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# **KHA Series Panel Plug-in Relay**

- 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



Typical applications

Industrial sewing/stitching machines, fitness, elevators, pumps, robotics, solar panels.

Approvals
UL E22575; CSA LR15734
Technical data of approved types on request.

Contact Data	
Contact arrangement	2 form C (2CO), 4 form C (4CO)
Rated voltage	240VAC
Rated current	1-5A
Contact material	Ag, AgCdO, Au-AgNi,
	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 diffuse	d Ag 200mΩ
Frequency of operation	360 ops./hour
Operate/release time max.	13/6ms

Contact r	atings	
Type	Load	Cycles
UL 508		•
Aα	5A 120VAC general nurnose	

4C, general purpose 2.5A, 240VAC, general purpose 1/10HP, 120/240VAC 180VA, 250VAC, pilot duty 42VA, 28VDC, pilot duty 5A, 120VAC, general purpose AgCdO 2.5A, 240VAC, general purpose 1/10HP, 120/240VAC 180VA, 250VAC, pilot duty 42VA, 28VDC, pilot duty 5A, 240VAC, general purpose 5A, 28VDC, resistive Au-AgNi 2A, 120VAC, resistive 1A, 120VAC Au overlay Ag 1A, 30VDC 5A, 120VAC, general purpose Au diffused Ag 2.5A, 240VAC, general purpose 1/10HP, 120/240VAC 180VA, 250VAC, pilot duty

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

Mechanical endurance 10x10<sup>6</sup> ops.

42VA, 28VDC, pilot duty

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

Coil	Rated	Operate	ReleaseCoil	Rated coil	
code	voltage	voltagevoltage	power		
	VDC	VDC	Ω±10%	mW	
5	5	3.75	32	800	
6	6	4.5	40	900	
12	12	9.0	160	900	
24	24	18.0	690	850	
48	48	36.0	2600	900	
110	110	82.5	11000	1100	
	220/240	Use 110V relay with series dropping			
		5\	W resistor of 11KG	5	

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

Coil vers	sions, AC coil			
Coil	Rated	Operate	Coil	Rated coil
code	voltage	voltage	resistance	power
	VAC	VAC	Ω±15%	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.

Insulation Data	
Initial dielectric strength	
between open contacts	1000V <sub>rms</sub>
between contact and coil	1500V <sub>rms</sub>
between adjacent contacts	1500V <sub>rms</sub>
between coil and frame	1500V <sub>rms</sub>
Initial insulation resistance	*****
between insulated elements	100MΩ at 500VDC

Other Data
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Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter

Ambient temperature -45°C to 70°C
Category of environmental protection
IEC 61810
RTI - dust protected



# KHA Series Panel Plug-in Relay (Continued)

Other Data (continued)	
Terminal type	solder/plug-in .105" (2.67mm),
	PCB-tht .112" (2.84mm)
Weight	45g
Packaging/unit	tray/50 pcs., box/250pcs.

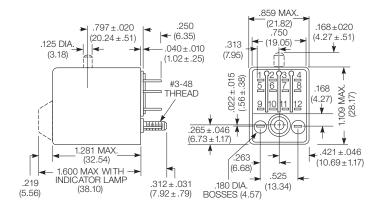
Accessories	
For details see datasheet	Sockets and Accessories, KHA Relays

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)

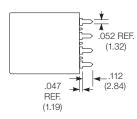
NOTE: Relays with contact current <50mA are not recommended for use in sockets.

#### **Dimensions**

KHAU and KHAX types

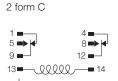


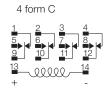
PCB terminals
KHAE and KHAF types



Printed circuit terminal thickness .022 (.558)

### Terminal assignment

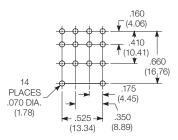




Polarity shown for LED indicator

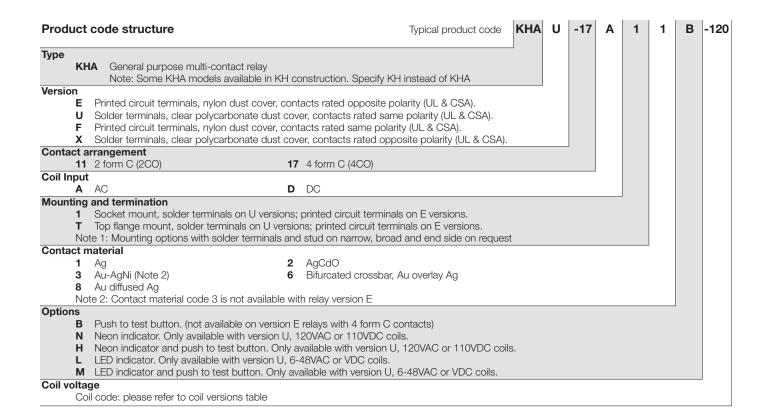
## **PCB** layout

Bottom view on solder pins 4 pole version





# KHA Series Panel Plug-in Relay (Continued)



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	Solder		2-1393122-1
KHAU-17A11-120			120VAC			2-1393122-0
KHAU-17A11N-120					Indicator	2-1393122-6
KHAU-17A12-120		AgCdO			None	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		Ag	120VAC			3-1393122-7
KHAU-17A18-120		Au diffused Ag				3-1393122-9
KHAU-17D11-6		Ag	6VDC			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