

**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              |                     |
|----------------------|-------------------------------|---------------------|---------------------|
| <b>UL 508</b><br>Ag  | 5A, 240VAC                    | 100x10 <sup>3</sup> |                     |
|                      | 1/6HP, 120VAC                 |                     |                     |
|                      | 1/3HP, 240VAC                 |                     |                     |
|                      | 0.5A, 120VDC                  |                     |                     |
|                      | 2.5A, 120VAC, tungsten        |                     |                     |
| AgCdO                | 10A, 250VAC                   | 100x10 <sup>3</sup> |                     |
|                      | 1/3HP, 120VAC                 |                     |                     |
|                      | 1/2HP, 250VAC                 |                     |                     |
|                      | 5A, 120VAC, tungsten          |                     |                     |
|                      | 0.5A, 125VDC                  |                     |                     |
|                      | 10A, 28VDC                    |                     | 100x10 <sup>3</sup> |
|                      | 10FLA, 30LRA, 125VAC          |                     |                     |
| 5FLA, 15LRA, 250VAC  |                               |                     |                     |
|                      | 125VA, pilot duty, 125/250VAC |                     |                     |
| Mechanical endurance | 10x10 <sup>6</sup> ops.       |                     |                     |

**Coil Data**

|                                     |   |
|-------------------------------------|---|
| Coil voltage range                  | 12 to 110VDC (single and dual coil)<br>24 to 240VAC (single coil)<br>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 <sub>rms</sub>  |
| between contact and coil      | 1500V <sub>rms</sub> |
| between adjacent contacts     | 1500V <sub>rms</sub> |
| 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](http://www.te.com/customersupport/rohssupportcenter)

|                                      |  |
|--------------------------------------|--|
| Ambient temperature                  |  |
| DC coil                              | Single coil: -45°C to 70°C<br>Dual coil: -45°C to 50°C |
| AC coil                              | Single coil: -45°C to 70°C                             |
| 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

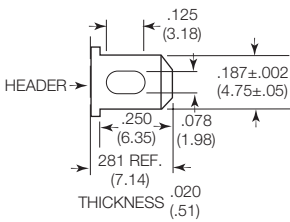


Bracket mount case



**Terminal dimensions**

4.75mm (.187) quick connect

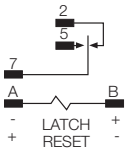


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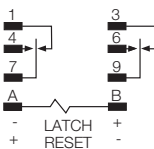
**Terminal assignment**

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

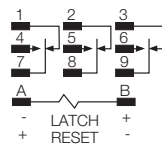
Single Coil – DC  
1 Form C



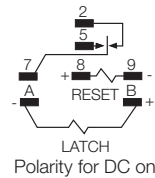
2 Form C



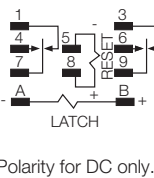
3 Form C



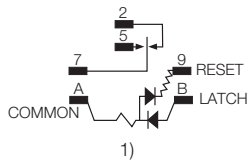
Dual Coil – AC or DC  
1 Form C



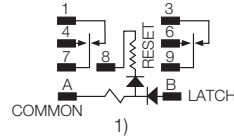
2 Form C



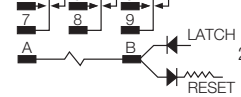
Single Coil – AC  
1 Form C



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                             |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|--|
| Type  | KUL -11 D 1 1 D -12                              |  |  |  |  |  |  |  |
| 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 |