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Features

- · Miniature size from 2 pole to 4 pole.
- KHAU is produced on an automated line, while KHU is produced manually. Form, fit and function of the two versions are identical.
- Various applications include process control, photocopier, and data processing.
- · Push-to-test and indicator options available.
- Various contact materials available for specific load requirements.

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		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		
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.

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

A 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: 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% @ 25°C	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
110 *	11,000	17.0	—	_
120 *	—	_	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. Enclosures: See Ordering Information table. Weight: 1.6 oz. approx. (45g).

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ype: = Printed circuit J = Solder termi	t terminals, nylor										
Contact Arrange		7 = 4 Form C	(4PDT)]					
Operating Coil: A = AC $D = D$)C										
/lounting and T	ermination:										
= Socket moun	t, solder termina	als on U types	; printed circuit termi	nals on E type	S						
ontact Material	l:										
Relay Type	E	U									
vailable Codes	1, 2, 3, 6, 8	1, 2, 6, 8									
UL Rated 1/10 H	HP, 3A, 120VAC	when used v	with mounting & tern	nination 1.							
= Silver. = Silver-cadmiu				ay silver.	8 =	Gold diffuse	ed silver.				
ptions Availabl	e:										
Relay Type	E	U									
vailable Codes	B (DPDT only)	N B H L									
 N = Neon indicate H = Neon indicate LED indicator 	or. Only available or and push to te . Only available	e with 120VAC est button. On with 6-48VAC	ly available with 120	/AC or DC coi	ls. Not av			terminatic	on 4 or 8.		
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I N I = Neon indicator. Only available with 120VAC I I = Neon indicator. Only available with 6-48VAC	Typical Part No. stasic Series: (See Note 1) ype: = Printed circuit terminals, nylon dust cover, contacts rated opposite = Solder terminals, clear polycarbonate dust cover, contacts rated (UL & CSA). Sontact Arrangement: 1 = 2 Form C (DPDT) 17 = 4 Form C (4PDT) Operating Coil: AC = AC D = DC Mounting and Termination: = Socket mount, solder terminals on U types; printed circuit terminontact Material: telay Type E U wailable Codes 1, 2, 3, 1, 2, 6, 8 UL Rated 1/10 HP, 3A, 120VAC when used with mounting & term = Silver. 3 = Gold-silver-nickel. = Silver.cadmium oxide. 6 = Bifurcated crossbar, gold overl ptions Available: telay Type E U wailable Codes B (DPDT only) B H L M vailable Codes B (DPDT only) B H L M se Push to test button. I Neon indicator. Only available with 120VAC or 110VDC coils. Notest button. I Neon indicator and push to test button. Only available with 6-48VAC or DC coils. 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Only available with 120VAC o</td> <td>Typical Part No. KHA U asic Series: (See Note 1) </td> <td>Typical Part No. ► KHA U -17 asic Series: (See Note 1) </td> <td>Typical Part No. ▶ KHA U -17 A asic Series: (See Note 1) ype: = Printed circuit terminals, nylon dust cover, contacts rated opposite polarity (UL & CSA). = Solder terminals, clear polycarbonate dust cover, contacts rated same polarity (UL & CSA). = Solder terminals, clear polycarbonate dust cover, contacts rated same polarity (UL & CSA). = Solder terminals, clear polycarbonate dust cover, contacts rated same polarity (UL & CSA). = Solder terminals, clear polycarbonate dust cover, contacts rated same polarity (UL & CSA). = Solder terminals, clear polycarbonate dust cover, contacts rated same polarity (UL & CSA). = Solder terminals, clear polycarbonate dust cover, contacts rated same polarity (UL & CSA). = Solder terminals, clear polycarbonate dust cover, contacts rated same polarity (UL & CSA). = Solder terminals, clear polycarbonate dust cover, contacts rated same polarity Solder terminals, clear polycarbonate dust cover, contacts rated same polarity Solder terminals, clear polycarbonate dust cover, contacts rated same polarity Solder Solder</td> <td>Typical Part No. ▶ KHA U -17 A 1 asic Series: (See Note 1) period Printed circuit terminals, nylon dust cover, contacts rated opposite polarity (UL & CSA). 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Stock Items - Our authorized distributors are likely to stock the following items. U-17D12-24 U-17D12-48

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KHAE-17D12-24	KHAU-17A16-24	KHAU-17D12-24
KHAU-11A11-120	KHAU-17A16-120	KHAU-17D12-48
KHAU-11D11-24	KHAU-17A18-120	KHAU-17D12-110
KHAU-17A11-12	KHAU-17D11-6	KHAU-17D16-12
KHAU-17A11-24	KHAU-17D11-12	KHAU-17D16-24
KHAU-17A11-120	KHAU-17D11-24	
KHAU-17A11N-120	KHAU-17D11-48	
KHAU-17A12-120	KHAU-17D11-110	
KHAU-17A13-120	KHAU-17D12-12	

Outline Dimensions

Mounting Code 1 - KHAU 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.







Printed circuit terminal thickness .022 (.558)

Wiring Diagrams (Bottom Views) 2 Pole 4 Pole 1 - _ 4 - _ 1 - 2 - _ 3



+ = Polarity for LED indicator.

Dimensions are shown for

reference purposes only.

PC Board Layout (Bottom View)



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

For KHAE Relays with PC terminals and sockets with

PC terminals

Sockets For KHA Series

Boldface sockets are normally maintained in stock for immediate delivery.

For KHAU, KHU Relays. Relays with solder terminals are required for use with sockets.

Socket Description

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Industrial Part No.	No. of Poles	Terminal and Length	Grounding Provision	Socket Material		
27E006*	4	Solder .375" Yes Nylo (9.53mm)				
27E007*	4	P.C218" (5.54mm)	Yes	Nylon		
27E023* 27E220*	4 2	P.C218" (5.54mm)				
27E166**	4	Screw Yes		Glass-filled Polyester		
27E894**	4	Screw No		Glass-filled Polyester		
20C217 20C297 20C426		Relay Hold Down Spring Relay Hold Down Spring - use with 27E166 Relay Hold Down Spring - use with 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.



Screw Terminal DIN Rail, Snap-Mount Socket 27E894

(Use with mounting track 24A110)



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Top View

8

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

