 Panel mount via flanged cover; .187" (4.75mm) x .032" (.81mm) QC terminals for coil and .250" (6.35mm) for contacts 4 Panel mount via flanged cover; .187" (4.75mm) x .020" (.51mm) QC terminals for coil and .250" (6.35mm) for contacts. 5 Panel mount via flanged cover, M4 screws w/ captive pressure plates. Requires Enclosure P and Contact arrangement 7. |
| Contact material | 2 AgCdO 4 AgSnOInO |
| Coil voltage | Coil code: please refer to coil versions table |

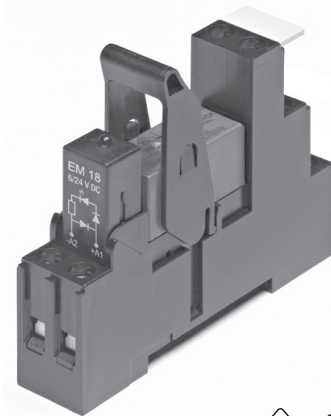
T92 Series Two-pole 30A PCB or Panel Mount Relay (Continued)

| Product Code | Enclosure | Contacts | Coil | Mounting | Contact Material | Coil | Part Number |
|---------------|--------------------|----------------|------|-------------------------------|------------------|-------------|-------------|
| T92P7A22-24 | Plastic dust cover | 2 form A, 2 NO | AC | Panel mount + quick connect | AgCdO | 24 VAC | 6-1393211-0 |
| 120 VAC | | | | | | 5-1393211-7 | |
| 240 VAC | | | | | | 6-1393211-2 | |
| T92P7A22-277 | | | | | | 277 VAC | 6-1393211-3 |
| T92P7A24-240 | | | | | AgSnOInO | 240 VAC | 3-1423008-3 |
| T92P7A52-120 | | | | Panel mount + screw terminals | AgCdO | 120 VAC | 1423008-8 |
| T92P7A52-240 | | | | | | 240 VAC | 1-1423008-2 |
| T92P7D12-12 | | | DC | PCB terminals | | 12 VDC | 6-1393211-5 |
| T92P7D12-24 | | | | | | 24 VDC | 6-1393211-6 |
| T92P7D22-12 | | | | Panel mount + quick connect | | 12VDC | 6-1393211-9 |
| T92P7D22-24 | | | | | | 24 VDC | 7-1393211-1 |
| T92P7D22-48 | | | | | | 48 VDC | 7-1393211-2 |
| T92P7D24-12 | | | | | AgSnOInO | 12VDC | 2-1423008-2 |
| T92P7D24-24 | | | | | | 24 VDC | 1423008-9 |
| T92P7D42-24 | | | | | AgCdO | | 7-1393211-5 |
| T92P7D52-12 | | | | Panel mount + screw terminals | | 12 VDC | 1-1423008-0 |
| T92P7D52-24 | | | | | | 24 VDC | 1423967-1 |
| T92P11A12-120 | | 2 form C, 2 CO | AC | PCB terminals | | 120 VAC | 3-1393211-8 |
| T92P11A22-12 | | | | Panel mount + quick connect | | 12 VAC | 3-1393211-9 |
| T92P11A22-24 | | | | | | 24 VAC | 4-1393211-3 |
| T92P11A22-120 | | | | | | 120 VAC | 4-1393211-0 |
| T92P11A22-240 | | | | | | 240 VAC | 4-1393211-4 |
| T92P11A22-277 | | | | | | 277 VAC | 4-1393211-6 |
| T92P11A24-240 | | | | | AgSnOInO | 240 VAC | 3-1423008-7 |
| T92P11A42-120 | | | | | AgCdO | 120VAC | 4-1393211-8 |
| T92P11D12-12 | | | DC | PCB terminals | | 12 VDC | 5-1393211-0 |
| T92P11D22-12 | | | | Panel mount + quick connect | | | 5-1393211-3 |
| T92P11D22-24 | | | | | | 24 VDC | 5-1393211-4 |
| T92P11D24-12 | | | | | AgSnOInO | 12 VDC | 3-1423008-5 |
| T92P11D24-24 | | | | | | 24 VDC | 3-1423008-6 |
| T92S7A12-24 | Wash tight | 2 form A, 2 NO | AC | PCB terminals | AgCdO | 24 VAC | 9-1393211-8 |
| T92S7A12-120 | | | | | | 120 VAC | 9-1393211-7 |
| T92S7A12-240 | | | | | | 240 VAC | 9-1393211-9 |
| T92S7A22-24 | Top sealed | | | Panel mount + quick connect | | 24 VAC | 1393212-4 |
| T92S7A22-120 | | | | | | 120 VAC | 1393212-2 |
| T92S7A22-240 | | | | | | 240 VAC | 1393212-5 |
| T92S7D12-12 | Wash tight | | DC | PCB terminals | | 12 VDC | 1393212-8 |
| T92S7D12-24 | | | | | | 24 VDC | 1-1393212-0 |
| T92S7D12-48 | | | | | | 48 VDC | 1-1393212-1 |
| T92S7D12-110 | | | | | | 110 VDC | 1393212-7 |
| T92S7D14-24 | | | | | AgSnOInO | 24 VDC | 1-1423008-8 |
| T92S7D22-12 | Top sealed | | | Panel mount + quick connect | AgCdO | 12 VDC | 1-1393212-4 |
| T92S7D22-18 | | | | | | 18 VDC | 1-1393212-5 |
| T92S7D22-24 | | | | | | 24 VDC | 1-1393212-7 |
| T92S7D22-110 | | | | | | 110 VDC | 1-1393212-3 |
| T92S11A12-24 | Wash tight | 2 form C, 2 CO | AC | PCB terminals | | 24 VAC | 8-1393211-1 |
| T92S11A12-120 | | | | | | 120 VAC | 8-1393211-0 |
| T92S11A12-240 | | | | | | 240 VAC | 8-1393211-2 |
| T92S11A22-12 | Top sealed | | | Panel mount + quick connect | | 12 VAC | 8-1393211-3 |
| T92S11A22-24 | | | | | | 24 VAC | 8-1393211-6 |
| T92S11A22-120 | | | | | | 120 VAC | 8-1393211-4 |
| T92S11A22-240 | | | | | | 240 VAC | 8-1393211-7 |
| T92S11D12-12 | Wash tight | | DC | PCB terminals | | 12 VDC | 8-1393211-9 |
| T92S11D12-24 | | | | | | 24 VDC | 9-1393211-0 |
| T92S11D12-48 | | | | | | 48 VDC | 9-1393211-1 |
| T92S11D12-110 | | | | | | 110 VDC | 8-1393211-8 |
| T92S11D22-12 | Top sealed | | | Panel mount + quick connect | | 12 VDC | 9-1393211-3 |
| T92S11D22-24 | | | | | | 24 VDC | 9-1393211-4 |

Note. This list represents the most common types and does not show all variants covered by this datasheet, other types on request.

Relay Package RT

- Relay package consisting of RT relay, DIN-rail socket, plastic retaining clip, module and marking tag
- 1 CO with 12 A or 2 CO with 8 A rated load
- Sensitive DC- or AC coil
- Reinforced insulation (protection class II / VDE 0700), safe separation to VDE 0160
- Jumper bars for interconnection
- Further accessories see Accessories RT



F0287-C



Approvals

Relay: VDE Cert. No. 40007571, cULus E214025

Socket: VDE Cert. No. 4007571, cULus E135149

Technical data of approved types on request

| Contact data | 1-pole | 2-pole |
|--|----------------------------------|---------------|
| Contact configuration | 1 CO | 2 CO |
| Contact set | single contact | |
| Type of interruption | micro disconnection | |
| Rated voltage/max. switching voltage AC | 240/400VAC | |
| Rated current | 16 A*) | 8 A |
| Limiting continuous current | 16 A*) | 8 A, UL: 10 A |
| Maximum breaking capacity AC | 4000 VA | 2000 VA |
| Limiting making capacity, max. 4 ms, df 10% | 30 A | 15 A |
| Contact material | AgNi90/10, AgNi90/10 gold plated | |
| Rated frequency of operation with/without load | 6 / 1200 min ⁻¹ | |

*) for full load current (16 A) the relay terminals 11-21, 12-22 and 14-24 have to be bridged.

Contact ratings

For contact ratings see datasheet Interface Power Relay RT

Coil data

| | | |
|------------------------------|------------------|--|
| Rated coil voltage range | 24 VDC | |
| DC coil | 24 VDC | |
| AC coil | 24, 115, 230 VAC | |
| Operative range to IEC 61810 | 2 | |

Coil versions, DC coil

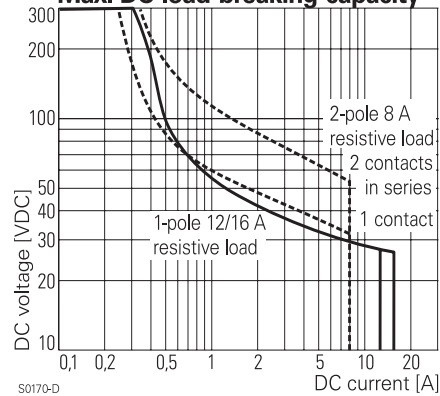
| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-----------------------|---------------------|
| LC4 | 24 | 16.8 | 2.4 | 1440 | 400 |

Coil versions, AC coil 50 Hz

| Coil code | Rated voltage VAC | Operate voltage 50 Hz VAC | Release voltage 50 Hz VAC | Coil resistance Ω | Rated coil power 50 Hz VA |
|-----------|-------------------|---------------------------|---------------------------|-------------------|---------------------------|
| R24 | 24 | 18.0 | 3.6 | 350±10% | 0.76 |
| S15 | 115 | 86.3 | 17.3 | 8100±15% | 0.76 |
| T30 | 230 | 172.5 | 34.5 | 32500±15% | 0.74 |

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

Max. DC load breaking capacity

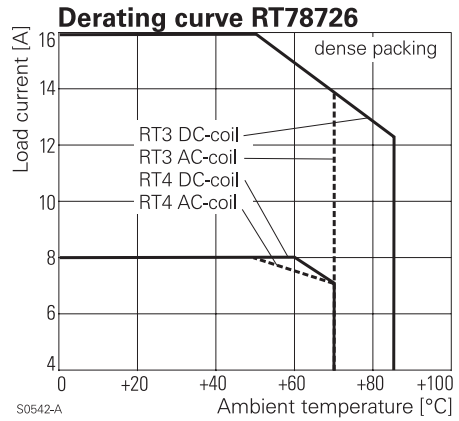


S0170-D

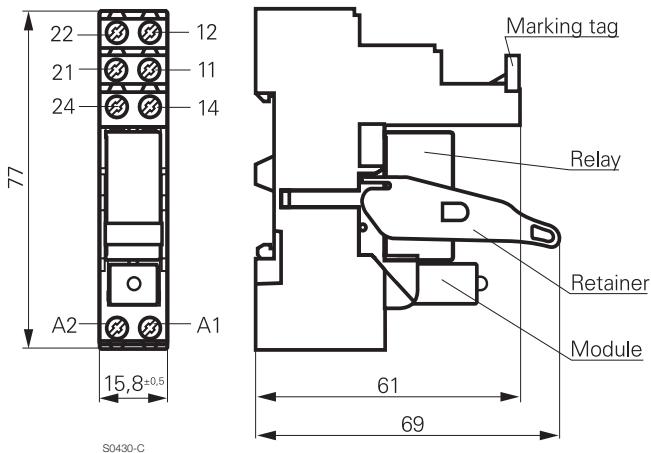
| Insulation | 1-pole | 2-pole |
|------------------------------------|-----------------------|-----------|
| Dielectric strength | | |
| coil-contact circuit | 5000 V _{rms} | |
| open contact circuit | 1000 V _{rms} | |
| adjacent contact circuits | 2500 V _{rms} | |
| Clearance / creepage | | |
| coil-contact circuit | ≥ 10/10 mm | |
| Material group of insulation parts | IIIa | |
| Tracking index of relay base | PTI 250 V | |
| Insulation to IEC 60664-1 | | |
| Type of insulation | | |
| coil-contact circuit | reinforced | |
| open contact circuit | micro disconnection | |
| adjacent cont. circuits | functional | |
| Rated insulation voltage | 250 V | |
| Pollution degree | 3 | 2 |
| Rated voltage system | 240 V | 230/240 V |
| Overvoltage category | III | |

Relay Package RT (Continued)

| Other data | 1-pole | 2-pole |
|---|-------------------------------|------------------------|
| Mechanical endurance | | |
| DC coil | > 30 x 10 ⁶ | > 30 x 10 ⁶ |
| AC coil | > 10 x 10 ⁶ | > 5 x 10 ⁶ |
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter | | |
| Ambient temperature range | | |
| DC coil | -20...+85°C | |
| AC coil | -20...+70°C | |
| Processing | | |
| Terminals | screw | |
| Terminal screw torque acc. IEC 61984 max. | 0.5 Nm | |
| | 0.7 Nm | |
| Wire cross section | | |
| single wire | 2 x 2.5 mm ² | |
| fine wire | 2 x 2.5 mm ² | |
| with bootlace crimp (DIN 46228/1) | 2 x 1.5 mm ² | |
| Insertion cycles | A (10) | |
| Max. Insertion Force total | 100 N | |
| Mounting distance | ≥ 0, dense packing of sockets | |
| Weight | 54 g | |
| Packaging unit | 10 pcs | |



Dimensions



Relay Package RT (Continued)

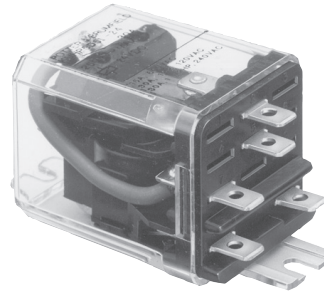
| | | | | | | |
|-------------------------------|--|---|-----------|-----------|----------|------------|
| Product code structure | | Typical product code | RT | 4S | 4 | T30 |
| Type | | RT Relay Package RT | | | | |
| Version | | 3S Relay set: RT 1-pole CO contacts (1 form C), 16 A, red LED 4S Relay set: RT 2-pole CO contacts (2 form C), 8 A, red LED | | | | |
| Contact material | | 4 AgNi 90/10, CO contact 5 AgNi 90/10 gold plated, CO contact | | | | |
| Coil | | LC4 24 VDC R24 24 VAC S15 115 VAC T30 230 VAC | | | | |

Other types on request

| Product code | Socket | Retainer | Marking tag | Module | Relay | Coil | Part Number |
|--------------|---------|----------|-------------|----------|----------|---------|-------------|
| RT3S4LC4 | RT78726 | RT17017 | RT17040 | PTML0024 | RT314024 | 24 VDC | 4-1415073-1 |
| RT3S4R24 | | | | PTML0524 | RT314524 | 24 VAC | 5-1415073-1 |
| RT3S4S15 | | | | PTML0730 | RT314615 | 115 VAC | 5-1415528-1 |
| RT3S4T30 | | | | PTML0730 | RT314730 | 230 VAC | 6-1415073-1 |
| RT3S5LC4 | | | | PTML0024 | RT315024 | 24 VDC | 7-1415073-1 |
| RT3S5R24 | | | | PTML0524 | RT315524 | 24 VAC | 8-1415073-1 |
| RT3S5T30 | | | | PTML0730 | RT315730 | 230 VAC | 9-1415073-1 |
| RT4S4LC4 | | | | PTML0024 | RT424024 | 24 VDC | 1-1415073-1 |
| RT4S4R24 | | | | PTML0524 | RT424524 | 24 VAC | 2-1415073-1 |
| RT4S4S15 | | | | PTML0730 | RT424615 | 115 VAC | 8-1415532-1 |
| RT4S4T30 | | | | PTML0730 | RT424730 | 230 VAC | 3-1415073-1 |
| RT4S5LC4 | | | | PTML0024 | RT425024 | 24 VDC | 1415074-1 |
| RT4S5R24 | | | | PTML0524 | RT425524 | 24 VAC | 1-1415074-1 |
| RT4S5T30 | | | | PTML0730 | RT425730 | 230 VAC | 2-1415074-1 |

KUHP Series Panel Relay

- AC coils 6 to 277VAC 50/60Hz, DC 6 to 110VDC
- Contact arrangement up to 2 form C (CO)
- .250" combination push-on/solder terminals or PC terminals
- Side flange and top flange mounting
- Designed to meet VDE space requirements: Class B coil insulation



Typical applications
Commercial HVAC, smart-grid communications controllers, baggage handling, pumps.



Approvals

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

| Contact Data | 1 pole | 2 pole |
|-------------------------------|---|---|
| Contact arrangement | 1 form C (CO) 1 form A (NO) 1 form B (NC) | 2 form C (CO) 2 form A (NO) 2 form B (NC) |
| Rated voltage | 240VAC | 240VAC |
| Rated current | 30A | 20A |
| Contact material | AgCdO | AgCdO, AgSnInO |
| Min. recommended contact load | 300mA, 12VDC | 300mA, 12VDC |
| Initial contact resistance | 200mΩ | 200mΩ |
| Frequency of operation | 360 ops./hour | 360 ops./hour |
| Operate/release time max. | 20/20ms | 20/20ms |
| Bounce time max. | 20ms | 20ms |

Contacts ratings

| Type | Load | Cycles |
|----------------------|----------------------|--------------------------|
| 1 pole, AgCdO | 30A, 240VAC | 100x10 ³ ops. |
| | 1HP, 120VAC | 100x10 ³ ops. |
| | 1 1/2HP, 240VAC | 100x10 ³ ops. |
| | 30 FLA, 96 LRA | 100x10 ³ ops. |
| | 30A, 28 VDC | 50x10 ³ ops. |
| | 10A, 480VAC | 6x10 ³ ops. |
| | 1/2HP, 480VAC | 25x10 ³ ops. |
| | 1HP, 480VAC, 3 phase | 6x10 ³ ops. |
| | 1/2HP, 600VAC | 25x10 ³ ops. |
| | 2 pole, AgCdO | 20A, 240VAC |
| 3/4HP, 120VAC | | 100x10 ³ ops. |
| 1 1/2HP, 240VAC | | 100x10 ³ ops. |
| 20 FLA, 83 LRA | | 100x10 ³ ops. |
| 20A, 28 VDC | | 50x10 ³ ops. |
| 10A, 480VAC | | 6x10 ³ ops. |
| 1/2HP, 480VAC | | 25x10 ³ ops. |
| 1HP, 480VAC, 3 phase | | 6x10 ³ ops. |
| 2 pole AgSnInO | 1/2HP, 600VAC | 25x10 ³ ops. |
| | 20 A, 240 VAC | 25x10 ³ ops. |
| Mechanical endurance | | 10x10 ⁶ ops. |

Coil Data

| | |
|-------------------------------------|----------------------------|
| Coil voltage range | 6 to 110VDC 6 to 277VAC |
| Coil insulation system according UL | Class B |

Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | ReleaseCoil resistance Ω±10% | Rated coil power W |
|-----------|-------------------|---------------------|------------------------------|--------------------|
| 006 | 6 | 4.5 | 32.1 | 1.13 |
| 012 | 12 | 9.0 | 120 | 1.20 |
| 024 | 24 | 18.0 | 472 | 1.23 |
| 048 | 48 | 36.0 | 1800 | 1.30 |
| 110 | 110 | 82.5 | 10000 | 1.22 |

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 |
|-----------|-------------------|---------------------|-----------------------|---------------------|
| 006 | 6 | 5.1 | 4.2 | 2.8 |
| 012 | 12 | 10.2 | 18 | 2.8 |
| 024 | 24 | 20.4 | 72 | 2.8 |
| 120 | 120 | 102.0 | 1700 | 2.9 |
| 240 | 240 | 204.0 | 7200 | 2.9 |
| 277 | 277 | 235.5 | 10250 | 2.5 |

All figures are given for coil without preenergization, at ambient temperature +23°C, 60 Hz.

Insulation Data

| | | |
|-------------------------------|--|----------------------|
| Initial dielectric strength | | |
| between open contacts | | 1200V _{rms} |
| between contact and coil | | 3750V _{rms} |
| between adjacent contacts | | 3750V _{rms} |
| between coil and frame | | 2000V _{rms} |
| Initial insulation resistance | | |
| between insulated elements | | 100MΩ at 500VDC |

Other Data

| | | |
|--------------------------------------|--|--|
| Ambient temperature | | |
| DC coil | | -45°C to 70°C |
| AC coil | | -45°C to 45°C |
| Category of environmental protection | | |
| IEC 61810 | | RTI - dust protected and RTO - open style |
| Terminal type | | QC.250, PCB .047 |
| Terminal retention, push force | | |
| QC .205 | | 17lbs for 3s |
| QC .110, QC .187, QC .250, all PCB | | 25lbs for 3s |
| Weight | | 92g |
| Packaging/unit | | tray/25 pcs., box/150pcs. |

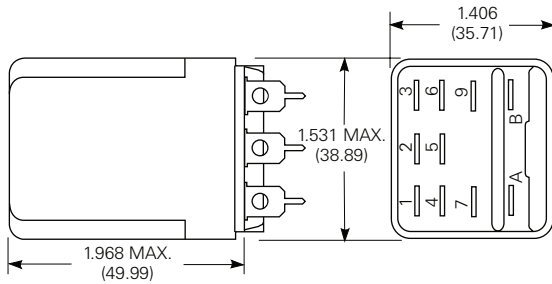
Accessories

NOTE: no sockets are available for this relay

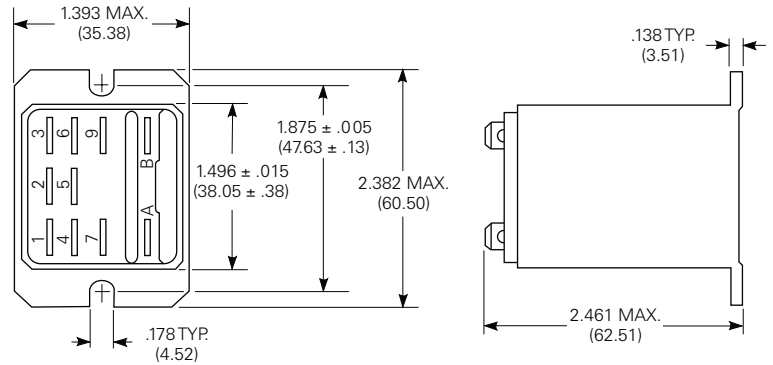
KUHP Series Panel Relay (Continued)

Dimensions

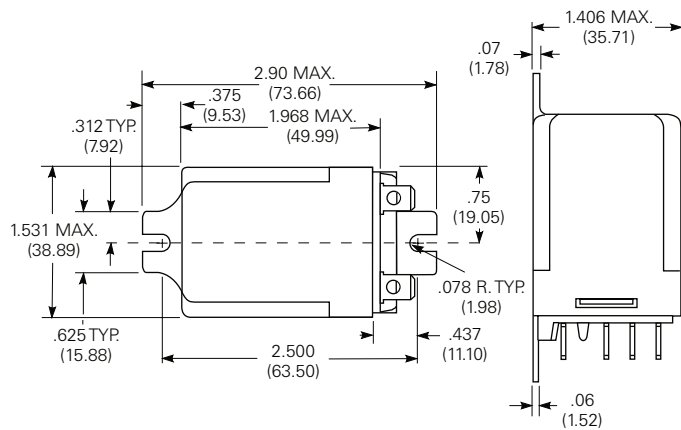
Plain case



Top flange enclosure

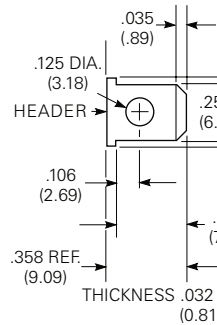


Bracket mount case

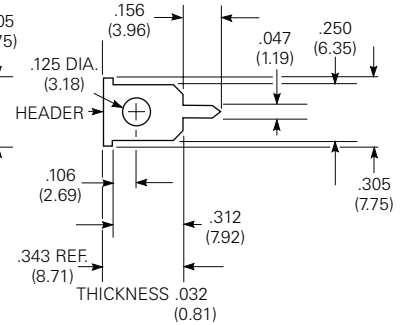


Terminal dimensions

6.35mm (.250") Quick Connect/Solder



Printed circuit

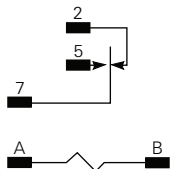


Terminal assignment

1 form C

1 form A (delete 2)

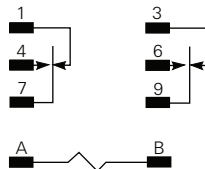
1 form B (delete 5)



2 form C

2 form A (delete 1 and 3)

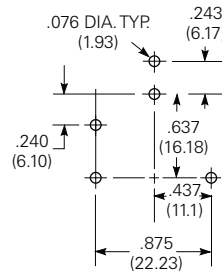
2 form B (delete 4 and 6)



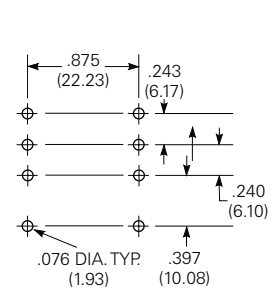
PCB layout

Bottom view on solder pins

1 pole version



2 pole version



KUHP Series Panel Relay (Continued)

| | | | | | | | | | |
|--|--|---|--|-------------|--------------------|----------|----------|----------|-------------|
| Product code structure | | Typical product code | | KUHP | 11 | A | 5 | 1 | -120 |
| Type | | | | | | | | | |
| KUHP Enclosed Panel Plug-in Relay, 20/30A KUH Open Panel Plug-in Relay 20/30A | | | | | | | | | |
| Contact arrangement and rating | | | | | | | | | |
| 1 1 form A (NO); 30A | | 7 2 form A (NO); 20A | | | | | | | |
| 2 1 form B (NC); 30A | | 8 2 form B (NC); 20A | | | | | | | |
| 5 1 form C (CO); 30A | | 11 2 form C (CO); 20A | | | | | | | |
| Coil Input | | | | | | | | | |
| A AC, 50/60Hz | | D DC | | | | | | | |
| Mountings | | | | | | | | | |
| KUHP options | | | | | KUH options | | | | |
| 1 Plain case | | 1 #6-32 stud, 0.218" locating tab | | | | | | | |
| 5 Bracket mount case | | 4 #6-32 tapped core, 0.218" locating tab | | | | | | | |
| T Top flange mount case | | | | | | | | | |
| Terminals and contact materials | | | | | | | | | |
| 1 .250" (6.35mm) quick connect/solder; silver-cadmium oxide | | 7 .047" (1.19mm) printed circuit; silver-cadmium oxide | | | | | | | |
| P .250" quick connect/solder; silver tin oxide indium oxide | | S .047" printed circuit; silver tin oxide indium oxide | | | | | | | |
| Coil voltage | | | | | | | | | |
| Coil code: please refer to coil versions table | | | | | | | | | |

| Product Code | Arrangement | Mounting | Coil | Terminals | Part Number |
|----------------|----------------|------------|---------|---------------------|-------------|
| KUHP-5DT1-12 | 1 form C, 1 CO | top flange | 12VDC | .250" quick connect | 8-1393114-7 |
| KUHP-5DT1-24 | | | 24VDC | | 8-1393114-8 |
| KUHP-5D51-24 | | bracket | | | 9-1393114-1 |
| KUHP-5D51-12 | | | | | 12VDC |
| KUHP-5A51-24 | | | 24VAC | | 8-1393114-5 |
| KUHP-5A51-120 | | | 120VAC | | 8-1393114-4 |
| KUHP-5AT1-120 | | top flange | | | 8-1393114-1 |
| KUHP-11A51-24 | | bracket | 24VAC | | 7-1393114-0 |
| KUHP-11A51-240 | 2 form C, 2 CO | | 240VAC | | 7-1393114-1 |
| KUHP-11AT1-120 | | top flange | 120VAC | | 6-1393114-5 |
| KUHP-11DT1-24 | | | 24VDC | | 7-1393114-3 |
| KUHP-11D51-12 | | | bracket | | 12VDC |
| KUHP-11D51-24 | | | 24VDC | | 7-1393114-8 |
| KUHP-11DT1-12 | | top flange | 12VDC | | 7-1393114-2 |