

Features

- AC coils: 6-240VAC, 50/60 Hz. DC: 6-110VDC.
- Contact arrangement up to 4PDT.
- Wide selection of termination and mounting styles.
- PC terminals available.
- Push to test button and indicator lamps.
- KUEP incorporates a blow out magnet for high voltage DC switching.
- KUIP offers 8mm contact-to-coil spacing for a higher degree of isolation.
- KUGP provides 3mm contact gap and 8mm contact-to-coil spacing.
- Complete line of sockets and DIN rail.
- Class B coil insulation.

Contact Data @ 25°C

Arrangements: See respective ordering information table. Materials: Fine silver (5 amp) silver-cadmium oxide (10 amp). Gold flash available as standard. Gold diffused and gold alloy on special order.

Expected Mechanical Life:

Contact Ratings

Material	Arrangement	UL/CSA Ratings	Expected Life
Fine Silver	All	5 amps @ 28VDC or 240VAC 80% PF, 2.5 amp tungsten @120VAC, 1/2 amp @ 120VDC. 1/6 HP @120VAC, 1/3 HP @ 240VAC, 5 FLA, 15 LRA @ 250VAC (FLA covered by 30,000 operations).	100,000
Silver- Cadmium Oxide	1-2 Pole KUP KUIP KUGP	10 amps @ 28VDC or 240VAC, 80% PF, 5 amp tungsten @ 120VAC, 3A 600VAC, 1/2 amp @ 120VDC.	100,000
	KUEP Ali Kump	1/3 HP @ 120VAC, 1/2 HP @ 240, 480, and 600VAC, 10 FLA 30 LRA @ 120VAC, 5 FLA, 15 LRA @ 250VAC.(FLA ratings covered by 30,000 operations)	
	KUMP	15 amp @ 277VAC, 80% PF KUM KUMP	100,000
	3 Pole KUP KUIP	10 amp @ 28VDC or 120VAC, 80% PF, 6 2/3 amp @ 240VAC, 80% PF	100,000
	4 Pole	10 amp per pole not to exceed 30 amp total @ 28VDC, 120VAC, 80% PF, 6 2/3 amp @ 240VAC, 80% PF	100,000
	KUEP SPST-NO 10 amp @ 150VDC KUEP 2PST-NO 5 amp @ 150VDC		
	2PDT	3 amp @ 150VDC	100,000

(All other AC ratings apply KUEP)

Initial Dielectric Strength

Between Open Contacts: 1,200V rms; KUGP, 3,500V rms. Between Adjacent Contacts: 2,200V rms. Between Contacts and Coil: 2,200V rms; KUGP, KUIP, 3,750V rms.

Dimensions are in inches over (millimeters) unless otherwise specified.

KU series

KUP Enclosed Relay KUIP 8mm Coil to Contacts KUGP 3mm Contact Gap, 8mm Coil to Contacts KUEP 10 Amp 150VDC Load Switching KUMP 15 Amp 277VAC

File E22575

(File LR15734

Users should thoroughly review the technical data before selecting a product part number. It is recommended that users also seek out the pertinent approvals files of the agencies/laboratories and review them to ensure the product meets the requirements for a given application.

Coil Data @ 25°C

Voltage: 6 to 110VDC and 6 to 240VAC.

Nominal Coil Power:

- DC Coils: 1.2 Watts KUP, KUIP, KUMP, 1 3 pole; KUEP, 1 pole.
- DC Coils: 1.8 Watts KUP, 4 pole; KUEP, 2 pole; KUGP.
- AC Coils: 2.0VA KUP, KUIP, 1 2 pole; KUEP, 1 pole.
- AC Coils: 2.7VA KUP, KUIP, 3 pole; KUEP, 2 pole; KUGP, KUMP.

Coil Data

DC Volts	1.2 Wa	att	1.8 Watt		
Nominal	DC Ohms ± 10%	Nom. I ma	DC Ohms ± 10% Nom. I m		
5	21	238	14	360	
6	32.1	187	20	300	
12	120	100	80	150	
24	472	51	320	75	
48	1,800	26.7	1,260	38	
110	10,000	11	6,720	16	
AC Volts	2VA		2.7V/	1	
Nominal	DC Ohms ± 15%	Nom. I ma	DC Ohms ± 15%	Nom. I ma	
6	6	335	4.2	460	
12	24	168	18	230	
24	85	84	72	115	
120	2,250	17.5	1,700	24	
240	9,110	8.75	7,200	12	

Operate Data @ 25°C

Must Operate Voltage:

DC Coils: 75% of nominal voltage or less. **AC Coils:** 85% of nominal voltage or less.

Operating Time (Excluding Bounce):

15 milliseconds, typical, at nominal voltage. Release Time (Excluding Bounce):

10 milliseconds, typical, at nominal voltage.

Environmental Data

Temperature Range:

Operating: Enclosed Relays: -45°C to maximum listed in table below. Open Relays: Add 15°C to maximum listed.

Max C°	+45°C	+50°C	+55°C	+70°C	+75°C	+80°C	+95°C
KUP	AC	DC	AC	DC			
	3-4 pole	4 pole	1-2 pole	1-3 pole			
KUIP				AC		AC	DC
				3 pole		1-2 pole	1-3 pole
KUGP				AC	DC		
				2 pole	2 pole		
KUEP	AC	DC	AC	DC			
	2 pole	2 pole	1 pole	1 pole			
KUMP	AC		AC	DC			
	3 pole		1-2 pole	1-3 pole			

Specifications and availability subject to change.

Environmental Data (Continued)

Ordering Information

1. Basic Series & Type:

2.

4.

5.

Maximum Allowable Ambient Temperature vs. Voltage (KUP enclosed)



Mechanical Data

Termination: Quick connect, solder and PC board. Enclosure: Clear polycarbonate dust cover. Weight: 3.0 oz. (85g) approximately.

Α

-14

1

KU = Basic open relay. KUP = Basic enclosed relay **Contact Arrangement:** 1 = 1A (SPST-NO) 14 = 3C (3PDT) 5 = 1C (SPDT) 17 = 4C (4PDT)11 = 2C (DPDT)3. Coil Input: A = AC 50/60 HzD = DCMountings: KUP (through 3 poles) Type KU KUP (4 pole models) Codes 1,2,3,4,5, Available 1,3,4 A,E,T 1,3,5,A,E OPEN STYLE 1 = PLAIN CASE; 1 = #6-32 stud, .218" (5.54mm) locating tab. 3 = #6-32 tapped core, .125" (3.18mm) locating tab. 4 = #6-32 tapped core, .218" (5.54mm) locating tab. 2 = with test button. 3 = with indicator lamp.* 4 = with test button & indicator lamp.* 5 = BRACKET MOUNT CASE $\begin{array}{l} \mathsf{A} = \mathsf{PLAIN} \ \mathsf{CASE}, \ \texttt{#6-32} \ \mathsf{stud}, \ \mathsf{locating} \ \mathsf{tab}. \\ \mathsf{E} = \mathsf{PLAIN} \ \mathsf{CASE}, \ \mathsf{tapped} \ \mathsf{core}, \ \mathsf{locating} \ \mathsf{tab}. \\ \mathsf{T} = \mathsf{TOP} \ \mathsf{FLANGE} \ \mathsf{CASE}. \end{array}$ * Indicator lamps are available on models with the following coils: 6-24VAC and DC, 110VDC and 120-240VAC. Only models with 120-240VAC coils are UL recognized. **Terminal & Contact Material:** 1 & 2 Pole Models **3 Pole Models 4 Pole Models** Type Codes 1, 5, 7, K 1, 5, 7 1**, 5**,7, 9 **4 pole KUP with .187" (4.75mm) quick connect/solder Available terminals will not plug into sockets. Must use .110" (2.79 mm) quick connect solder terminals for socket mounting. 1 = .187" (4.75mm) quick-connect/solder; silver, 5 amps. 5 = .187" (4.75mm) quick connect/solder; silver-cadmium oxide, 10 amps. 7 = .047" (1.19mm) printed circuit; silver-cadmium oxide, 10 amps. 9 = 4 pole KU, KUP: .110" (2.79mm) quick connect/solder; silver-cadmium oxide, 10 amps. K = .250" (6.35mm) quick connect; silver-cadmium oxide, 10 amps. 5A. Gold Flashed Contact Option: F = Optional gold flashing for silver and silver-cadmium oxide contacts.

KU

KUP

Typical Part No. ►

6.

Coil Voltage: To 240VAC, 50/60 Hz. or 110VDC.

Our authorized d	istributors are me	ore likely to stock	_		
KUP-5A15-24	KUP-11A15-12	KUP-11D15-5	KUP-11D55-110	KUP-14A55-24	KUP-14D25-24
KUP-5A15-120	KUP-11A15-24	KUP-11D15-12	KUP-14A11-120	KUP-14A55-120	KUP-14D35-24
KUP-5A15-240	KUP-11A15-120	KUP-11D15-24	KUP-14A15-12	KUP-14A55-240	KUP-14D55-12
KUP-5A55-120	KUP-11A15-240	KUP-11D15-110	KUP-14A15-24	KUP-14D11-24	KUP-14D55-24
KUP-5D15-12	KUP-11A35-120	KUP-11D35-24	KUP-14A15-120	KUP-14D15-6	KUP-17A19-120
KUP-5D15-24	KUP-11A55-24	KUP-11D55-6	KUP-14A15-240	KUP-14D15-12	KUP-17A55-24
KUP-5D55-12	KUP-11A55-120	KUP-11D55-12	KUP-14A25-120	KUP-14D15-24	KUP-17D19-24
KUP-5D55-24	KUP-11AT5-120	KUP-11D55-24	KUP-14A35-120	KUP-14D15-48	KUP-17D55-24
KUP-11A11-120	KUP-11D11-24	KUP-11D55-48	KUP-14A45-120	KUP-14D15-110	

Dimensions are in inches over (millimeters) unless otherwise specified.

Specifications and availability subject to change

F

5

-120

tyco Electronics		Catalog Issued 3-03 (F	1308242 PDF Rev. 1-06)					P&B
Ord	lering Information							
Hig	h Isolation Design	Typical Part No. ►	KUIP	-5	Α	5	5	-120
1.	Basic Series & Type: KUIP = Enclosed relay with 8mm contact t KUGP = Enclosed relay with 3mm open co 8mm contact to coil spacing. (Forr	o coil spacing. Intact spacing and In A and Form X arrangements only)	KUGP					
2.	Contact Arrangement: 5 = 1 Form C (SPDT)* 7 = 2 Form A (DPST-NO) * Not offered on KUGP model.	11 = 2 Form C (DPDT)* 14 = 3 Form C (3PDT)*						
3.	Coil Input: A = AC, 50/60 Hz. D = DC							
4.	Mountings: 1 = PLAIN CASE, SOCKET MOUNT. 5 = BRACKET MOUNT CASE.	T = TOP FLANGE CASE.				-		
5.	Terminal & Contact Material: 3 = .047" (1.19mm) printed circuit board; si	ver. 5 = .187" (4.7	5mm) quick conr	nect/solder;	silver-cadmiu	ım oxide.	_	
6.	Coil Voltage: To 240VAC, 50/60 Hz. or 110VDC. (For 277	VAC, consult factory.)	See	coil data tab	les.			_

Our authorized distributors are more likely to stock the following items for immediate delivery.

KUGP-7D55-24	
KUIP-5A55-120	
KUIP-11D55-12	
KUIP-11D55-24	

KUIP-14A15-120 KUIP-14D15-12 KUIP-14D15-24

Ordering Information

	·····g ·····							
Hig	h Voltage DC Switching	Typical Part No. 🕨	KUEP	-3	Α	1	5	-120
1.	Basic Series & Type: KUEP = Enclosed relay with magnetic blow-	outs.						
2.	Contact Arrangement:3 = 1X (SPST-NO-DM)7 = 2A (DP	ST-NO) 11 = 2C (DF	PDT)	_				
3.	Coil Input: A = AC 50/60 Hz. D = DC				_			
4.	Mountings: 1 = PLAIN CASE; 3 = with indicator lamp.* 5 = BRACKET MOUNT CASE T = TOP FLANGE CASE.	*Indicator lamps are ava 6-24VAC and DC, 110VI 120-240VAC coils are UI	ilable on models DC and 120-240\ L recognized.	s with the fo VAC. Only m	llowing coils: nodels with			
5.	Terminal & Contact Material: 5 = .187" (4.75mm) quick connect/solder; silv cadmium-oxide.	ver- 7 = .0)47' (1.19mm) pri	inted circuit	; silver-cadmiu	ım-oxide.	-	
6.	Coil Voltage: To 240VAC, 50/60 Hz, or 110VDC, (For 277VA	AC. consult factory.)						-

Our authorized distributors are more likely to stock the following items for immediate delivery.

KUEP-3A15-120 KUEP-3D15-12 KUEP-3D15-24

KUEP-3D15-110 KUEP-7D15-24 KUEP-11A15-120

KUEP-11D15-12 KUEP-11D15-24

specified.

Dimensions are in inches over (millimeters) unless otherwise

Specifications and availability subject to change.

ty	20		Catalog Issued 3-03 (1308242 PDF Rev. 1-06)					P&B
Orc	lering Information			,					
15 A 1.	Amp Switching Basic Series & Type: KUM = 15 amp open rela	1 ay	Typical Part No. ►	KUM KUMP	-14	Α	1	8	-120
2.	KUMP = 15 amp enclose Contact Arrangement: 1 = 1A (SPST-NO) 2 = 1B (SPST-NC) 3 = 1X (SPST-NO-DM) 4 = 1Y (SPST-NC-DB) 5 = 1C (SPDT) 6 = 1Z (SPDT-NC-NO [E 7 = 2A (DPST-NO) 8 = 2B (DPST-NC) 11 = 2C (DPDT) 12 = 3A (3PST-NO) 13 = 3B (3PST-NC) 14 = 3C (3PDT)	ed relay DB-DM])							
3.	Coil Input: A = AC, 50/60 Hz.	D = DC							
4.	Mountings: Type KUM OPEN STYLE 1 = #6-32 stud, .218" (5.54mm) locating tab. 2 = 2-hole bracket, #6-32 tapped. 3 = #6-32 tapped core, .125" (3.18mm) locating tab. 4 = #6-32 tapped core, .218" (5.54mm) locating tab. 5 = #6-32 tapped core, no locating tab.	1 = PLAIN CASE; 2 = with test button. 3 = with indicator lan 4 = with test button 1 5 = BRACKET MOUN 6 = with test button. 7 = with indicator lan 8 = with test button 1 9 = STUD ON END C *Indicator lamps are 6-24VAC and DC, 111 120-240VAC coils are	KUM A = B = B = B = B = C = B = C = A indicator lamp.* D = T CASE; E = T = A indicator lamp.* H = DF PLAIN CASE. T = available on models with 0VDC and 120-240VAC. e UL recognized.	P PLAIN CASE, #6- with test button. with indicator lan with test button PLAIN CASE, TAI with test button. with indicator lan with test button TOP FLANGE CA	-32 STUD LO np.* & indicator la PPED CORE, np.* & indicator la .SE. bils: h	CATING TAE mp.* LOCATING mp.*	3; TAB;		
5 . 6 .	Terminal & Contact Mathematical Science Type 1 & 2 Pole M Codes 6,8,9,G Available 6 6 .205" (5.21mm) quit 8 .187" (4.75mm) quit 9 .047" (1.19mm) print G .250" (6.35mm) quit Coil Voltage: To 240\/AC 50/60 Hz or	terial: 10dels 3 Pole Models 6,8,9 ck connect/solder; silver- ck connect/solder; silver- ted circuit; silver-cadmiun ck connect; silver-cadmiun 110VDC (Eor 277)/AC, co	admium-oxide. admium-oxide. n-oxide. m-oxide. (Not available	on 3 pole models	5.)				

Our authorized distributors are more likely to stock the following items for immediate delivery.

KUMP-11A18-24
KUMP-11A18-120
KUMP-11A18-240

tyco

KUMP-11D18-12 KUMP-11D18-24 KUMP-11D18-110

KUMP-14A18-24 KUMP-14A18-120 KUMP-14D18-12

KUMP-14D18-24

Outline Dimensions

Open Relays

Bracket Type



Stud Type





#6-<u>3</u>2

THREAD

X Is For Terminal Dimensions See Terminal Drawings.

31

(7.9)

.150

TAB WIDTH (3.81)

Φ

Catalog 1308242 Issued 3-03 (PDF Rev. 1-06)

Seated Heights For Open Relays

1.391" (35.33mm) for #6-32 stud with .218" (5.54mm) locating tab.

1.52" (38.6mm) for bracket with 2-#6 32 tapped holes.

1.282" (32.56mm) for #6-32 tapped core with .125" (3.18mm) or .218" (5.54mm) locating tab.

2.046" (51.97mm) for relay with printed circuit terminals.

STUD TYPE also available with .125" (3.18mm) tab, as well as without stud and locating tab. Models without stud have core tapped #6-32 THREAD, .25" (6.4mm) minimum depth.

*Dimensions with .250" (6.35mm) terminals.

**Dimensions with .110" (2.79mm) or .205"(5.21mm) terminals.

***Dimensions with .187" (4.75mm) terminals.

Enclosed Relays





Top Flange Case



1.518 MAX. (38.56)H $1.713 \pm .003$ 4 5 6 (43.51 ± .08) 1.373['] ± .010 7 8 9 1.989 ± .003 (34.87 ± .25) (50.52) 178 TYP (4.52)

Bracket Mount Case



Dimensions are shown for reference purposes only.

Dimensions are in inches over (millimeters) unless otherwise specified.

Specifications and availability subject to change.

Core and Stud Mount Cases 1.968 MAX.† (49.99) 1.906 MAX.‡ (48.41) .43 MAX .130 (3.30) (36.27) 1.74 MAX (44.2) STUD with #6-32THREAD .312 or CORE TAPPED 1.39 MAX.*

(35.3) 1.29 MAX.** (32.8) 1.25 MAX.***

(31.8)

(7.92)

†Dimensions with .250" (6.35mm) terminals

.437 ± .010

(11.10 ± .25)

‡Dimensions with .110" (2.79mm), .187" (4.75mm and .205" 5.21mm) terminals.

*Dimensions with .250" (6.35mm) terminals.

**Dimensions with .110" (2.79mm) or .205" (5.21mm) terminals

***Dimensions with .187" (4.75mm) terminals.

Stud on End Case

#6-32



.06

(1.52)

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Outline Dimensions (Continued) Relay Front Diagrams

1-3 Pole Relays



Relays With

4 Pole Relays

Terminal Dimensions

.110" (2.79mm) Quick ConnectQuick Connect

Printed Circuit

.187″ (4.75mm) Quick Connect

Note: All drawings shown oversize.

Wiring Diagrams *1 Form X 3 Form C 4 Form C 1 Form C *2 Form A *2 Form C 10 11 В В В В B A <u>A</u> -^_-

*Recommended Load Polarity for Optimum Arc Suppression.

PC Board Layouts (Bottom Views)

3 Pole Models

4 Pole Models

Dimensions are in inches over (millimeters) unless otherwise specified. Specifications and availability subject to change.

www.tycoelectronics.com Technical support: Refer to inside back cover.