

KUHP-5A51-120 Product Details




KUHP-5A51-120

TE Internal Number: 8-1393114-4



Active

Industrial Relays (General Purpose)

 [Converted to EU RoHS but not ELV Compliant](#)
(Statement of Compliance)

Product Highlights:

- KUHP Series
- Contact - Current Class = 20A to 30A Class, Greater Than 16A
- Contact - Rated Current = 30 A
- Terminal Type = Quick Connect, Solder
- Contact - Arrangement = 1 Form C (CO)

Documentation & Additional Information

Product Drawings:

- None Available

Catalog Pages/Data Sheets:

- [KUHP 30 Amp Power Relays](#) (PDF, English)

Product Specifications:

- None Available

Application Specifications:

- None Available

Instruction Sheets:

- None Available

CAD Files: [\(CAD Format & Compression Information\)](#)

- [2D Drawing](#) (DXF, Version 0303)
- [3D Model](#) (IGES, Version 0303)
- [3D Model](#) (STEP, Version 0303)

Additional Information:

- [Product Line Information](#)

Additional Product Images:

- [Schematic](#)
- [PCB Layout](#)
- [Wiring Diagram](#)

Related Products:

- [Tooling](#)

Product Features (Please use the Product Drawing for all design activity)

Product Type Features:

- [Series](#) = KUHP
- Terminal Type = Quick Connect, Solder

Mechanical Attachment:

- Mounting Options = Bracket Mount

Electrical Characteristics:

- Contact - Current Class = 20A to 30A Class, Greater Than 16A
- [Contact - Rated Current \(A\)](#) = 30
- Contact - Limiting Continuous Current (A) = 30
- Contact - Limiting Making Current (A) = 30
- Contact - Limiting Breaking Current (A) = 30
- Insulation - Initial Dielectric Between Coil/Contact Class = 3500V to 4000V Class
- Insulation - Initial Dielectric Between Open Contacts (V rms) = 1200
- Insulation - Initial Dielectric Between Contacts and Coil (V rms) = 3750
- Contact - Rated Voltage (VAC) = 240
- Contact - Limiting Short-Time Current (A) = 30
- Contact - Switching Recommended Load, Min. = 300mA at 12V
- Coil - Rated Voltage (VAC) = 120
- [Coil - Resistance \(Ω\)](#) = 1700
- [Coil - Rated Power, AC \(VA\)](#) = 3.00
- Coil - Rated Power Class = 2.0VA to 3.0VA Class
- Insulation - Initial Insulation Resistance (MΩ) = 100000

Dimensions:

- Mechanical - Length Class = 40mm to 50mm Class
- Length (mm [in]) = 50.00 [1.970]
- Mechanical - Width Class = 30mm to 40mm Class
- Width (mm [in]) = 38.90 [1.531]
- Mechanical - Height Class = 30mm to 40mm Class
- Height (mm [in]) = 35.70 [1.405]

Body Features:

- Mount Type = Panel Mount
- Weight (g [oz]) = 92.00 [3.245]

Contact Features:

- Contact Material = AgCdO
- Contact - Number of Poles = 1

Configuration Features:

- [Contact - Arrangement](#) = 1 Form C (CO)
- [Coil - Magnetic System](#) = Monostable, AC
- Coil - Special Features = UL Coil Insulation Class B

Industry Standards:

- [RoHS/ELV Compliance](#) = RoHS/Not ELV Compliant
- [Lead Free Solder Processes](#) = Not relevant for lead free process
- RoHS/ELV Compliance History = Converted to comply with RoHS not ELV directives
- Approved/Registered Standards = CSA, UL

Environmental:

- Environmental - Category of Protection = RTI
- Environmental - Ambient Temperature, Max. (°C [°F]) = 45 [113]
- Environmental - Ambient Temperature Class = 0 to 50°C Class

Packaging Features:

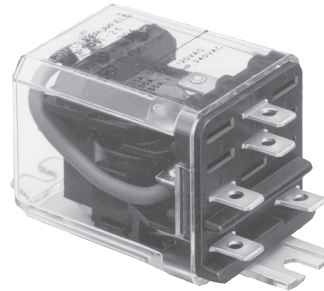
- Packaging Method = Tray

Other:

- Brand = Potter & Brumfield

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	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 45°C
AC coil		-45°C to 70°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.

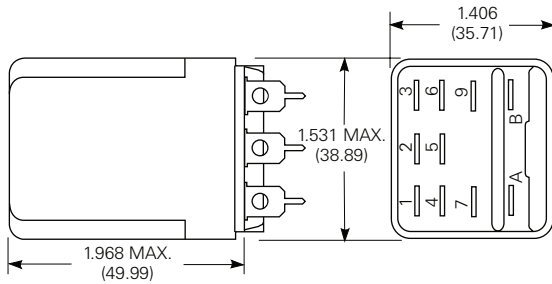
Accessories

NOTE: no sockets are available for this relay

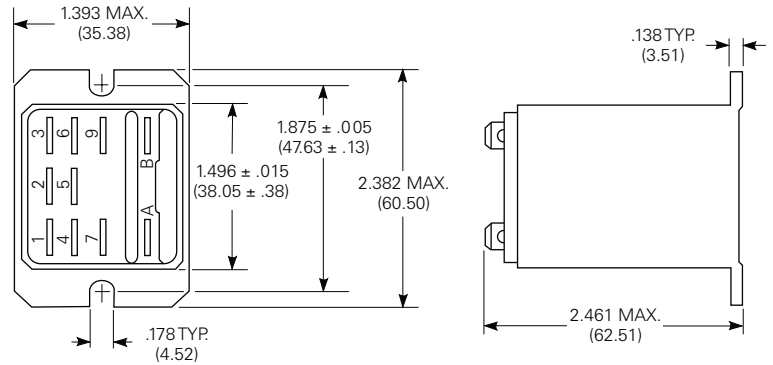
KUHP Series Panel Relay (Continued)

Dimensions

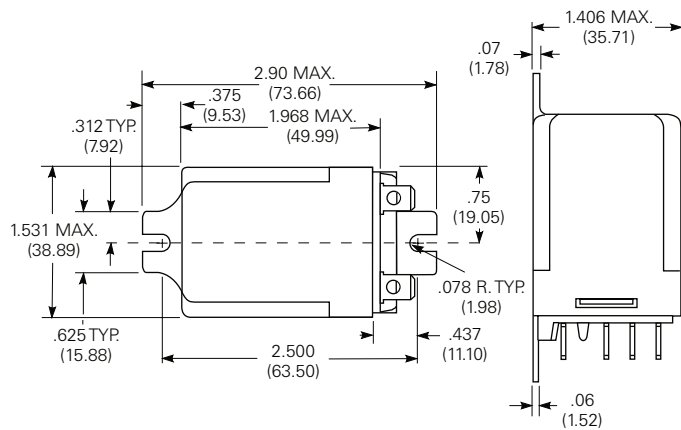
Plain case



Top flange enclosure

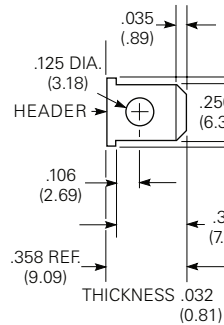


Bracket mount case

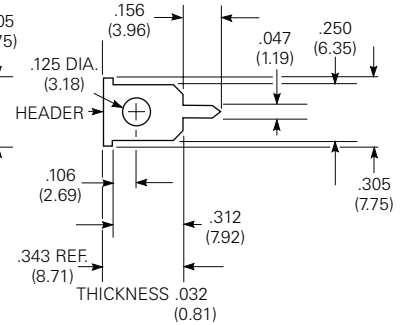


Terminal dimensions

6.35mm (.250") Quick Connect/Solder



Printed circuit

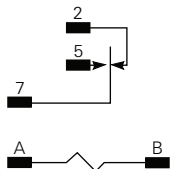


Terminal assignment

1 form C

1 form A (delete 2)

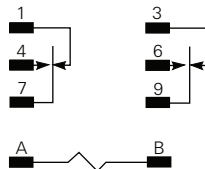
1 form B (delete 5)



2 form C

2 form A (delete 1 and 3)

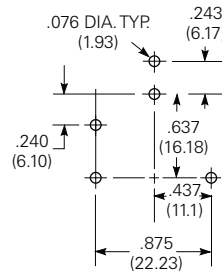
2 form B (delete 4 and 6)



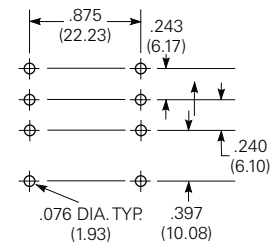
PCB layout

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