

POTTER & BRUMFIELD KHA SERIES PANEL PLUG-IN RELAY

GENERAL PURPOSE
INDUSTRIAL RELAYS

FEATURES

- Compact package
- Two and four pole form C contact arrangements
- Polycarbonate or nylon dust cover
- Various mounting configurations
- Indicator lamp and push-to-reset options available
- Various contact materials available for specific load requirements



APPLICATIONS

- Industrial sewing/stitching machines
- Fitness
- Elevators
- Pumps
- Robotics
- Solar panels

APPROVALS

- UL E22575
- CSA LR15734



Technical data of approved types on request

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CONTACT DATA

Contact arrangement	2 form C (2CO), 4 form C (4CO)
Rated voltage	240VAC
Rated current	1-5A
Contact material	Ag, AgCdO, Au-Ag-Ni, Au overlay Ag, Au diffused Ag
Contact Style	Single contact or bifurcated crossbar
Min. recommended contact load	
Ag (single contact)	100mA, 12VDC
AgCdO (single contact)	300mA, 12VDC
Au-AgNi (single contact)	10mA, 12VDC
Au overlay Ag (bifurcated crossbar)	Dry circuit
Au diffused Ag (single contact)	50mA, 12VDC
Initial contact resistance	
Ag, AdCdO	100mΩ
Au-AgNi, Au overlay Ag, Au diffused Ag	200mΩ
Frequency of operation	360 ops./hour
Operate/release time max.	13/6ms

CONTACT RATINGS

Type	Load	Cycles
UL 508		
Ag	5A, 120VAC, general purpose 2.5A, 240VAC, general purpose 1/10HP, 120/240VAC 180VA, 250VAC, pilot duty 42VA, 28VDC, pilot duty	-
AgCdO	5A, 240VAC, general purpose 5A, 28VDC, resistive 1/10HP, 120/240VAC 180VA, 250VAC, pilot duty 42VA, 28VDC, pilot duty	-
Au-AgNi	2A, 120VAC, resistive	-
Au overlay Ag	1A, 120VAC 1A, 30VDC	-
Au diffused Ag	5A, 120VAC, general purpose 2.5A, 240VAC, general purpose 1/10HP, 120/240VAC 180VA, 250VAC, pilot duty 42VA, 28VDC, pilot duty	-
Mechanical endurance		10x10 ⁶ ops.

Note: The relay should only carry ≤15A continuously (all poles combined).

COIL DATA

Coil voltage range	5 to 240VDC 6 to 240VAC
Coil insulation system according UL	Class B

COIL VERSIONS, DC COIL

Coil code	Rated voltage VDC	Operate voltage VDC	Release coil resistance Ω±10%	Rated coil power mW
5	5	3.75	32	800
6	6	4.5	40	900
12	12	9.0	160	900
24	24	18.0	650	850
48	48	36.0	2600	900
110	110	82.5	11000	1100
	220/240	Use 110V relay with series dropping 5W resistor of 11KΩ		

All figures are given for coil without preenergization, at ambient temperature +23°C.

COIL VERSIONS, AC COIL

Coil code	Rated voltage VDC	Operate voltage VDC	Release coil resistance Ω±15%	Rated coil power VA
6	6	5.1	10.5	1.2
12	12	10.2	43	1.2
24	24	20.4	160	1.25
48	48	40.8	668	1.2
120	120	102.0	3900	1.35
240	240	204.0	12000	1.5

All figures are given for coil without preenergization, at ambient temperature +23°C.

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INSULATION DATA

Initial dielectric strength	
between open contacts	1000 V _{rms}
between contact and coil	1500 V _{rms}
between adjacent contacts	1500 V _{rms}
between coil and frame	1500 V _{rms}
Initial insulation resistance	
between insulated elements	100MΩ at 500VDC

ACCESSORIES

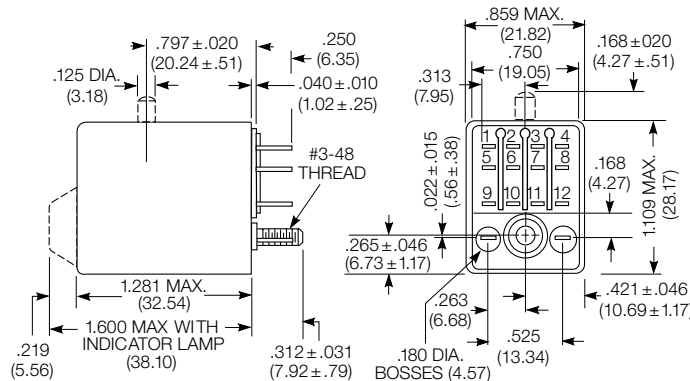
For details see datasheet	Sockets and Accessories, KHA Relays
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Product code	Description
27E894	DIN socket (use 20C426 clip)
27E166	Panel/track mount socket (use 20C297 clip)
27E006	Solder/grounding socket (use 20C217 clip)
27E007	PCB/grounding socket (use 20C217 clip)

Note: Relays with contact current <50mA are not recommended for use in sockets.

DIMENSIONS (Unit:mm)

KHAU and KHAX types

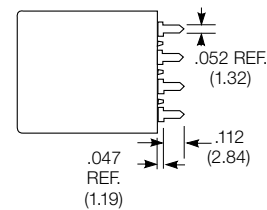


OTHER DATA

Material compliance	EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter
Ambient temperature range	-45°C to 70°C
Category of environmental protection	
IEC 61810	RTI - dust protected
Terminal type	Solder/plug-in .105" (2.67mm), pcb-tht .112" (2.84mm)
Weight	45g
Packaging/unit	tray/50 pcs., box/250pcs.

PCB TERMINALS

KHAE and KHAF types

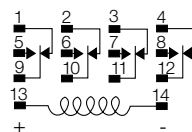
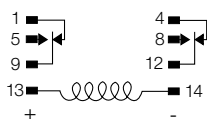


Printed circuit terminal thickness .022 (.558)

TERMINAL ASSIGNMENT

2 form C

4 form C

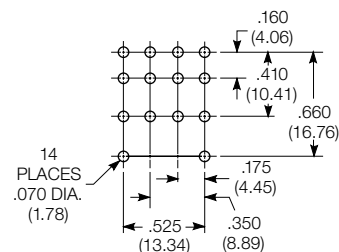


Polarity shown for LED indicator

PCB LAYOUT

Bottom view on solder pins

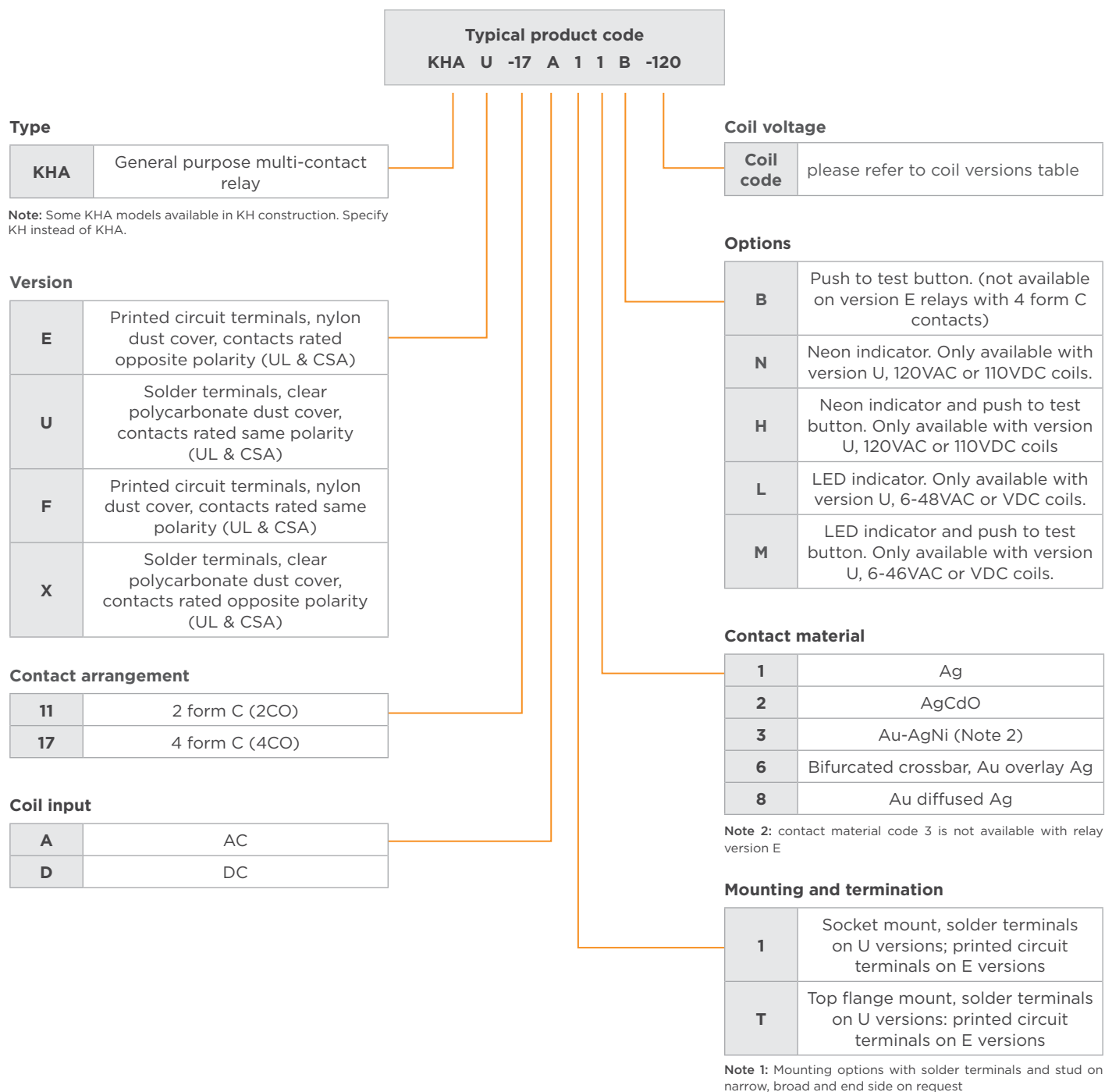
4 pole version



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PRODUCT CODE STRUCTURE



PRODUCT INFORMATION

Product code	Arrangement	Contact material	Coil	Terminals	Options	Part Number		
KHAU-11A11-120	2 form C, 2 CO	Ag	120VAC	Solder/Plug-in	None	1-1393122-0		
KHAU-11D11-24			24VDC			1-1393122-5		
KHAE-17D12-24	4 form C, 4 CO	AgCdO		PCB		1393122-1		
KHAU-17A11-12		Ag	12VAC	Solder/Plug-in		1-1393122-9		
KHAU-17A11-24			24VAC			2-1393122-1		
KHAU-17A11-120						2-1393122-0		
KHAU-17A11N-120		AgCdO	120VAC		Indicator	2-1393122-6		
KHAU-17A12-120					2-1393122-8			
KHAU-17A13-120		Au-Ag-Ni	3-1393122-6					
KHAU-17A16-24		Bifurcated, Au overlay Ag	24VAC		3-1393122-8			
KHAU-17A16-120		120VAC	3-1393122-7					
KHAU-17A18-120			Au diffused Ag		3-1393122-9			
KHAU-17D11-6		Ag	6VDC	Solder	None	4-1393122-7		
KHAU-17D11-12			12VDC			4-1393122-3		
KHAU-17D11-24			24VDC			4-1393122-4		
KHAU-17D11-48			48VDC			4-1393122-5		
KHAU-17D11-110			110VDC			4-1393122-2		
KHAU-17D12-12		AgCdO	12VDC			5-1393122-5		
KHAU-17D12-24			24VDC			5-1393122-7		
KHAU-17D12-48			48VDC			5-1393122-8		
KHAU-17D12-110			110VDC			5-1393122-4		
KHAU-17D16-12		Bifurcated, Au overlay Ag	12VDC			7-1393122-0		
KHAU-17D16-24			24VDC			7-1393122-1		
KHU-17A11N-120		Ag	120VAC				Indicator, Old Const.	2-1393123-8
KHU-17D11-12			12VDC				Old Construction	4-1393123-0
KHU-17D12-24		AgCdO	24VDC					4-1393123-8

Notes:

- 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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