

**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 <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
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 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 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

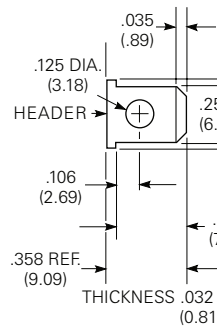


Bracket mount case

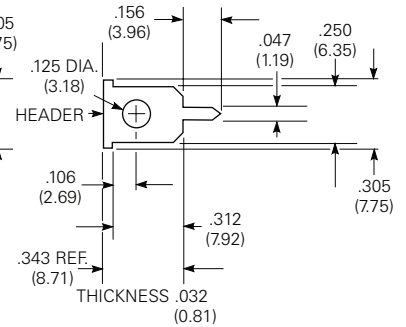


**Terminal dimensions**

6.35mm (.250") Quick Connect/Solder



Printed circuit



**Terminal assignment**

1 form C

1 form A (delete 2)

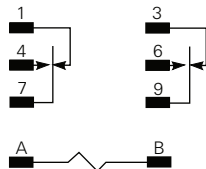
1 form B (delete 5)



2 form C

2 form A (delete 1 and 3)

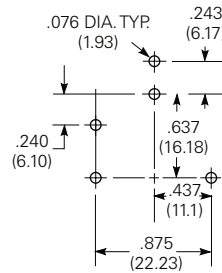
2 form B (delete 4 and 6)



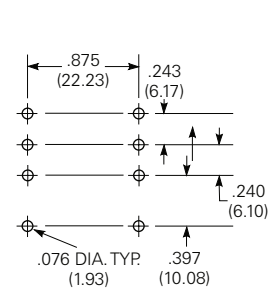
**PCB layout**

Bottom view on solder pins

1 pole version



2 pole version



**KUHP Series Panel Relay** (Continued)

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