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KUL Series Latching Panel Plug-in Relay

- **Magnetic latching relay**
- **Single or dual wound DC coils or single wound AC coils**
- **1, 2, and 3 pole Form C contact arrangement**
- **Reset occurs by reversing polarity in a single coil relay or by energizing the reset winding in dual coil relays**
- **Various mounting and socket styles**



Typical applications
Alarm systems, machine tools, battery chargers, process and power controls, pressure washers, paving equipment

Approvals

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

Contact Data

Contact arrangement	1 form C (CO), 2 form C (CO), 3 form C (CO)	
Rated voltage	240VAC	
Rated current	10A	
Contact material	Ag	AgCdO
Min. recommended contact load	100mA, 12VDC	300mA, 12VDC
Frequency of operation	360 ops./hour	
Operate/release time max.	25/25ms	

Contact ratings

Type	Load	Cycles
UL 508		
Ag		
	5A, 240VAC	$100x10^3$
	1/6HP, 120VAC	
	1/3HP, 240VAC	
	0.5A, 120VDC	
	2.5A, 120VAC, tungsten	
AgCdO		
	10A, 250VAC	$100x10^3$
	1/3HP, 120VAC	
	1/2HP, 250VAC	
	5A, 120VAC, tungsten	
	0.5A, 125VDC	
	10A, 28VDC	$100x10^3$
	10FLA, 30LRA, 125VAC	
	5FLA, 15LRA, 250VAC	
	125VA, pilot duty, 125/250VAC	
Mechanical endurance	$10x10^6$ ops.	

Coil Data

Coil voltage range	12 to 110VDC (single and dual coil) 24 to 240VAC (single coil) 24 to 120VAC (dual coil)
Coil insulation system according UL	Class B

Coil versions, DC coil 1)

Coil code	Rated voltage VDC	Operate voltage VDC	Coil resistance Ω±10%	Rated coil power W
Single coil				
12	12	9.0	120	1.2
24	24	18.0	472	1.25
48	48	36.0	1800	1.3
110	110	82.5	10000	1.25
Dual coil 2)				
12	12	9.0	90	1.6
24	24	18.0	350	1.65
48	48	36.0	1400	1.65
110	110	82.5	7400	1.65

1) Latch and reset coil voltages and resistances are the same (unlike coils on request).
2) Dual coil available only with 1 or 2 form C contacts.
All figures are given for coil without preenergization, at ambient temperature +23°C.

Coil versions, AC coil 3)

Coil code	Rated voltage VAC	Operate voltage VAC	Latch coil resistance Ω±15%	Reset coil resistance Ω±15%	Reset coil resistor Ω
Single coil					
24	24	20.4	176	–	680
120	120	102.0	3700	–	15000
240	240	204.0	179000	–	68000
Dual coil					
24	24	20.4	100	250	–
120	120	102.0	2525	2200	5600

3) AC coils use diodes. Diodes and resistors included inside relay with 1 and 2 Form C contacts. For 3 Form C relay, the customer must furnish and wire diodes and resistors externally (1N4007 is recommended diode).
All figures are given for coil without preenergization, at ambient temperature +23°C.

Insulation Data

Initial dielectric strength	
between open contacts	$500V_{rms}$
between contact and coil	$1500V_{rms}$
between adjacent contacts	$1500V_{rms}$
Initial insulation resistance	
between insulated elements	100MΩ

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Other Data

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	
DC coil	Single coil: -45ºC to 70ºC Dual coil: -45ºC to 50ºC
AC coil	Single coil: -45ºC to 70ºC
Category of environmental protection	
IEC 61810	RTI - dust protected
Terminal type	Quick connects (QC) .187
Weight	96g
Packaging/unit	tray/25 pcs., box/150pcs.

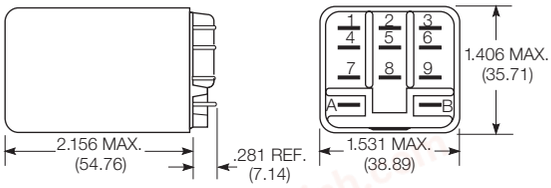
Accessories

For details see datasheet Sockets and Accessories, KUP Relays

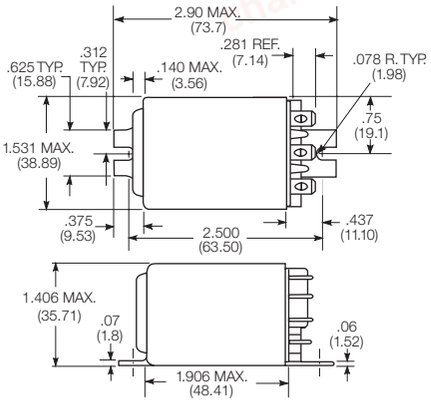
Product Code	Description
27E893	DIN socket (use 20C318 clip)
27E121	Track mount socket (use 20C314 clips)
27E043	Chassis mount/solder eyelet socket (use 20C254 clip)
27E046	Chassis mount/PCB socket (use 20C254 clip)
27E067	Chassis mount/quick connect socket (use 20C254 clip)
27E396	Snap-in/quick connect socket (use 20C254 clip)

Dimensions

Plain case

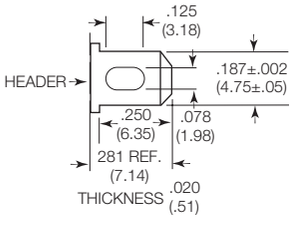


Bracket mount case



Terminal dimensions

4.75mm (.187) quick connect



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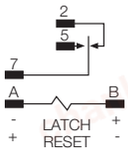
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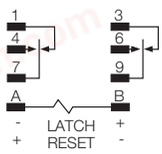
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Terminal assignment
Bottom view on pins – Contact positions shown in diagrams is with the "RESET" input having been energized last.

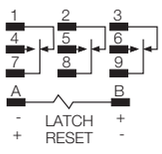
Single Coil – DC
1 Form C



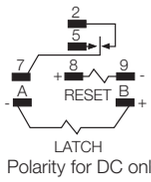
2 Form C



3 Form C

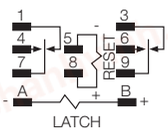


Dual Coil – AC or DC
1 Form C



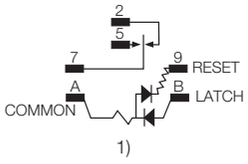
Polarity for DC only.

2 Form C

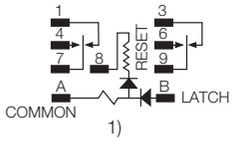


Polarity for DC only.

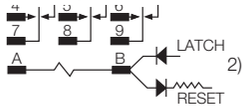
Single Coil – AC
1 Form C



2 Form C



3 Form C



1) Do not connect any low impedance loads from terminal B to A.
2) Resistor and diodes connected by customer. See Coil Data Chart for resistor value. Recommended using 1N4007 diode.

Product code structure — Typical product code: **KUL -11 D 1 1 D -12**

Type
KUL Enclosed magnetic latching relay

Contact arrangement and rating
5 1 form C (1 CO)
11 2 form C (2 CO)
14 3 form C (3 CO)

Coil Input
A AC
D DC

Mounting and options
1 Socket mount (plain) case
5 Bracket mount case

Terminal and contact material
1 4.75mm (.187in) quick connect/solder; Ag, 5A
5 4.75mm (.187in) quick connect/solder; AgCdO, 10A
Note: 5.21mm (.205) QC and PCB terminals available on request

Number of coils
S Single coil
D Dual coil

Coil voltage
Coil code: please refer to coil versions table

Product Code	Arrangement	Material	Coil	Case Style	Terminals	Part Number
KUL-5A15S-120	1 Form C, 1 CO	AgCdO	120 VAC	Plain case	Plug-in	1393116-4
KUL-11A15S-24	2 Form C, 2 CO		24 VAC			2-1393115-7
KUL-11A15S-120			120 VAC			2-1393115-6
KUL-11D15D-12			12 VDC			3-1393115-1
KUL-11D15D-24			24 VDC			3-1393115-2
KUL-11D15D-48			48 VDC			3-1393115-3
KUL-11D15S-12			12 VDC			3-1393115-4
KUL-11D15S-24			24 VDC			3-1393115-5

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