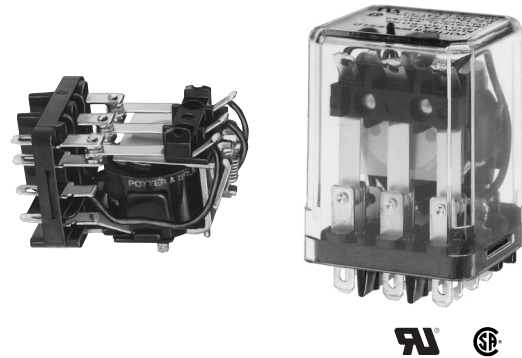


**KUP Series Panel Plug-in Relay**

- 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    |
| 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             |
|------------------------|------------------------|--------------------|
| <b>UL 508</b>          |                        |                    |
| 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 <sup>3</sup> |
|                        | 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<sup>3</sup>

Mechanical endurance 10x10<sup>6</sup> 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 coil 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 coil 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 <sub>rms</sub> |
| between contact and coil      | 2200V <sub>rms</sub> |
| between adjacent contacts     | 2200V <sub>rms</sub> |
| Initial insulation resistance |                      |
| between insulated elements    | 100MΩ, 500VDC        |

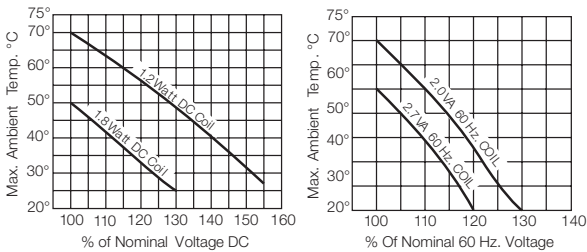
**Other Data**

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at [www.te.com/customersupport/rohssupportcenter](http://www.te.com/customersupport/rohssupportcenter)

**Ambient temperature**

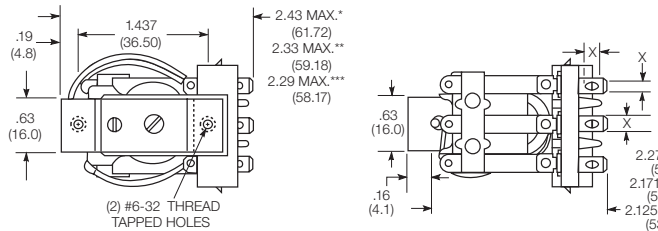
|         |   |
|---------|---|
| DC coil | Enclosed relays, 4 pole: -45°C to 50°C        |
|         | Enclosed relays, 1-3 pole: -45°C to 70°C      |
|         | Open relays: 15°C higher maximum              |
| AC coil | Enclosed relays, 3 and 4 pole: -45°C to +45°C |
|         | Enclosed relays,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

**Maximum allowable ambient temperature vs voltage (KUP enclosed)**

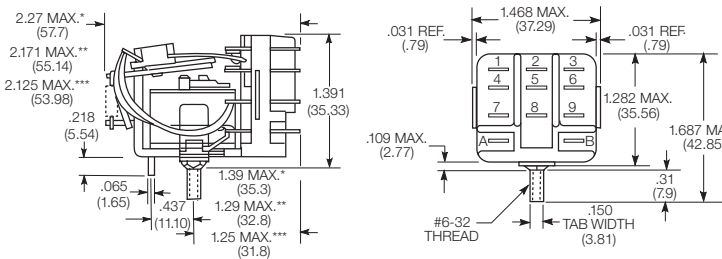


**Dimensions**

**KU bracket type**



**KU stud type**



**Other Data (continued)**

|                                      |  |  |
|--------------------------------------|--|--|
| Category of environmental protection | IEC 61810  | RT0 - open relay; RT1 - 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 and 20C318 clip                         |
| 27E121       | Track mount socket and 20C314 clip                 |
| 27E043       | Chassis mount/solder eyelet socket and 20C254 clip |
| 27E046       | Chassis mount/PCB socket and 20C254 clip           |
| 27E067       | Chassis mount/quick connect socket and 20C254 clip |
| 27E396       | Snap-in/quick connect socket and 20C254 clip       |

**Seated Heights For KU (open) Relays**

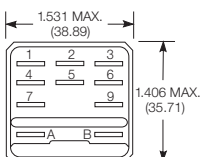
- 1.391" (35.33mm) for #6-32 stud with .218" (5.54mm) locating tab.
- 1.52" (38.6mm) for bracket with 2-#6 32 tapped holes.
- 1.282" (32.56mm) for #6-32 tapped core with .125" (3.18mm) or .218" (5.54mm) locating tab.
- 2.046" (51.97mm) for relay with printed circuit terminals.

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.

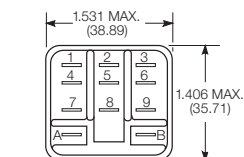
- \* Dimensions with .250" (6.35mm) terminals.
- \*\* Dimensions with .110" (2.79mm) or .205" (5.21mm) terminals.
- \*\*\* Dimensions with .187" (4.75mm) terminals.

**Relay front diagrams**

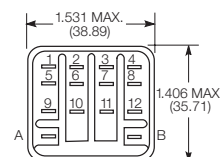
Models with 6.35mm (.250) QC terminals



1-3 pole models with all other terminals



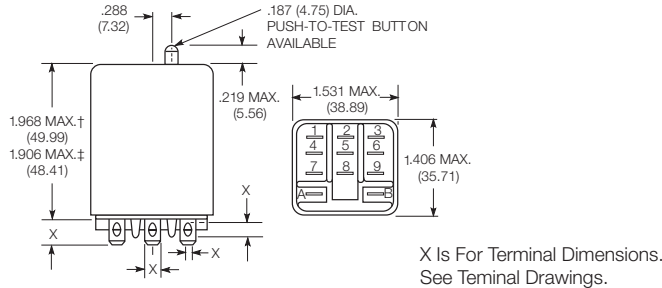
4 pole models



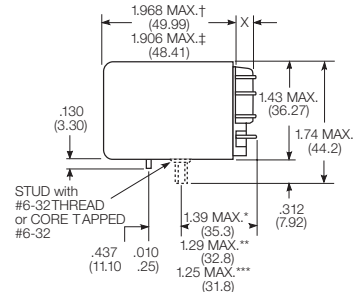
**KUP Series Panel Plug-in Relay (Continued)**

**Dimensions (continued)**

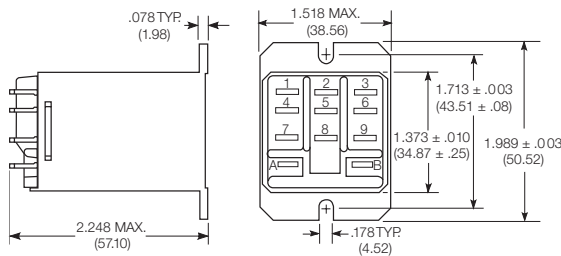
KUP plain case



KUP core / stud mount case



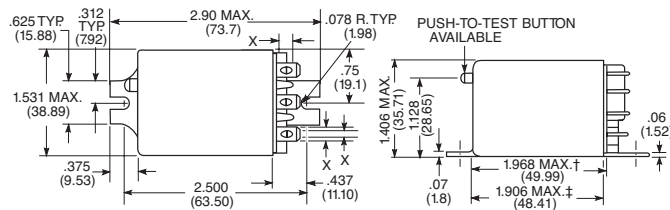
KUP top flange case



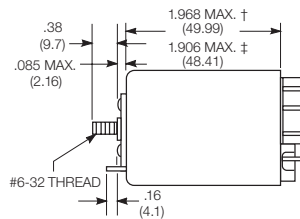
† Dimensions with .250" (6.35mm) terminals.  
‡ Dimensions with .187" (4.75mm and .205" 5.21mm terminals.

\*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

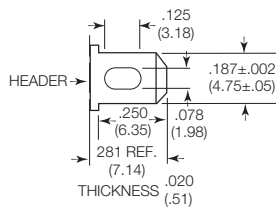


KUP stud on end case

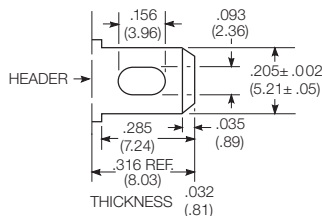


**Terminal dimensions**

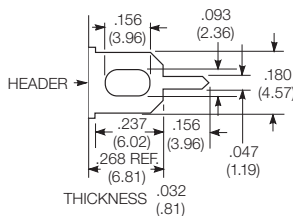
4.75mm (.187) quick connect



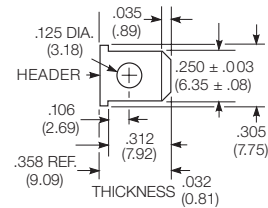
5.21mm (.205) quick connect



1.19mm (.047) printed circuit

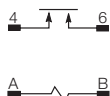


6.35mm (.250) quick connect

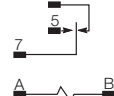


**Terminal assignment**

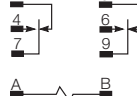
1 Form X



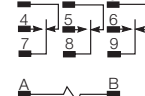
1 Form C  
1 Form A (delete 2)



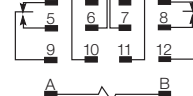
2 Form C  
2 Form A (delete 1 & 3)



3 Form C  
3 Form A (delete 1, 2 & 3)



4 Form C

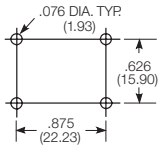


**KUP Series Panel Plug-in Relay (Continued)**

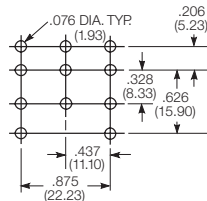
**PCB layout**

Bottom view on solder pins

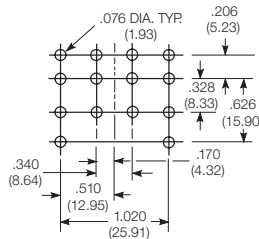
1 form X version



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

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

**3 pole models**

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

**4 pole models**

- |   |  |
|---|--|
| <b>1</b> 4.75mm (.187in) quick connect/solder; Ag, 5A 3)  | <b>3</b> 1.19mm (.047in) PCB; Ag, 5A                         |
| <b>4</b> 2.79mm (.110in) quick connect/solder; Ag, 5A   | <b>5</b> 4.75mm (.187in) quick connect/solder; AgCdO, 10A 3) |
| <b>7</b> 1.19mm (.047in) PCB; AgCdO, 10A  | <b>9</b> 2.79mm (.110in) quick connect/solder; AgCdO, 10A    |
| <b>P</b> 4.75mm (.187in) quick connect/solder; AgSnOInO, 10A 3)   | <b>S</b> 1.19mm (.047in) PCB, AgSnOInO; 10A                  |
| <b>U</b> 2.79mm (.110in) quick connect/solder; AgSnOInO, 10A 2)   |  |
| <b>3)</b> 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    | 2 form C, 2 CO | Ag                          | 12VDC             |                    | Bracket mount case                  | 7-1393118-0                         |   |             |
| KUP-5D55-24    |                |                             | 24VDC             |                    |                                     | 7-1393118-1                         |   |             |
| KUP-11A11-120  |                |                             | 120VAC            |                    |                                     | Socket mount, plain case            | 1-1393117-7                                 |             |
| KUP-11A15-12   |                |                             | 12VDC             |                    |                                     |                                     | 1-1393117-8                                 |             |
| KUP-11A15-24   |                |                             | 24VAC             |                    |                                     |                                     | 2-1393117-1                                 |             |
| KUP-11A15-120  |                |                             | 120VAC            |                    |                                     |                                     | 1-1393117-9                                 |             |
| KUP-11A15-240  | 2 form C, 2 CO | AgCdO                       | 240VAC            |                    | Socket mount case w/ indicator lamp | 2-1393117-2                         |   |             |
| KUP-11A35-120  |                |                             | 120VAC            |                    |                                     | 3-1393117-5                         |   |             |
| 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    | 3 form C, 3 CO | 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    | 3 form C, 3 CO | Ag                          | 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                                      |             |
| KUP-14A15-12   | 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  | 3 form C, 3 CO | AgCdO                       |                   |                    | 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  | 3 form C, 3 CO | Ag                          | 240VAC            |                    | Socket mount, plain case            | 1393118-3                           |   |             |
| KUP-14D11-24   |                |                             | 24VDC             |                    |                                     | 1-1393118-0                         |   |             |
| KUP-14D15-6    |                |                             | 6VDC              |                    |                                     | 1-1393118-8                         |   |             |
| KUP-14D15-12   |                |                             | 12VDC             |                    |                                     | 1-1393118-3                         |   |             |
| KUP-14D15-24   |                |                             | 24VDC             |                    |                                     | 1-1393118-4                         |   |             |
| KUP-14D15-48   |                |                             | 48VDC             |                    |                                     | 1-1393118-7                         |   |             |
| KUP-14D15-110  | 3 form C, 3 CO | AgCdO                       | 110VDC            |                    | Socket mount w/ test button         | 1-1393118-2                         |   |             |
| KUP-14D25-24   |                |                             | 24VDC             |                    |                                     | 2-1393118-3                         |   |             |
| KUP-14D35-24   |                |                             |                   |                    |                                     | Socket mount w/ indicator lamp      | 2-1393118-7                                 |             |
| 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   | 4 form C, 4 CO | AgCdO                       | 12VDC             |                    | Bracket mount case                  | 3-1393118-7                         |   |             |
| KUP-14D55-24   |                |                             | 24VDC             |                    |                                     | 3-1393118-8                         |   |             |
| KUP-17A19-120  |                |                             | 120VAC            |                    |                                     | 2.79mm (.110in) QC                  | Socket mount, plain case                    | 4-1393118-2 |
| KUP-17A55-24   |                |                             | 24VAC             |                    |                                     |                                     | Bracket mount case                          | 4-1393118-6 |
| KUP-17D19-24   |                |                             | 24VDC             |                    |                                     |                                     | Socket mount, plain case                    | 5-1393118-0 |
| KUP-17D55-24   |                |                             | 24VDC             |                    |                                     |                                     | Bracket mount case                          | 5-1393118-3 |