imall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

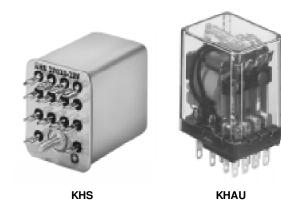
We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832 Email & Skype: info@chipsmall.com Web: www.chipsmall.com Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





Features

- Miniature size from 2 pole to 4 pole. A 5 pole version is available as a special order.
- KHS hermetically sealed version UL Approved for Class 1 Division 2 hazardous locations.
- Various applications include process control, photocopier, and data processing.
- · Low cost, semiautomated construction.

Contact Data @25°C

Arrangements: 2 Form C (DPDT), 4 Form C (4PDT).

- Expected Life: 10 million operations, mechanical; 100,000 operations min. at rated loads. Ratings are based on tests of relays with ungrounded frames.
- Initial Breakdown Voltage: 500V rms, 60 Hz., between open contacts. 1240V rms, 60 Hz., between all other elements.

Contact Ratings

Contact	Mataial	Resistive Rating		
Code	Material	Minimum	Maximum	
1	Silver	100mA @ 12VAC/12VDC	3A @ 120VAC/28VDC	
2*	Silver-cadmium oxide	500mA @ 12VAC/12VDC	5A @ 120VAC/28VDC	
3	Gold-silver-nickel	10mA @ 12VAC/12VDC	2A @ 120VAC/28VDC	
4	Palladium	100mA @ 12VAC/12VDC	3A @ 120VAC/28VDC	
5	Silver alloy	500mA @ 12VAC/12VDC	3A @ 120VAC/28VDC	
6	Bifurcated cross bar, gold overlay silver	Dry circuit	1A @ 120VAC/28VDC	
8	Gold diffused silver	50mA @ 12VAC/12VDC	3A @ 120VAC/28VDC	

Note: Relays should only carry a maximum of 15 amps continuously for all poles combined.

* Note: KHS hermetically sealed version maximum rating is 5A @120VAC/28VDC.

KHA series

General Purpose Dry Circuit to 5A Multicontact AC or DC Relay

A File E22575 File LR15734

Coil Data @25°C

Voltage: From 6 to 120VDC, and 6 to 240VAC, 50/60 Hz. Nom. Power: DC coils - 0.9 watt; 0.5 watt minimum operate @25°C.

AC coils - 1.2 VA; 0.55 VA minimum operate @ 25° C. Max. Power: DC coils - 2.0 watts @ 25° C.

Duty Cycle: Continuous.

Initial Breakdown Voltage: 500V rms, 60 Hz.

Coil Data

DC Coils			AC Coils	
Nominal Voltage	Resistance in Ohms ±10% @ 25ºC	Nominal Inductance in Henrys	Resistance in Ohms ±15%	Nominal AC Current in mA
5	32	.072	_	_
6	40	.08	10.5	200
12	160	.28	43	100
24	650	1.0	160	52
48	2,600	4.5	668	25
90	9,000	13.5	_	_
110 *	11,000	17.0	_	_
120 *	13,500	_	3,900	11.0
240	—	—	12,000	6.0

* Note: For 220 and 240VDC, use series dropping 5W resistor of 11,000 Ω .

Operate Data @25°C

Must-Operate Voltage: DC: 75% of nominal voltage.

AC: 85% of nominal voltage.

Operate Time: 13 milliseconds typical @nominal voltage (excluding bounce).

Release Time: 6 milliseconds typical @nominal voltage (excluding bounce).

Environmental Data

Temperature Range: -45°C to +70°C operate. -60°C to +130°C storage.

Mechanical Data

Mountings: #3-48 stud, sockets with printed circuit or solder terminals,

- or bracket plate with #6-32 threaded stud. Termination: Printed circuit or solder/socket terminals.
- Printed circuit of solder/socket terminals. Printed circuit terminals are available for KHS on a special order basis.
- Insulating Material: Molded high-dielectric material.
- Enclosures: See Ordering Information table.
 - Cover colors are available in black, red, blue, yellow and green by special order.
- Weight: 1.6 oz. approx. (45g).

Siemens Electromechanical Components

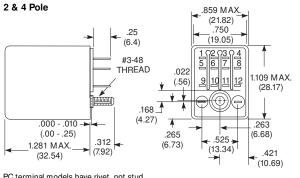
	e Note 1)				
vpe:					
 Printed circuit Printed circuit Solder termin KHS frame w Solder termin (UL & CSA). 	terminals, nylor terminals, nylor hals, hermetical ithout consultir hals, clear polyconals, clear polyconals, clear polyconals	on dust cover, ly sealed stee ng factory for carbonate dus	, contacts rated el case (UL & C load levels. (C st cover, contac	I same polari CSA). Note: [Drder as KHS ots rated san	tý (ÚL & CSA). Do not ground 5, not KHAS.) ne polarity
Contact Arrange	mont				
11 = 2 Form C (D 17 = 4 Form C (4	PDT)				
Operating Coil: $A = AC$ $D = D$	С				
Mounting and To	ermination:				
Relay Type	E	F	S	U	Х
Available Codes	1	1	1, 2, 3, 4	1, 3, 4, 9	1, 3, 4, 9
	, without stud.				
Contact Material Relay Type		F	S	U	X
	:	F 1, 2, 3, 5, 6, 8	S 1*, 2*, 3, 5,	U 1, 2, 3, 5, 6, 8	X 1, 2, 3, 5, 6, 8
Relay Type	E 1, 2, 3, 5, 6, 8	1, 2, 3, 5, 6, 8	1* , 2* , 3, 5,	1, 2, 3, 5, 6, 8	1, 2, 3, 5, 6, 8
Relay Type Available Codes * UL Rated 1/10 H 1 = Silver.	E 1, 2, 3, 5, 6, 8 IP, 3A, 120VAC 3	1, 2, 3, 5, 6, 8 When used	$1^*, 2^*, 3, 5,$ with mounting -nickel. $5 = 5$	1, 2, 3, 5, 6, 8 & terminatio Silver alloy.	1, 2, 3, 5, 6, 8
Relay Type Available Codes * UL Rated 1/10 F 1 = Silver. 2 = Silver-cadmiu Options Availabl	E 1, 2, 3, 5, 6, 8 IP, 3A, 120VAC 3 m oxide. 4 e (None availa	1, 2, 3, 5, 6, 8 When used v = Gold-silver = Palladium. ble with con	1*, 2*, 3, 5, with mounting -nickel. $5 = 5$ 6 = 1	1, 2, 3, 5, 6, 8 & terminatic Silver alloy. Bifurcated cr	1, 2, 3, 5, 6, 8 on 1. ossbar, gold ove
Relay Type Available Codes * UL Rated 1/10 H 1 = Silver.	E 1, 2, 3, 5, 6, 8 IP, 3A, 120VAC 3 m oxide. 4	1, 2, 3, 5, 6, 8 When used Gold-silver Palladium.	1*, 2*, 3, 5, with mounting -nickel. $5 = 5$ 6 = 1	1, 2, 3, 5, 6, 8 & terminatio Silver alloy. Bifurcated cr ent 20.): U	1, 2, 3, 5, 6, 8 on 1. ossbar, gold ove
Relay Type Available Codes * UL Rated 1/10 F 1 = Silver. 2 = Silver-cadmiu Options Availabl	E 1, 2, 3, 5, 6, 8 IP, 3A, 120VAC 3 m oxide. 4 e (None availa	1, 2, 3, 5, 6, 8 When used v = Gold-silver = Palladium. ble with con	$1^*, 2^*,$ 3, 5, with mounting -nickel. $5 = 8$ 6 = 1 tact arrangem	1, 2, 3, 5, 6, 8 & terminatic Silver alloy. Bifurcated cr ent 20.):	1, 2, 3, 5, 6, 8 on 1. ossbar, gold ove
Relay Type Available Codes * UL Rated 1/10 H 1 = Silver. 2 = Silver-cadmiu Options Availabl Relay Type Available Codes B = Push to test H N = Neon indicato H = Neon indicato L = LED indicator M = LED indicator	E 1, 2, 3, 5, 6, 8 P, 3A, 120VAC m oxide. 4 e (None availal E B (DPDT only) button. or. Only available	1, 2, 3, 5, 6, 8 C when used v = Gold-silver = Palladium. ble with com F B B e with 120VA est button. Or with 6-48VDC	1*, 2*, 3, 5, with mounting -nickel. 5 = S 6 = I tact arrangem S None C or 110VDC cc nly available with C coils.	1, 2, 3, 5, 6, 8 & terminatic Silver alloy. Bifurcated cr ent 20.): U N B H L L M M oils. Not avai th 120VAC o	1, 2, 3, 5, 6, 8 on 1. ossbar, gold ove X B (DPDT only) H (DPDT only) H (DPDT only) Iable with mounting DC coils. Not ave
Relay Type Available Codes * UL Rated 1/10 H 1 = Silver. 2 = Silver-cadmiu Options Availabl Relay Type Available Codes B = Push to test H N = Neon indicator H = Neon indicator L = LED indicator	E 1, 2, 3, 5, 6, 8 IP, 3A, 120VAC am oxide. 4 e (None availal E B (DPDT only) button. button. button. c Only available r and push to to c Only available r and push-to-te , 240** VAC	1, 2, 3, 5, 6, 8 When used v = Gold-silver = Palladium. ble with cont F B B e with 120VA est button. On with 6-48VDC st button. On	1*, 2*, 3, 5, with mounting -nickel. 5 = S 6 = I tact arrangem S None C or 110VDC cc nly available with C coils.	1, 2, 3, 5, 6, 8 & terminatic Silver alloy. Bifurcated cr ent 20.): U N B H L M N oils. Not avai th 120VAC o h 6-48VDC c	1, 2, 3, 5, 6, 8 on 1. ossbar, gold ove X B (DPDT only) H (DPDT only) Iable with mountity r DC coils. Not avoils.

Stock Items - The fo	ollowing items are normal	ly maintained in stock for	immediate delivery.
KHAE-17D12-24	KHAU-17D11-24	KHS-17D11-12	KHU-17A18-120
KHAU-11A11-120	KHAU-17D11-48	KHS-17D11-24	KHU-17D11-5
KHAU-11D11-24	KHAU-17D11-110	KHS-17D11-48	KHU-17D11-6
KHAU-17A11-12	KHAU-17D12-12	KHS-17D11-110	KHU-17D11-12
KHAU-17A11-24	KHAU-17D12-24	KHS-17D12-12	KHU-17D11-24
KHAU-17A11-120	KHAU-17D12-48	KHS-17D12-24	KHU-17D11-48
KHAU-17A11N-120	KHAU-17D12-110	KHS-17D13-24	KHU-17D11-110
KHAU-17A12-120	KHAU-17D13-24	KHU-17A11-12	KHU-17D12-12
KHAU-17A13-120	KHAU-17D16-12	KHU-17A11-24	KHU-17D12-24
KHAU-17A16-24	KHAU-17D16-24	KHU-17A11-120	KHU-17D16-24
KHAU-17A16-120	KHS-17A11-24	KHU-17A11N-120	KHU-17D18-24
KHAU-17A18-120	KHS-17A11-120	KHU-17A12-120	
KHAU-17D11-6	KHS-17A12-120	KHU-17A13-120	
KHAU-17D11-12	KHS-17A13-120	KHU-17A16-120	

Siemens Electromechanical Components

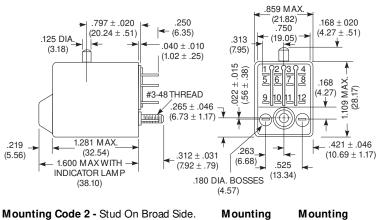
Outline Dimensions

Mounting Code 1 - KHAU and KHAX only.



PC terminal models have rivet, not stud. Max. seated height in 27E006 socket is 1.37" (34.8mm).

Mounting Code 1 - Neon Indicator, Push-To-Test.



Code 3

Stud On

4 Pole

9

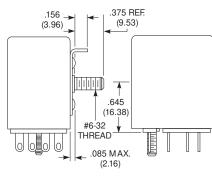
13

Narrow Side

14

00000

Mounting Code 2 - Stud On Broad Side.



Wiring Diagrams (Bottom Views)

4 -

12 🖛

IIII

8=>4

14

2 Pole

1 -

5

9 🗖

13

000	

Code 4

.437

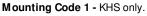
(11.10)

547

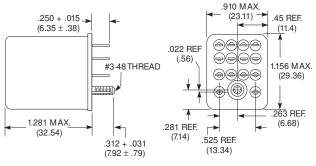
(13.89)

۷

Stud On End



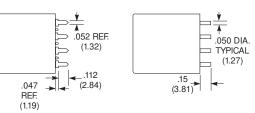
2 & 4 Pole



Class 1 Div. 2 Group A, B, C & D Hazards

Printed Circuit Terminals

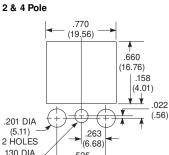




Printed circuit terminal thickness .022 (.558)

.200 (5.08) terminal length available on special order

Recommended Chassis Cutout For Stud Mount

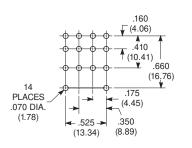


.525

(13.34)

PC Board Layout (Bottom View)

(3.30)



For KHAE, KHAF Relays with PC terminals and sockets with PC terminals

+ = Polarity for LED indicator or diode suppression if ordered special.

Siemens Electromechanical Components

Sockets For KHA And KHS Series

All sockets are normally maintained in stock for immediate delivery.

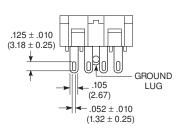
For KHAU, KHAX, KHS Relays. Relays wilth solder terminals are required for use with sockets. **Socket Description**

Industrial Part No.	No. of Poles	Terminal and Length	Grounding Provision	Socket Material
27E006*	4	Solder .375" (9.53mm)	Yes	Nylon
27E007*	4	P.C218" (5.54mm)	Yes	Nylon
27E023*	4	P.C218" (5.54mm)	No	Nylon
27E166* *	4	Screw	Yes	Glass-filled Polyester
27E894* *	4	Screw	No	Glass-filled Polyester
20C217 20C297		Relay Hold Do Relay Hold Do (use with 27E 27E894)	,	

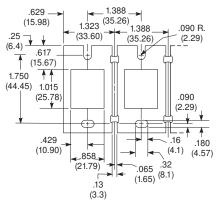
* UL Recognized, file E22575

** UL Recognized, file E59244

Pierced Solder Terminals



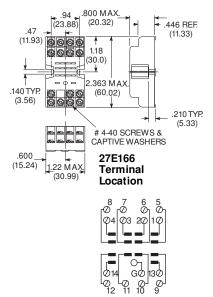
Mounting Strip 37D633



37D633 will mount eight solder terminal sockets in one length of aluminum strip measuring 10.97" x 2.25" x .062 (278.6 x 57.15 x 1.57)

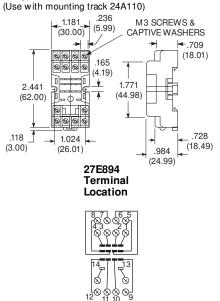
Screw Terminal Socket 27E166

Relays with solder terminals are required for use with screw terminal sockets.



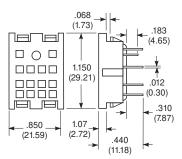
Siemens Electromechanical Components, Inc. 700 Westpark Drive Peachtree City, GA 30269-1498

Screw Terminal DIN Rail, Snap-Mount Socket 27E894



2000 000 000 Top View

4-Pole Socket



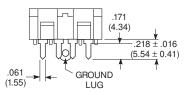
Recommended Chassis Cutouts For Mounting Sockets



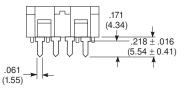
Recommended Chassis Thickness .031 (.79) to .062 (1.57)

Socket punch Greenlee part 5015115.0, Type 731R available from Greenlee Tool Co., Rockford, Illinois. (4-pole)

Printed Circuit Terminals With Grounding Lug



Without Grounding Lug



Caution: Printed circuit sockets are manufactured with "floating" (Loose) terminals. This permits them to align with holes in the circuit board and with the relay terminals. During the mounting and soldering of the socket, vertical float should be eliminated and the terminals seated on the board. (This may be accomplished by inserting a dummy relay in the socket.) Failure to eliminate float may cause fracture of the solder joint or separation of the copper conductor from the printed circuit board when a relay is inserted in the socket after soldering.

Hold Down Spring 20C217

