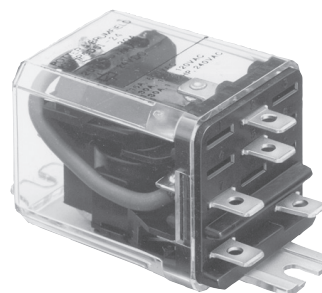


## KUHP Series Panel Relay

- 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)<br>1 form A (NO)<br>1 form B (NC) | 2 form C (CO)<br>2 form A (NO)<br>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 <sup>3</sup> ops. |
|                      | 1HP, 120VAC             | 100x10 <sup>3</sup> ops. |
|                      | 1 1/2HP, 240VAC         | 100x10 <sup>3</sup> ops. |
|                      | 30 FLA, 96 LRA          | 100x10 <sup>3</sup> ops. |
|                      | 30A, 28 VDC             | 50x10 <sup>3</sup> ops.  |
|                      | 10A, 480VAC             | 6x10 <sup>3</sup> ops.   |
|                      | 1/2HP, 480VAC           | 25x10 <sup>3</sup> ops.  |
|                      | 1HP, 480VAC, 3 phase    | 6x10 <sup>3</sup> ops.   |
|                      | 1/2HP, 600VAC           | 25x10 <sup>3</sup> ops.  |
|                      |                         |                          |
| 2 pole, AgCdO        | 20A, 240VAC             | 100x10 <sup>3</sup> ops. |
|                      | 3/4HP, 120VAC           | 100x10 <sup>3</sup> ops. |
|                      | 1 1/2HP, 240VAC         | 100x10 <sup>3</sup> ops. |
|                      | 20 FLA, 83 LRA          | 100x10 <sup>3</sup> ops. |
|                      | 20A, 28 VDC             | 50x10 <sup>3</sup> ops.  |
|                      | 10A, 480VAC             | 6x10 <sup>3</sup> ops.   |
|                      | 1/2HP, 480VAC           | 25x10 <sup>3</sup> ops.  |
|                      | 1HP, 480VAC, 3 phase    | 6x10 <sup>3</sup> ops.   |
| 2 pole AgSnInO       | 1/2HP, 600VAC           | 25x10 <sup>3</sup> ops.  |
|                      |                         |                          |
| 20 A, 240 VAC        |                         | 25x10 <sup>3</sup> ops.  |
| Mechanical endurance | 10x10 <sup>6</sup> ops. |                          |

### Coil Data

|                                     |                            |
|-------------------------------------|----------------------------|
| Coil voltage range                  | 6 to 110VDC<br>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 <sub>rms</sub> |
| between contact and coil      |  | 3750V <sub>rms</sub> |
| between adjacent contacts     |  | 3750V <sub>rms</sub> |
| between coil and frame        |  | 2000V <sub>rms</sub> |
| 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<br>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.                    |

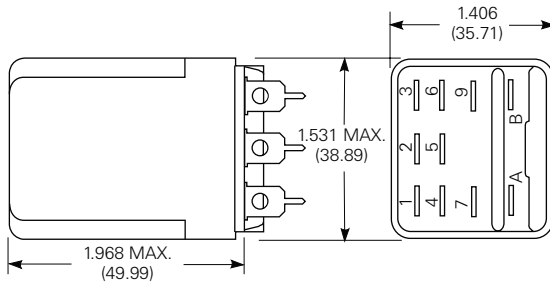
### Accessories

NOTE: no sockets are available for this relay

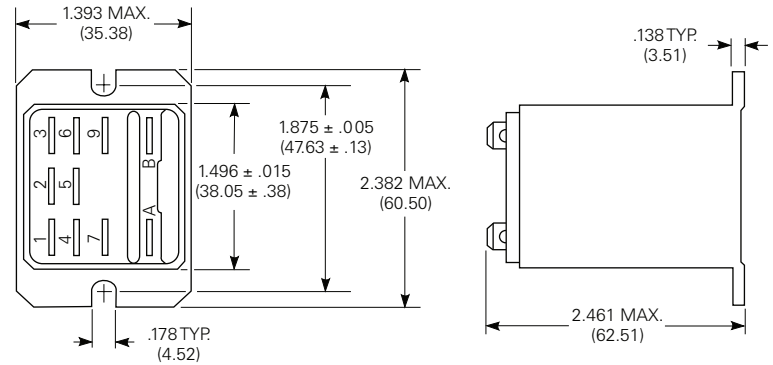
**KUHP Series Panel Relay (Continued)**

**Dimensions**

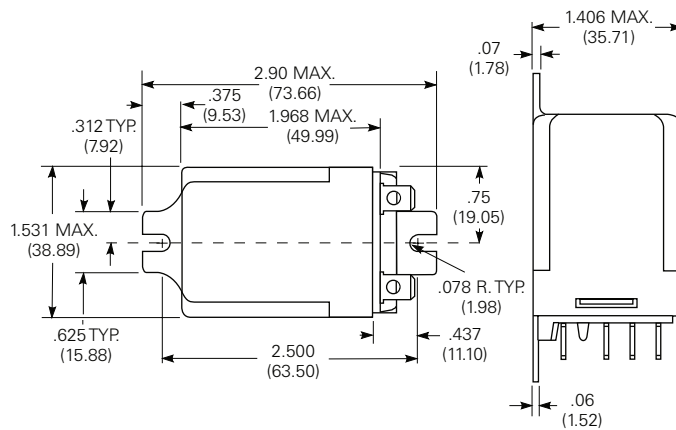
Plain case



Top flange enclosure

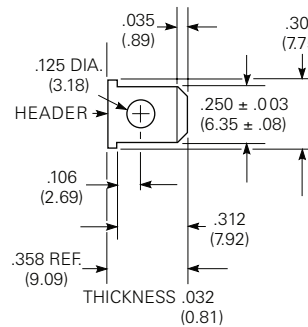


Bracket mount case

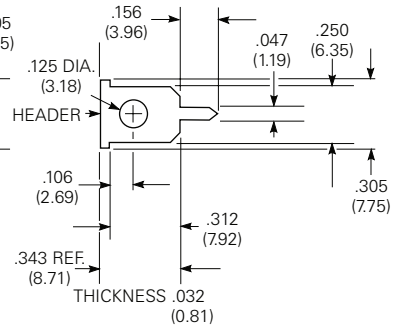


**Terminal dimensions**

6.35mm (.250") Quick Connect/Solder



Printed circuit

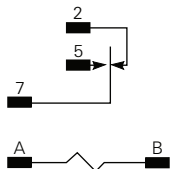


**Terminal assignment**

1 form C

1 form A (delete 2)

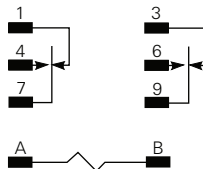
1 form B (delete 5)



2 form C

2 form A (delete 1 and 3)

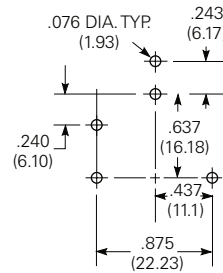
2 form B (delete 4 and 6)



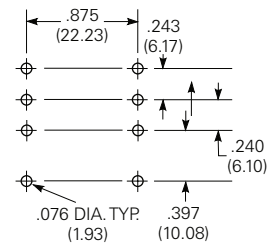
**PCB layout**

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  
**2** 1 form B (NC); 30A  
**5** 1 form C (CO); 30A  
**7** 2 form A (NO); 20A  
**8** 2 form B (NC); 20A  
**11** 2 form C (CO); 20A

#### Coil Input

**A** AC, 50/60Hz  
**D** DC

#### Mountings

##### KUHP options

**1** Plain case  
**5** Bracket mount case  
**T** Top flange mount case

##### KUH options

**1** #6-32 stud, 0.218" locating tab  
**4** #6-32 tapped core, 0.218" locating tab

#### Terminals and contact materials

**1** .250" (6.35mm) quick connect/solder; silver-cadmium oxide  
**P** .250" quick connect/solder; silver tin oxide indium oxide  
**7** .047" (1.19mm) printed circuit; silver-cadmium 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  |                     | 9-1393114-0 |
| 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  |                     | 7-1393114-7 |
| KUHP-11D51-24  |                |            | 24VDC  |                     | 7-1393114-8 |
| KUHP-11DT1-12  |                | top flange | 12VDC  |                     | 7-1393114-2 |