

## Type K - Plug-in Relay Dimensions and Wiring Diagram

8501 K relays are designed for multipole switching applications at 240 volts or lower. These relays have industry standard wiring and pin arrangements which allows for their use as replacements for many similar relays without wiring or hardware modifications.

- 10 or 15 Ampere Versions      • Horsepower Rated
- DPDT or 3PDT                      • DPDT Latching Relay
- Manual Operator/  
  Red Pilot Light Options      • AC or DC Operation

### Type KF – Flange Mounted – Spade Terminals

|                                                                                   | Input Voltage | Contact Arrangement | Options        | Type   |
|-----------------------------------------------------------------------------------|---------------|---------------------|----------------|--------|
|  | AC 50/60 Hz   | DPDT                | None Available | KF12*  |
|                                                                                   |               | 3PDT                |                | KF13*  |
|                                                                                   | DC            | DPDT                | None Available | KFD12* |
|                                                                                   |               | 3PDT                |                | KFD13* |

\* Socket is not required with Type KF relays.

### Type KL – Latching Relay – Spade Terminals

|                                                                                     | Input Voltage | Contact Arrangement | Options        | Type   |
|-------------------------------------------------------------------------------------|---------------|---------------------|----------------|--------|
|  | AC 50/60 Hz   | DPDT                | None Available | KL12*  |
|                                                                                     | DC            | DPDT                | None Available | KLD12* |

### Stocked Relays

| Type          | AC Voltage 50/60 Hz |     |     |     |     | Type          | DC Voltage |     |     |     |     |     |  |
|---------------|---------------------|-----|-----|-----|-----|---------------|------------|-----|-----|-----|-----|-----|--|
|               | 6                   | 12  | 24  | 120 | 240 |               | 6          | 12  | 24  | 48  | 110 | 125 |  |
| Voltage Codes | V35                 | V36 | V14 | V20 | V24 | Voltage Codes | V50        | V51 | V53 | V56 | V60 | V63 |  |
| KP12          | S                   | S   | S   | S   | S   | KPD12         | S          | S   | S   | S   | S   | S   |  |
| KP12P14       | S                   | S   | S   | S   | S   | KPD12P14      | S          | S   | S   | S   | S   | S   |  |
| KP13          |                     | S   | S   | S   | S   | KPD13         |            | S   | S   | S   | S   | S   |  |
| KP13P14       |                     |     | S   | S   | S   | KPD13P14      |            |     | S   |     |     | S   |  |
| KU12          |                     | S   | S   | S   | S   | KUD12         |            | S   | S   |     |     |     |  |
| KU12M1        |                     |     |     |     |     | KUD12M1       |            |     | S   |     |     |     |  |
| KU12P14       |                     |     | S   | S   |     | KUD12P14      |            |     |     |     |     |     |  |
| KU12M1P14     |                     |     | S   | S   | S   | KUD12M1P14    |            |     | S   |     |     |     |  |
| KU13          |                     | S   | S   | S   | S   | KUD13         |            | S   | S   |     | S   | S   |  |
| KU13M1        |                     |     |     |     |     | KUD13M1       |            |     | S   |     |     |     |  |
| KU13P14       |                     |     | S   | S   |     | KUD13P14      |            |     |     |     |     |     |  |
| KU13M1P14     |                     |     | S   | S   | S   | KUD13M1P14    |            |     | S   |     | S   | S   |  |
| KF12          |                     |     | S   | S   | S   | KFD12         |            | S   | S   |     |     |     |  |
| KF13          |                     |     | S   | S   | S   | KFD13         |            |     | S   |     |     |     |  |
| KL12          |                     |     | S   | S   | S   | KLD12         |            | S   | S   |     |     |     |  |

S – Stocked

– Factory Order items require a **minimum** order quantity of 25 and have a lead time of 12 weeks.

\* Voltage code must be specified to order this product. Refer to standard voltage codes listed in the Stocked Relays table above and insert as shown in How To Order.

### How to Order:

| To Order Specify:                                                                                                                               | Catalog Number |      |              |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------|--------------|
| <ul style="list-style-type: none"> <li>• Class Number</li> <li>• Type Number</li> <li>• Voltage Code</li> </ul> (See Stocked Relay Table above) | Class          | Type | Voltage Code |
|                                                                                                                                                 | 8501           | KP12 | V20          |

### Type KP – Tubular Terminals

|                                                                                   | Input Voltage | Contact Arrangement | Options     | Type      |
|-----------------------------------------------------------------------------------|---------------|---------------------|-------------|-----------|
|  | AC 50/60 Hz   | DPDT                | None        | KP12*     |
|                                                                                   |               | DPDT                | Pilot Light | KP12P14*  |
|                                                                                   |               | 3PDT                | None        | KP13*     |
|                                                                                   |               | 3PDT                | Pilot Light | KP13P14*  |
|                                                                                   | DC            | DPDT                | None        | KPD12*    |
|                                                                                   |               | DPDT                | Pilot Light | KPD12P14* |
|                                                                                   |               | 3PDT                | None        | KPD13*    |
|                                                                                   |               | 3PDT                | Pilot Light | KPD13P14* |

### Type KU – Spade Terminals

|                                                                                    | Input Voltage | Contact Arrangement | Options                         | Type        |
|------------------------------------------------------------------------------------|---------------|---------------------|---------------------------------|-------------|
|  | AC 50/60 Hz   | DPDT                | None                            | KU12*       |
|                                                                                    |               | DPDT                | Manual Operator                 | KU12M1*     |
|                                                                                    |               | DPDT                | Pilot Light                     | KU12P14*    |
|                                                                                    |               | DPDT                | Manual Operator and Pilot Light | KU12M1P14*  |
|                                                                                    |               | 3PDT                | None                            | KU13*       |
|                                                                                    |               | 3PDT                | Manual Operator                 | KU13M1*     |
|                                                                                    |               | 3PDT                | Pilot Light                     | KU13P14*    |
|                                                                                    |               | 3PDT                | Manual Operator and Pilot Light | KU13M1P14*  |
|                                                                                    | DC            | DPDT                | None                            | KUD12*      |
|                                                                                    |               | DPDT                | Manual Operator                 | KUD12M1*    |
|                                                                                    |               | DPDT                | Pilot Light                     | KUD12P14*   |
|                                                                                    |               | DPDT                | Manual Operator and Pilot Light | KUD12M1P14* |
|                                                                                    |               | 3PDT                | None                            | KUD13*      |
|                                                                                    |               | 3PDT                | Manual Operator                 | KUD13M1*    |
|                                                                                    |               | 3PDT                | Pilot Light                     | KUD13P14*   |
|                                                                                    |               | 3PDT                | Manual Operator and Pilot Light | KUD13M1P14* |

**Pilot Light Option** – Available on Types KP and KU. Internal pilot lights are available in both ac and dc versions for positive indication of power to the coil. The pilot light will be a red bidirectional LED.

**Manual Operator Option** – Available on Type KU only. To speed circuit testing a manual operator can be provided. With this feature the relay can be manually switched to simulate normal operation.

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Dimensions..... page 8  
Sockets..... page 14

Type K — Plug-in Relay  
Application Data, Dimensions, Wiring Diagrams

Contact Ratings

| AC                                 |          |                                     |     | DC       |                   |
|------------------------------------|----------|-------------------------------------|-----|----------|-------------------|
| Type                               | AC Volts | Resistive 75% PF Continuous Amperes | HP  | DC Volts | Resistive Amperes |
| KP <sup>a</sup>                    | 120      | 10                                  | 1/3 | 28       | 10                |
|                                    | 240      | 10 <sup>b</sup>                     | 1/2 |          |                   |
| KU <sup>a</sup><br>KF <sup>a</sup> | 120      | 15 <sup>a</sup>                     | 1/3 | 28       | 10                |
|                                    | 240      | 10 <sup>b</sup>                     | 1/2 |          |                   |
| KL                                 | 120      | 10                                  | 1/3 | 28       | 10                |
|                                    | 240      | 10                                  | 1/2 |          |                   |

<sup>a</sup> 8501 KP, KU, and KF relays have a B300 rating.

<sup>b</sup> 3 pole devices have a 20 A max. total (sum of currents in all 3 poles), continuous rating.

<sup>a</sup> 3 pole devices have a 30 A max. total (sum of currents in all 3 poles), continuous rating.

Operating Data

|                             | Type       | Comments                                                                                                                         |
|-----------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------|
| Typical Pick-Up Time        | KP         | AC coil: approximately 12 ms<br>DC coil: approximately 18 ms                                                                     |
|                             | KF, KU     | AC coil: approximately 8 ms<br>DC coil: approximately 11 ms                                                                      |
|                             | KL         | approximately 25 ms                                                                                                              |
| Typical Drop-Out Time       | KP         | AC coil: approximately 12 ms<br>DC coil: approximately 7 ms                                                                      |
|                             | KF, KU     | AC coil: approximately 8 ms<br>DC coil: approximately 7 ms                                                                       |
|                             | KL         | approximately 25 ms                                                                                                              |
| Operating Temperature Range | KF, KP, KU | AC: 2 pole: -40°C to +55°C (-40°F to +131°F)<br>3 pole: -40°C to +45°C (-40°F to +113°F)<br>DC: -40°C to +70°C (-40°F to +158°F) |
|                             | KL         | AC/DC: -45°C to +70°C (-49°F to +158°F)                                                                                          |

Contacts

|               |                                                         |
|---------------|---------------------------------------------------------|
| Configuration | 2PDT or 3PDT (2 or 3 Form C)                            |
| Ratings       | See contact ratings table above.                        |
| Material      | KF, KU, and KL—Silver cadmium oxide<br>KP—Silver nickel |

Coils

|                    |                                                                                                    |                                                                             |
|--------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Duty               | Continuous rated coils                                                                             |                                                                             |
| Available Voltages | See Stocked Relays page 7.                                                                         |                                                                             |
| Operate            | AC: +10, -15% of Nominal Voltage at 25°C (77°F)<br>DC: +10, -25% of Nominal Voltage at 25°C (77°F) |                                                                             |
| Typical Burden     | Types KP, KU, KF                                                                                   | AC: 3.6 VA inrush, 2.5 VA sealed<br>DC: 1.5 watts standard, 3 watts maximum |
|                    | Type KL                                                                                            | AC: 2.0 VA latch, 0.8 VA unlatch<br>DC: 1.2 watts                           |

General

Terminals: Solder/plug-in  
UL/CSA:

For 8501 KP, KU, and KF:



File  
CCN

E197072  
NRINT2



File  
Class

212845  
3211 07



For 8501 KP, KU, and KL:

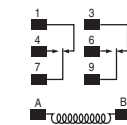


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CCN

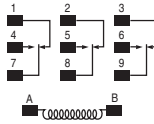
E78351  
NLDX

When used with the appropriate 8501NR socket.

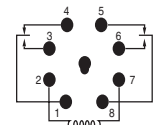
Wiring Diagrams



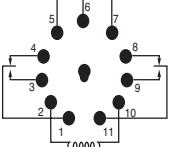
KU12, KUD12  
KF12, KFD12



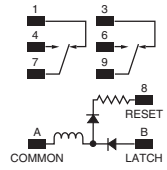
KU13, KUD13  
KF13, KFD13



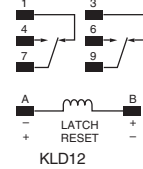
KP12, KPD12



KP13, KPD13

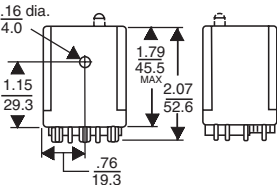


KL12

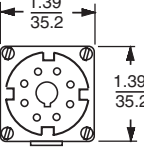
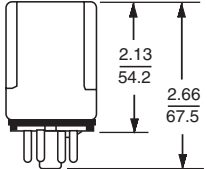
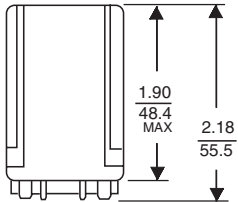
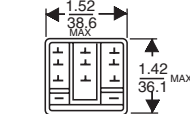


KLD12

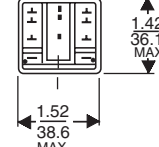
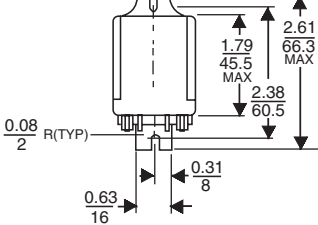
Approximate Dimensions



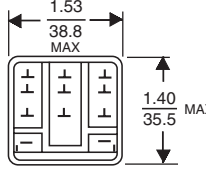
Type KU



Type KP



Type KF



Type KL

Dual Dimensions: Inches  
Millimeters

For 8501 KL:



File  
CCN

E78351  
NLDX2



File  
Class

211269  
3211 04

