

### **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

		<i>9</i> 1	<b>(1)</b>

ReleaseCoil

resistance

Ω±10%

32

40

Rated coil

power

mW

800

900

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

Operate

voltagevoltage

VDC

3.75

4.5

Coil versions, DC coil

Rated

voltage

VDČ

5

6

Coil

code

5

6

Approvals			
UL E22575; CSA LR15734			
Technical data of approved types on request			
Contact Data			
Contact arrangement	2 form C (2CO), 4 form C (4CO)		

2 form C (2CO), 4 form C (4CO)
240VAC
1-5A
Ag, AgCdO, Au-AgNi,
Au overlay Ag, Au diffused Ag
Single contact or bifurcated crossbar
100mA, 12VDC
300mA, 12VDC
10mA, 12VDC
r) Dry circuit
50mA, 12VDC
100mΩ

Ag, AdCdO	100mΩ	
Au-AgNi, Au overlay Ag, Au diffused Ag	200mΩ	
Frequency of operation	360 ops./hour	
Operate/release time max.	13/6ms	
O 1 1 11		

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 110	V relay with series	dropping
		5W resistor of 11KΩ		

All figures are given for cell without proporaization, at ambient temporature, 123°(

Contact ratings				
Туре	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			

	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 purpo	se
	1/10HP, 120/240VAC	
	180VA, 250VAC, pilot duty	
	42VA, 28VDC, pilot duty	
	should only carry ≤15A continu	, ,
Mechanical end	lurance	10x10 <sup>6</sup> ops.

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	2.5A, 240VAC, general purpose			
	1/10HP, 120/240VAC			
	180VA, 250VAC, pilot duty			
	42VA, 28VDC, pilot duty			

All lightes are given for con without preenergization, at ambient temperature 725 o.				
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

204.0 12000 All figures are given for coil without preenergization, at ambient temperature +23°C.

1000V <sub>rms</sub>	
1500V <sub>rms</sub>	
1500V <sub>rms</sub>	
1500V <sub>rms</sub>	
100MΩ at 500VDC	
	1500V <sub>rms</sub> 1500V <sub>rms</sub> 1500V <sub>rms</sub>

Other Data
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen conte
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)

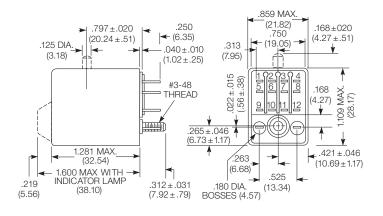
Other Data (continued)	
Terminal type	solder/plug-in .105" (2.67mm),
	pcb-tht .112" (2.84mm)
Weight	45g
Packaging/unit	tray/50 pcs., box/250pcs.

Accessories	}				
For details see datasheet		Sockets and Accessories, KHA Relays			
Product Code	Description				
27E894	DIN socket (use 20	0C426 clip)			
27E166	Panel/track mount	socket (use 20C297 clip)			
27E006	Solder/grounding s	socket (use 20C217 clip)			
27E007	PCB/grounding so	cket (use 20C217 clip)			

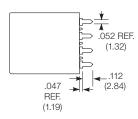
NOTE: Relays with contact current <50mA are not recommended for use in sockets.

#### **Dimensions**

KHAU and KHAX types



PCB terminals KHAE and KHAF types

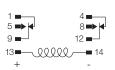


Printed circuit terminal thickness .022 (.558)

#### Terminal assignment







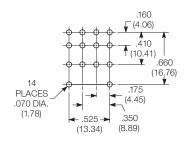


Polarity shown for LED indicator

#### **PCB** layout

Bottom view on solder pins

4 pole version





## KHA Series Panel Plug-in Relay (Continued)

Product code structure **KHA** U -17 Α 1 В -120 Typical product code

General purpose multi-contact relay **KHA** 

Note: Some KHA models available in KH construction. Specify KH instead of KHA.

Version

Printed circuit terminals, nylon dust cover, contacts rated opposite polarity (UL & CSA) F

U

Solder terminals, clear polycarbonate dust cover, contacts rated same polarity (UL & CSA) Printed circuit terminals, nylon dust cover, contacts rated same polarity (UL & CSA) Solder terminals, clear polycarbonate dust cover, contacts rated opposite polarity (UL & CSA) Χ

Contact arrangement 11 2 form C (2CO)

17 4 form C (4CO)

Coil input

D Α DC

Mounting and termination

Socket mount, solder terminals on U versions; printed circuit terminals on E versions

T Top flange mount, solder terminals on U versions: printed circuit terminals on E versions Note 1: Mounting options with solder terminals and stud on narrow, broad and end side on request

**Contact material** 

Ag AgCdO

Au-AgNi (Note 2) 6 Bifurcated crossbar, Au overlay Ag

Au diffusèd Ag

Note 2: contact material code 3 is not available with relay version E

Push to test button. (not available on version E relays with 4 form C contacts)

N H

Neon indicator. Only available with version U, 120VAC or 110VDC coils.

Neon indicator and push to test button. Only available with version U, 120VAC or 110VDC coils.

LED indicator. Only available with version U, 6-48VAC or VDC coils.

LED indicator and push to test button. Only available with version U, 6-46VAC or VDC coils.

Coil voltage

Coil code: please refer to coil versions table

<b>Product Code</b>	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

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TE Connectivity: KHAU-17A12B-12