

# POTTER & BRUMFIELD KUP SERIES PANEL PLUG-IN RELAY

## GENERAL PURPOSE PANEL/PLUG-IN RELAYS

### INTRODUCTION

TE Connectivity (TE)'s Potter & Brumfield KUP Series Panel Plug-In Relay is a reliable solution for industrial and commercial applications. It supports AC (12-240V) and DC (5-110V) coils, with multiple contact configurations and mounting options. Features like push-to-test buttons, indicator lamps, and Class B coil insulation enhance usability. Compatible sockets for panel, DIN rail, or PCB mounting ensure easy installation.

### FEATURES

- AC coils: 12-240VAC, 50/60 Hz.; DC coils 5-110VDC
- Contact arrangements of 1-3 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

### APPLICATIONS

- Vending
- Commercial sewing
- Tool/die equipment
- Robotics
- Timers
- Welding
- HVAC
- Medical
- Power generators



### APPROVALS

- UL E214025
- CSA LR15734

Technical data of approved types on request



## POTTER & BRUMFIELD KUP SERIES PANEL PLUG-IN RELAY

### Panel/Plug-in Relays

#### CONTACT DATA

|                               |                 |               |
|-------------------------------|-----------------|---------------|
| Contact arrangement           | 1-3 form C (CO) |               |
| Rated voltage                 | 240VAC          |               |
| Rated current                 | 10A             |               |
| Contact material              | Ag, AgCdO       |               |
| Contact material              | Ag              | AgCdO         |
| Min. recommended contact load | 100mA, 12VDC    | 300mA, 12VDC  |
| Frequency of operation        | 360 ops./hour   | 360 ops./hour |
| Operate/releases time max.    | 15/10ms         |               |
| Bounce time max.              | 17ms            |               |

#### CONTACT RATINGS

| Type                | Load                   | Cycles      | Type                                                                                                                                                                                | Load                  | Cycles               |  |                         |
|---------------------|------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------|--|-------------------------|
| UL 508              |                        |             | AgCdO, 1, 2 and 3 pole                                                                                                                                                              | 5A, 120VAC, tungsten  | -                    |  |                         |
| Ag, 1, 2 and 3 pole | 5A, 240VAC             | -           |                                                                                                                                                                                     | 1/2HP, 250VAC         | -                    |  |                         |
|                     | 5A, 28VDC              | -           |                                                                                                                                                                                     | 0.5A, 125VDC          | -                    |  |                         |
|                     | 1/6HP, 120VAC          | -           |                                                                                                                                                                                     | 10FLA, 40LRA, 125VAC  | -                    |  |                         |
|                     | 2.5A, 120VAC, tungsten | -           |                                                                                                                                                                                     | 3A, 600VAC            | -                    |  |                         |
|                     | 1/3HP, 240VAC          | -           |                                                                                                                                                                                     | 1/2HP, 480VAC         | -                    |  |                         |
|                     | 0.5A, 120VDC           | -           |                                                                                                                                                                                     | 1/2HP, 600VAC         | -                    |  |                         |
|                     | 5FLA, 15LRA, 250VAC    | -           |                                                                                                                                                                                     | 1HP, 480 VAC, 3 phase | -                    |  |                         |
|                     | AgCdO, 1, 2 and 3 pole | 10A, 240VAC |                                                                                                                                                                                     | -                     | Mechanical endurance |  | 10x10 <sup>6</sup> ops. |
| 10A, 32VDC          |                        | -           |                                                                                                                                                                                     |                       |                      |  |                         |
| 5FLA, 15LRA, 250VAC |                        | -           | Note: Indicated contact ratings and electrical endurance data apply only for direct wiring of the relay (according to UL 508/61810-1); for relays mounted on sockets, deratings may |                       |                      |  |                         |
| 1/3HP, 120VAC       |                        | -           |                                                                                                                                                                                     |                       |                      |  |                         |

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## Panel/Plug-in Relays

### COIL DATA

|                                     |                             |
|-------------------------------------|-----------------------------|
| Coil voltage range                  | 5 to 110VDC<br>12 to 240VAC |
| Coil insulation system according UL | Class B                     |

### COIL VERSIONS, DC COIL

| Coil code       | Rated voltage VDC | Operate voltage VDC | Coil resistance $\Omega \pm 10\%$ | 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               |
| 36              | 36                | 27.0                | 1080                              | 1.2                |
| 48              | 48                | 36.0                | 1800                              | 1.3                |
| 110             | 110               | 82.5                | 10000                             | 1.25               |

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

### COIL VERSIONS, AC COIL

| Coil code    | Rated voltage VDC | Operate voltage VDC | Coil resistance $\Omega \pm 10\%$ | Rated coil power W |
|--------------|-------------------|---------------------|-----------------------------------|--------------------|
| 1 and 2 pole |                   |                     |                                   |                    |
| 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 pole       |                   |                     |                                   |                    |
| 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                |

### INSULATION DATA

|                               |                        |
|-------------------------------|------------------------|
| Initial dielectric strength   |                        |
| between open contacts         | 1200Vrms               |
| between contact and coil      | 2200Vrms               |
| between adjacent contacts     | 2200Vrms               |
| Initial insulation resistance |                        |
| between insulated elements    | 100M $\Omega$ , 500VDC |

### ACCESSORIES

|                           |                                            |
|---------------------------|--------------------------------------------|
| For details see datasheet | <b>Sockets and Accessories, KUP Relays</b> |
|---------------------------|--------------------------------------------|

| Product Code | Description                                          | TE Part Number     |
|--------------|------------------------------------------------------|--------------------|
| 27E893       | DIN socket (use 20C318 clip)                         | <b>2-1419106-5</b> |
| 27E121       | Track mount socket (use 20C314 clips)                | <b>1393143-5</b>   |
| 27E043       | Chassis mount/solder eyelet socket (use 20C254 clip) | <b>1393143-1</b>   |
| 27E046       | Chassis mount/PCB socket (use 20C254 clip)           | <b>1419106-4</b>   |
| 27E067       | Chassis mount/quick connect socket (use 20C254 clip) | <b>1393143-2</b>   |
| 27E396       | Snap-in/quick connect socket (use 20C254 clip)       | <b>3-1393143-8</b> |

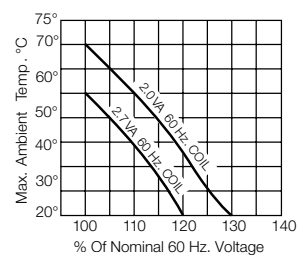
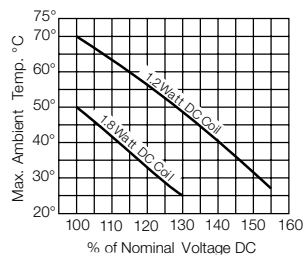
### OTHER DATA

|                                      |                                                                                                                                                                                                                    |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material compliance                  | EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at <a href="http://www.te.com/customer-support/rohssupportcenter">www.te.com/customer-support/rohssupportcenter</a> |
| Ambient temperature                  |                                                                                                                                                                                                                    |
| DC coil                              | Enclosed relays, 1-3 pole: -45°C to 70°C                                                                                                                                                                           |
| AC coil                              | Enclosed relays, 3 pole: -45°C to +45°C                                                                                                                                                                            |
|                                      | Enclosed relays, 1 and 2 pole: -45°C to +55°C                                                                                                                                                                      |
| Category of environmental protection |                                                                                                                                                                                                                    |
| IEC 61810                            | RTI - dust protected                                                                                                                                                                                               |
| Terminal type                        | Quick connects (QC), .187 PCB-THT                                                                                                                                                                                  |
| Terminal retention, push force       |                                                                                                                                                                                                                    |
| QC .187PCB                           | 25 lbs for 3s                                                                                                                                                                                                      |
| Weight                               | 85g                                                                                                                                                                                                                |
| Packaging unit                       | tray/25 pcs., box/150pcs.                                                                                                                                                                                          |

# POTTER & BRUMFIELD KUP SERIES PANEL PLUG-IN RELAY

Panel/Plug-in Relays

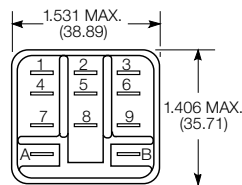
## MAXIMUM ALLOWABLE AMBIENT TEMPERATURE VS VOLTAGE (KUP ENLCOSED)



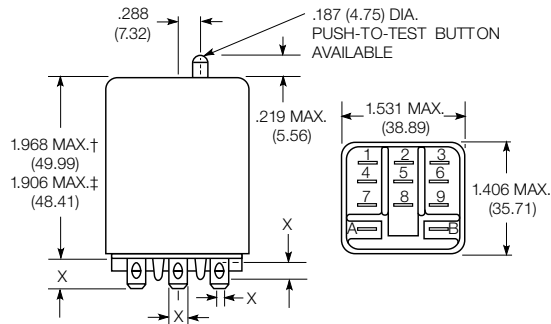
## DIMENSIONS (Unit:mm)

### RELAY FRONT DIAGRAMS

1-3 pole models

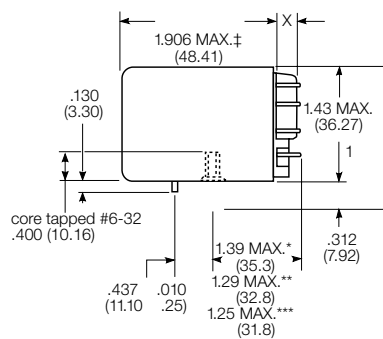


### KUP PLAIN CASE



X Is For Terminal Dimensions.  
See Teminal Drawings.

### KUP CORE / STUD MOUNT CASE



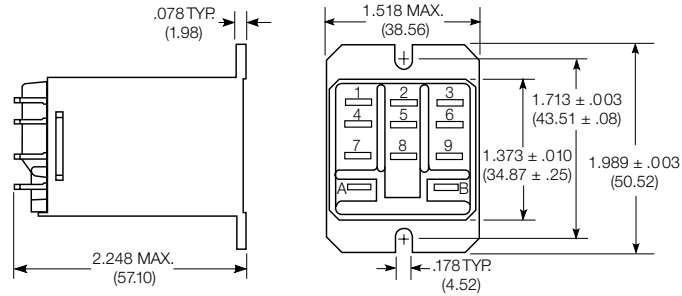
† Dimensions with .187" (4.75mm and .205" 5.21mm) terminals

\*\*\*Dimensions with .187" (4.75mm) terminals.

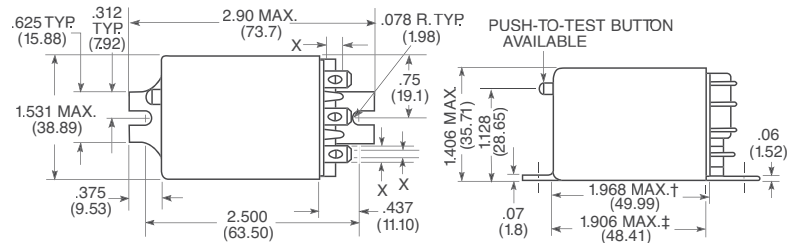
# POTTER & BRUMFIELD KUP SERIES PANEL PLUG-IN RELAY

Panel/Plug-in Relays

## KUP TOP FLANGE CASE

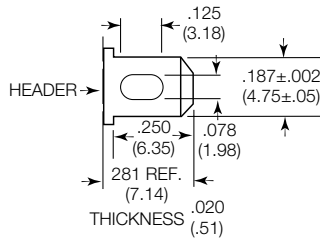


## KUP BRACKET MOUNT CASE

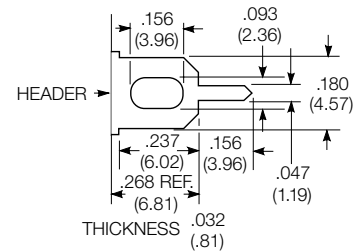


## TERMINAL DIMENSIONS

4.75mm (.187) quick connect

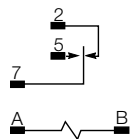


1.19mm (.047) printed circuit

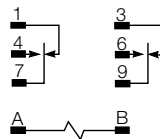


## TERMINAL ASSIGNMENT

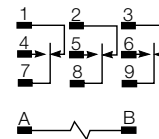
1 form C



2 form C



3 form C

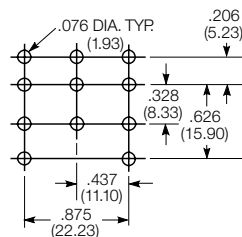


## PCB LAYOUT

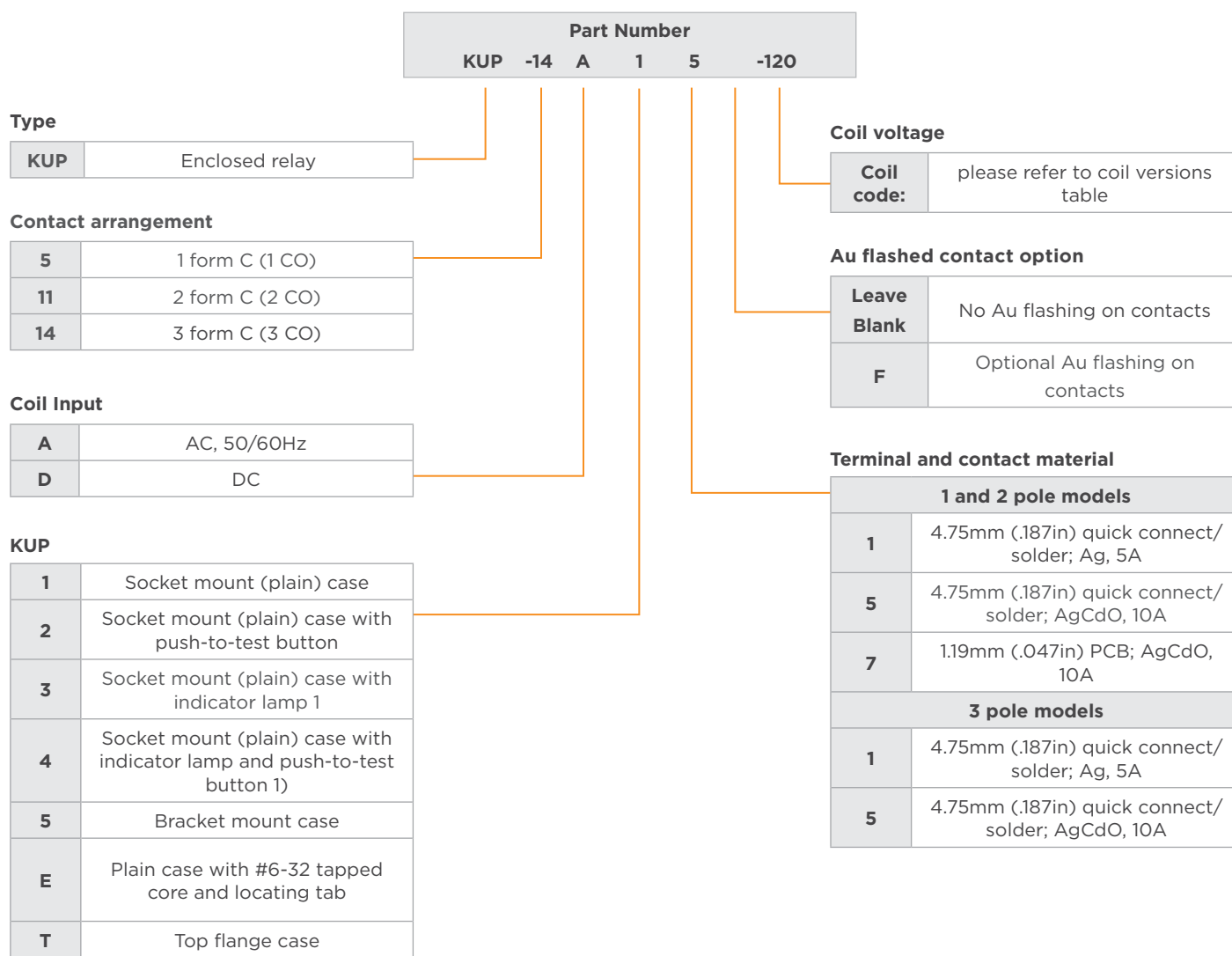
Bottom view on solder pins

3 Pole Version

(Omit unnecessary holes for 2 pole types)



## PRODUCT CODE STRUCTURE



1) 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.

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