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)	2 form C (CO)
	1 form A (NO)	2 form A (NO)
	1 form B (NC)	2 form B (NC)
Rated voltage	240VAC	240VAC
Rated current	30A	20A
Contact material	AgCdO	AgCdO, AgSnOInO
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

Contact ratings

Type	Load	Cycles
UL 508		
1 pole, AgCdO		
	30A, 240VAC	100x10³
	1HP, 120VAC	100x10³
	1 1/2HP, 240VAC	100x10³
	30 FLA, 96 LRA	100x10³
	30A, 28 VDC	50x10³
	10A, 480VAC	6x10³
	1/2HP, 480VAC	25x10³
	1HP, 480VAC, 3 phase	6x10³
	1/2HP, 600VAC	25x10³
2 pole, AgCdO		
	20A, 240VAC	100x10³
	3/4HP, 120VAC	100x10³
	1 1/2HP, 240VAC	100x10³
	20 FLA, 83 LRA	100x10³
	20A, 28 VDC	50x10³
	10A, 480VAC	6x10³
	1/2HP, 480VAC	25x10³
	1HP, 480VAC, 3 phase	6x10³
	1/2HP, 600VAC	25x10³
2 pole AgSnOInO		
	20 A, 240 VAC	25x10³
Mechanical endurance		10x10⁶ 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	Coil 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

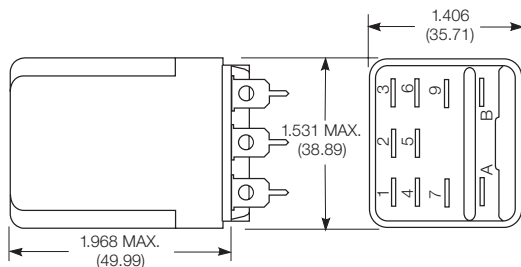|	
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter	
Ambient temperature	
DC coil	-45ºC to 70ºC
AC coil	-45ºC to 45ºC
Category of environmental protection	
IEC 61810	RTI - dust protected and RT0 - open style
Vibration resistance (functional)	.065" double amplitude, 10-55Hz
Shock resistance (functional)	15g, 11ms (non-operating)
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.

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Datasheets and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.

Datasheets and product data is subject to the terms of the disclaimer and all chapters of the 'Definitions' section, available at http://relays.te.com/definitions

Datasheets, product data, 'Definitions' section, application notes and all specifications are subject to change.

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KUHP Series Panel Relay (Continued)

Accessories
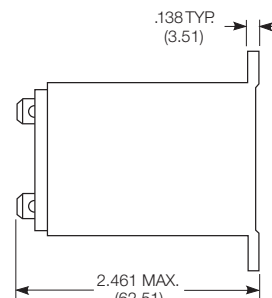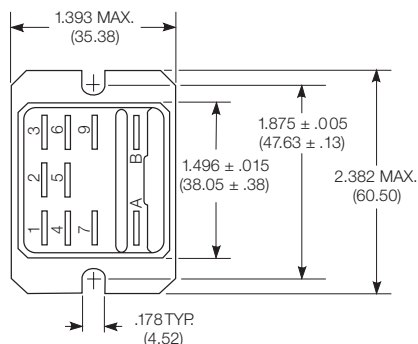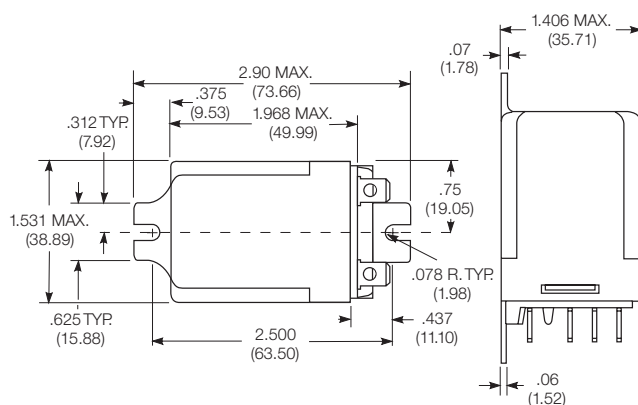NOTE: no sockets are available for this relay

Dimensions
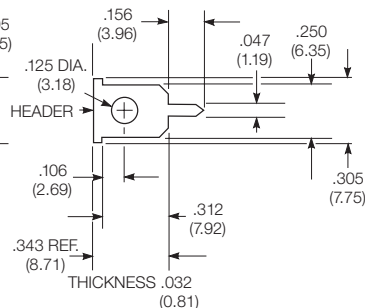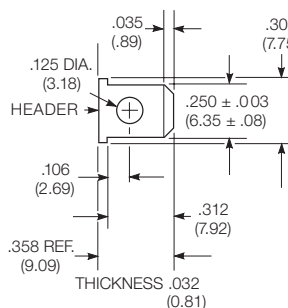
Plain case

Top flange enclosure

1.406
(35.71)

1.531 MAX.
(38.89)

1.968 MAX.
(49.99)

1.393 MAX.
(35.38)

1.875 ± .005
(47.63 ± .13)

1.496 ± .015
(38.05 ± .38)

2.382 MAX.
(60.50)

.178 TYP.
(4.52)

.138 TYP.
(3.51)

2.461 MAX.
(62.51)

Bracket mount case

2.90 MAX.
(73.66)

.375
(9.53)

1.968 MAX.
(49.99)

.312 TYP.
(7.92)

1.531 MAX.
(38.89)

.625 TYP.
(15.88)

2.500
(63.50)

.437
(11.10)

.07
(1.78)

1.406 MAX.
(35.71)

.75
(19.05)

.078 R. TYP.
(1.98)

.06
(1.52)

Terminal dimensions
6.35mm (.250") Quick Connect/Solder

.035
(.89)

.305
(7.75)

.125 DIA.
(3.18)

HEADER

.250 ± .003
(6.35 ± .08)

.106
(2.69)

.312
(7.92)

.358 REF.
(9.09)

THICKNESS .032
(0.81)

Printed circuit

.156
(3.96)

.047
(1.19)

.250
(6.35)

.125 DIA.
(3.18)

HEADER

.106
(2.69)

.312
(7.92)

.305
(7.75)

.343 REF.
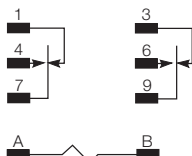(8.71)

THICKNESS .032
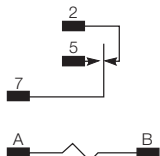(0.81)

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)

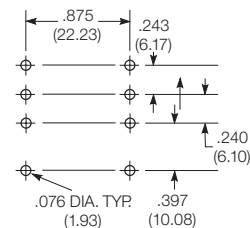### PCB layout
Bottom view on solder pins

1 pole version

.076 DIA. TYP.
(1.93)

.243
(6.17)

.240
(6.10)

.637
(16.18)

.437
(11.1)

.875
(22.23)

2 pole version

.875
(22.23)

.243
(6.17)

.240
(6.10)

.076 DIA. TYP.
(1.93)

.397
(10.08)
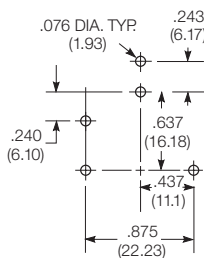
KUHP Series Panel Relay (Continued)

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 formA (NO); 30A	**7**	2 formA (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		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