

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

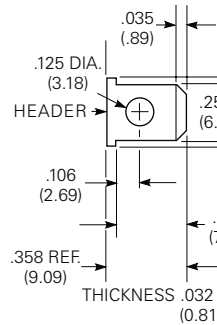


Bracket mount case

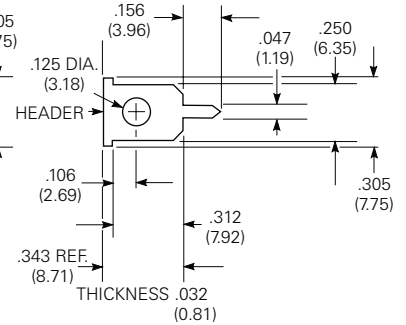


Terminal dimensions

6.35mm (.250") Quick Connect/Solder



Printed circuit



Terminal assignment

1 form C

1 form A (delete 2)

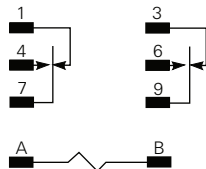
1 form B (delete 5)



2 form C

2 form A (delete 1 and 3)

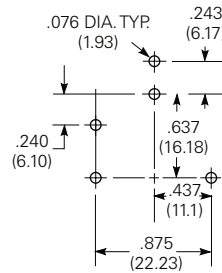
2 form B (delete 4 and 6)



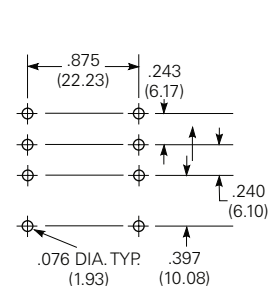
PCB layout

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 | | 7-1393114-7 |
| KUHP-11D51-24 | | | 24VDC | | 7-1393114-8 |
| KUHP-11DT1-12 | | top flange | 12VDC | | 7-1393114-2 |