

#### 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/KUGP are VDE approved.
- · 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 KUEP All KUMP	10 amps @ 28VDC or 240VAC, 80% PF, 5 amp tungsten @ 120VAC, 3A 600VAC, 1/2 amp @ 120VDC. 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)	100,000
	KUMP	15 amp @ 277VAC, 80% PF KUM KUMP	100,000
	3 Pole KUP KUIP 4 Pole	10 amp @ 28VDC or 120VAC, 80% PF, 6 2/3 amp @ 240VAC, 80% PF 10 amp per pole not to exceed 30 amp total @ 28VDC, 120VAC,	100,000
		80% PF, 6 2/3 amp @ 240VAC, 80% PF	100,000
	KUEP SPST-NO KUEP 2PST-NO KUEP	10 amp @ 150VDC 5 amp @ 150VDC	
	2PDT	3 amp @ 150VDC	100,000

#### 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

(millimeters) unless otherwise reference purposes only specified.

KU series

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

- **A** File E22575
- (File LR15734
- 0435 Registration 1792 (KUIP)
- △ 0435 Registration 1792 (KUGP)

License 81.12102.01

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 W	att	1.8 V	/att
Nominal	DC Ohms ± 10%	Nom. I ma	DC Ohms ± 10%	Nom. I ma
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:

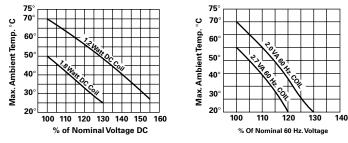
Operating: Enclosed Relays: -45°C to maximum listed in table below. Open Relays: Add 15°C to maximum listed.

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			

Technical support: Refer to inside back cover.

#### **Environmental Data (Continued)**

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.

# Ordering Information

			Тур	ical Part No. 🕨	KU	-14	Α	1	5	F	-120
1.	Basic Series KU = Basic c KUP = Basic				KUP						
2.	<b>Contact Arra</b> 1 = 1A (SPST 5 = 1C (SPD 11 = 2C (DPE	-NO) 14 = Γ) 17 =	3C (3PDT) 4C (4PDT)								
3.	<b>Coil Input:</b> A = AC 50/60 D = DC	) Hz.					_				
4.	Mountings:										
[	Туре	KU		KUP (throug	h 3 poles)	KUP (4	pole model	s)			
	Codes Available	1,3,4		1,2,3, A,E		1	,3,5,A,E				
	3 = #6-32 tap		locating tab. 18mm) locating tab. 54mm) locating tab.	3 = wi $4 = wi$ $5 = BF$ $A = PL$ $E = PL$ $T = TC$ * Indicator lam, 6-24VAC and	th test button. th indicator lar th test button ACKET MOUU AIN CASE, #6 AIN CASE, tap P FLANGE CA as are available on DC, 110VDC and coils are UL recog	np.* & indicator NT CASE. -32 stud, loo oped core, lo SE. models with t 120-240VAC. C	cating tab. ocating tab. he following coi				
<b>5</b> .		Contact Material: & 2 Pole Models	3 Pole Models	4 Pole Models	1						
	Type 1 Codes Available	1, 5, 7, K	1, 5, 7	1**, 5**,7, 9	terminals	will not plug	j into socket	quick connect s. Must use .	110" (2.79		
5A.	5 = .187" (4.7) 7 = .047" (1.7) 9 = 4  pole K K = .250" (6.3) <b>Gold Flasher</b>	5mm) quick conne 19mm) printed circu U, KUP: .110" (2.79) 35mm) quick conne d <b>Contact Option</b> :	ct/solder; silver, 5 an ct/solder; silver-cadm uit; silver-cadmium ox nm) quick connect/s ct; silver-cadmium ox ver and silver-cadmiu	ilum oxide, 10 amps tide, 10 amps. older; silver-cadmiu kide, 10 amps.	3.		older termina	als for socket	mounting.		
6.	Coil Voltage	<u> </u>		in onde contacts.							

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

 Dimensions are shows are shows and purposes only.
 http://www.insenseptre.inforcem/uerTEL:
 0755-833276489 msFAX:07755fty83376182
 E-MAIL:
 szss20%162tyCom/cornics.com

 724
 reference purposes only.
 (millimeters) unless otherwise specified.
 subject to change.
 Technical support: Refer to inside back cover.

	<u>rronicsSUNSTAR传感与控制 http://www.se</u> l <b>ering Information</b>							
/DE	Approved Design	Typical Part No. 🕨	KUIP	-5	Α	5	5	-120
1.	<b>Basic Series &amp; Type:</b> KUIP = Enclosed relay designed for General VI KUGP = Enclosed relay with 3mm open conta		KUGP					
2.	Contact Arrangement: 5 = 1 Form C (SPDT)* 7 = 2 Form A (DPST-NO)	11 = 2 Form C (DPDT)* 14 = 3 Form C (3PDT)*						
3.	<b>Coil Input:</b> A = AC, 50/60 Hz.* D = DC*							
I.	Mountings: 1 = PLAIN CASE, SOCKET MOUNT.* 5 = BRACKET MOUNT CASE.*	T = TOP FLANGE CASE.	÷			_		
5.	<b>Terminal &amp; Contact Material:</b> 3 = .047" (1.19mm) printed circuit board; silver.	5 = .187" (4.7	ōmm) quick conne	ct/solder; s	silver-cadmiu	m oxide.*		
3.	Coil Voltage: To 240VAC, 50/60 Hz. or 110VDC. (For 277VAC		See co	oil data tabl	es.			_

\* Options included in VDE file.

#### 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**

oru	ering information							
Higl	n Voltage DC Switching	Typical Part No. 🕨	KUEP	-3	Α	1	5	-120
1.	Basic Series & Type: KUEP = Enclosed relay with magnetic blow-o	uts.	-					
2.	Contact Arrangement: 3 = 1X (SPST-NO-DM) 7 = 2A (DPS	T-NO) 11 = 2C (DF	PDT)	_				
3.	<b>Coil Input:</b> 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 U	DC and 120-240					
5.	<b>Terminal &amp; Contact Material:</b> 5 = .187" (4.75mm) quick connect/solder; silve cadmium-oxide.	er- 7 = .0	)47' (1.19mm) pr	inted circuit	; silver-cadmit	um-oxide.		
6.	Coil Voltage: To 240VAC, 50/60 Hz. or 110VDC. (For 277VA	C, consult factory.)						-

# Our authorized distributors are more likely to stock the following items for immediate delivery. KUEP-3A15-120 KUEP-3D15-110 KUEP-11D15-12 KUEP-3D15-12 KUEP-7D15-24 KUEP-11D15-24 KUEP-3D15-24 KUEP-11A15-120

			outding root_l_			
		http://www.sensor-ic.com/	/ the sum the flag of the second	EAV. OZEE 00070400E MALL.		P&R
Electronics	SUNSTAKIを感与控制	nttp://www.sensor-ic.com/	122907939983376549	FAX:0/55-833/6182E-MAIL:	SZSSZU@163.COM	I GD
Ordering	Information					

15	Δmn	Switching	

15 A	Amp Switching	Ту	vpical Part No. ►	ким	-14	Α	1	8	-120
1.	<b>Basic Series &amp; Type:</b> KUM = 15 amp open rela KUMP = 15 amp enclose			KUMP					
2.	Contact Arrangement: 1 = 1A (SPST-NO) 2 = 1B (SPST-NC) 3 = 1X (SPST-NC-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-NC) 13 = 3B (3PST-NC) 14 = 3C (3PDT)	DB-DM])							
3.	<b>Coil Input:</b> A = AC, 50/60 Hz.	) = DC				-			
4.	Mountings:						1		
	Type KUM		KUN	IP					
	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 lam 4 = with test button & 5 = BRACKET MOUN 6 = with test button. 7 = with indicator lam 8 = with test button & 9 = STUD ON END OI *Indicator lamps are a 6-24VAC and DC, 110 120-240VAC coils are	p.* C = indicator lamp.* D = T CASE; E = p.* G = indicator lamp.* H = PLAIN CASE. T = vailable on models wi VDC and 120-240VAC	PLAIN CASE, TAF with test button. with indicator lan with test button TOP FLANGE CA	np.* & indicator la PPED CORE, np.* & indicator la SE. pils:	mp.* LOCATING			
	<u> </u>		02 1000g11200.						
5. Г	Terminal & Contact Ma Type 1 & 2 Pole N								
	Codes 6,8,9,G Available	6,8,9							
_	8 = .187" (4.75mm) quid 9 = .047" (1.19mm) prin	ck connect/solder; silver-ca k connect/solder; silver-ca ted circuit; silver-cadmium ck connect; silver-cadmiun	dmium-oxide. -oxide.	on 3 pole models	:.)				
6.	Coil Voltage:	110VDC (For 277VAC, cor							1

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

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

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

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

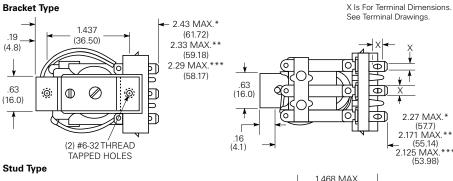
KUMP-14D18-24

#### tyco

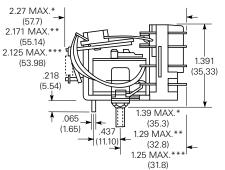
Catalog 1308242

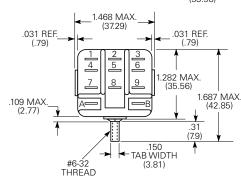
# **Outline Dimensions**

# **Open Relays**

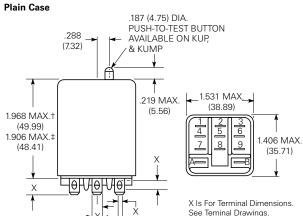


#### Stud Type

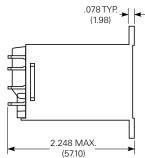




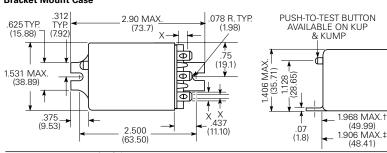
# **Enclosed Relays**



#### **Top Flange Case**



# Bracket Mount Case



1.518 MAX

(38.56)

H

5 6

8 9

-.178 TYP

(4.52)

4

1.713 ± .003

(43.51 ± .08)

1.989 ± .003

(50.52)

1.373<sup>'</sup>± .010

84.87 ± .25)

Dimensions a SUNSTAR自动化 http://www.sensejibnsiare from the TEL: (millimeters) unless otherwise reference purposes only specified.

#### 0755-83376489caFAX:07557a89376182 E-MAIL: szss20@163, GORCoelectronics.com subject to change.

#### **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.

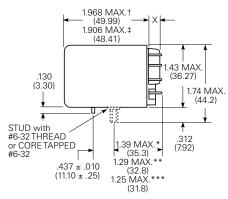
STUD TYPE also available with .125" (3.18mm) tab, as well as without stud and locating tab. Models without stud have core tapped #6-32 THREAD, .25" (6.4mm) minimum depth.

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

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

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

#### **Core and Stud Mount Cases**



†Dimensions with .250" (6.35mm) terminals

‡Dimensions with .110" (2.79mm), .187"

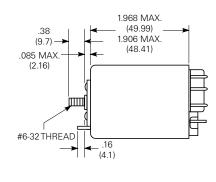
(4.75mm and .205" 5.21mm) terminals.

\*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



Technical support: 727 Refer to inside back cover.

.06

(1.52)

¥ A

#### tyco

### Catalog 1308242

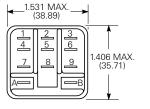
<u>Electronics</u> SUNSTAR传感与控制 http://www.sensor-ic.com/ TEE!的约约383376549 FAX:0755-83376182E-MAIL: szss20@163.com **P&B** Outline Dimensions (Continued)

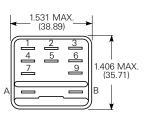
# Relay Front Diagrams

#### 1-3 Pole Relays

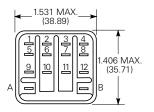






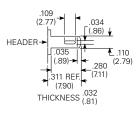


4 Pole Relays

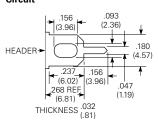


#### **Terminal Dimensions**

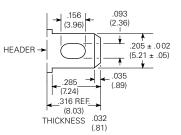
.110" (2.79mm) Quick ConnectQuick Connect

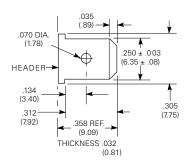


Printed Circuit

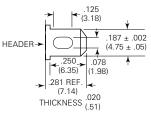






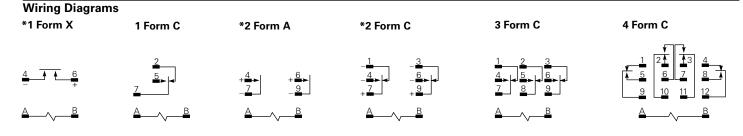


.187" (4.75mm) Quick Connect



Note: All drawings shown oversize.

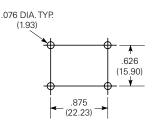
.250" (6.35mm)



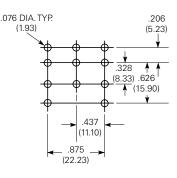
\*Recommended Load Polarity for Optimum Arc Suppression.

# PC Board Layouts (Bottom Views)

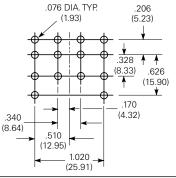




3 Pole Models



4 Pole Models



 Dimensions are showN\$TAR自动化
 http://www.insens.og.frei.fcnc.fco.mt/erTEL:
 0755-8332(6489)nsEAX:07555try83376182
 E-MAIL:
 szss20@1632tyCoopectronics.com

 728
 reference purposes only.
 (millimeters) unless otherwise specified.
 subject to change.
 Technical support: Befre to inside back cover.

#### tyco

# Sockets For KU Series Relays Through 3 Poles

#### Socket Selection Table

#### Stock items are boldfaced.

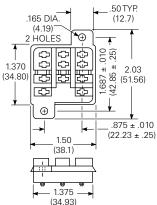
For KUP, KUEP, KUGP, KUIP, and KUMP relays, through 3 poles, with .187" (4.75mm) quick connect termination.

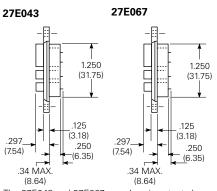
Socket	Socket Termination	Hold-Down Spring
27E043	Solder eyelet	20C228 or 20C254*
27E046	PC board, .144" (3.66mm) terminals	20C228 or 20C254
27E067	.187" (4.75mm) quick connect	20C228 or 20C254
27E121	Screw terminals	20C314 (2 per socket required)
27E305	PC board, .184" (4.67mm) terminals	20C228 or 20C254
27E396	.187" (4.75mm) quick connect*	20C254
27E893	Screw terminals <sup>†</sup>	20C318
* 20C228 held in p ** Snap-in mounting † DIN rail mounting		s onto socket.

#### Hard Mount Sockets For Relays Through 3 Poles

Nylon sockets with .187" (4.75mm) quick connect, solder or printed circuit terminals are available for KUEP, KUGP, KUIP, KUMP, and KUP relays, through 3 poles, with .187 (4.75mm) quick connect terminals. All are rated 15 amps and UL recognized, File E59244 and CSA certified File LR15734

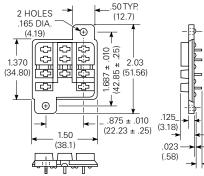
27E043-with solder eyelet terminals. 27E067-with .187" (4.75mm) guick connect terminals



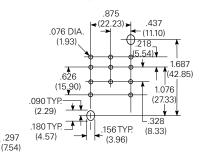


The 27E043 and 27E067 use chassis cutout shown on this page

#### 27E046, 27E305 **Socket With Printed Circuit Terminals**



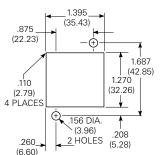
#### Suggested Socket PC Board Layout



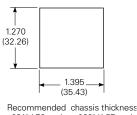
27E046 HAS TERMINALS .144" (3.66 mm) LONG. 27E305 HAS TERMINALS .184" (4.67 mm) LONG.

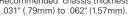
.297

#### **Recommended Chassis Cutout** For Hard Mount Sockets



**Recommeded Chassis Cutout** For Snap-In Sockets

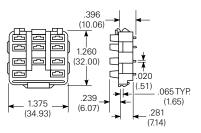




#### 27E396 **Snap-In Socket For Relays Through 3 Poles**

Nylon snap-in socket with .187" (4.75mm) quick connect terminals is available for KUEP, KUGP, KUIP, KUMP, and KUP relays, through 3 poles, with .187" (4.75mm) quick connect terminals. Snap-in sockets reduce labor by eliminating time consuming screw or rivet mounting. Preassembled wiring harnesses may also be used as the sockets are designed to snap into the chassis from either front or back. All are rated 15 amps and UL recognized, File E59244. The 27E396 uses chassis cutout shown on this page.

27E396-with .187" (4.75mm) guick connect terminals.



(millimeters) unless otherwise reference purposes only specified.

subject to change.

Technical support: Refer to inside back cover.

729

P&B

P&B SUNSTAR传感与控制 http://www.sensor-ic.com/ TEE!的考9383376549 FAX:0755-83376182E-MAIL: szss20@163.com Electronics Sockets For KU Series Relays Through 3 Poles (continued)

#### 27E121

#### Screw Terminal Socket

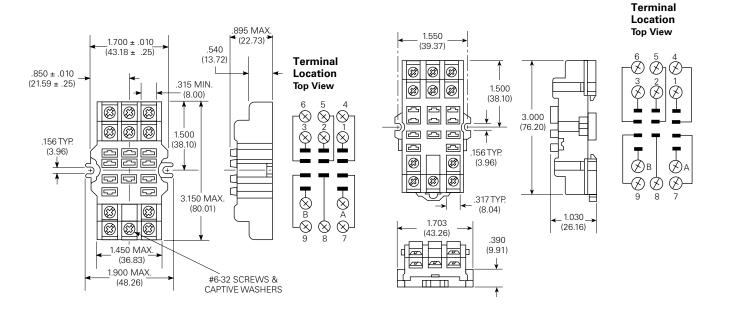
The 27E121 socket offers screw termination for KUEP, KUGP, KUIP, KUL, KUMP and KUP relays, through 3 poles, with .187" (4.75mm) quick connect terminals. This socket stacks on 1.700" (43.18mm) centers. When surface mounting, two #6-32 screws of suitable length are required. When track mounting, two 24A071 retainer clips (not shown) are required. The 27E121 is rated 15 amps and is UL recognized, File E59244, CSA certified, File LR15734.

#### 27E893

#### Screw Terminal, Din Rail Snap-Mount Socket

(use with mounting track 24A110)

The 27E893 DIN rail, snap-mount socket offers screw termination for KUEP, KUGP, KUIP, KUL, KUMP and KUP relays, through 3 poles, with .187" (4.75mm) guick connect terminals. This socket is constructed with a spring-loaded latch which allows it to be quickly snapped onto or removed from a "top hat" style mounting track. No special tools or extra hardware is required for installation. The 27E893 is UL rated 15 amps, 94V-0, File E59244 and CSA rated 10 amps, File LR15734.



#### Sockets For KU Series 4 Pole Relays **Socket Selection Table**

Stock items are boldfaced.

For 4 pole KUP relays with .110" (2.79mm) quick connect termination.

Socket	Socket Termianation	Hold-Down Spring
27E415	.187" (4.75mm) quick connect	20C228 or 20C254
27E419	PC board	20C228 or 20C254
27E867*	Screw terminals	20C254
* Llas 40C 400 in sulat.	ar pad or quatemar gunplied alternative	*

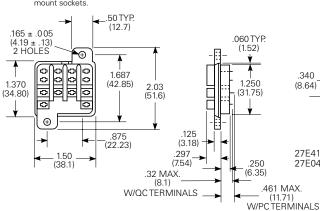
specified.

Use 40G432 insulator pad or customer supplied alternative

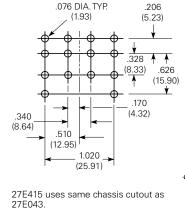
#### Hard Mount Sockets For 4 Pole Relays

27E415-with .187" (4.75mm) guick connect/solder terminals. 27E419-with printed circuit terminals. See PC board layout at right.

Note: Only 4 pole KUP relays with .110" (2.79mm) guick connect terminals can be used with 4 pole hard mount sockets







#### Screw Terminal Socket For 4 Pole Relays

27E867 offers screw termination for 4 pole KUP relays with .110" (2.79mm) quick connect/socket mount terminals. Rated 10 amps and is UL recognized, File E59244.

