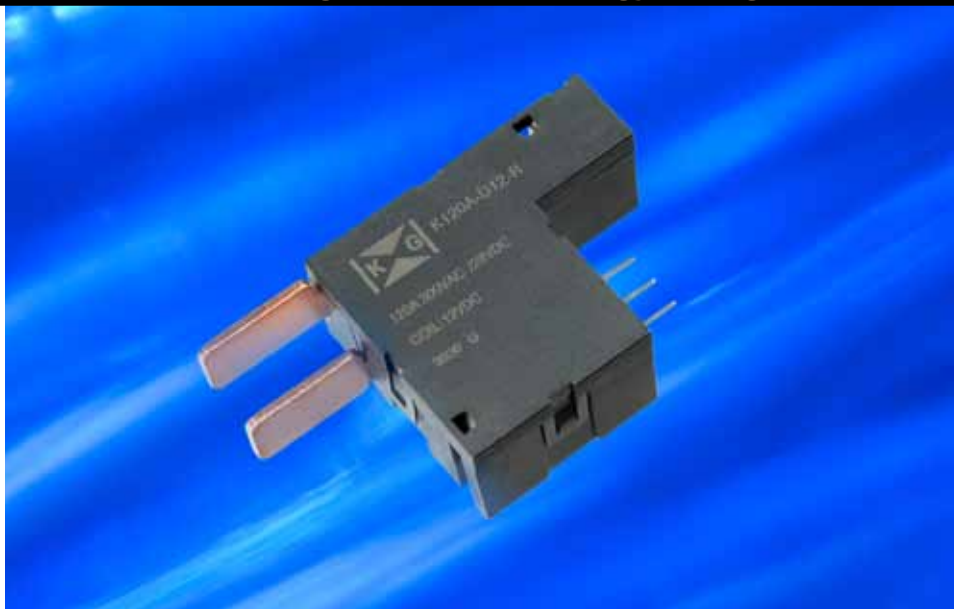


## HIGH POWER LATCHING RELAY

- » 120A switching capability
- » VDE IEC 61810-1 Certified
- » Short Circuit per IEC 62055-31 UC3 Compliant
- » ANSI C12.1 Class 100 compliant
- » RoHS compliant
- » Custom assemblies available with integrated shunts, flex-wire and copper extensions and brass terminals
- » Outline dimensions: (52.0 x 43.0 x 22.0)mm



### Contact Data [Click here for glossary of terms](#)

Rated load	120A 277Vac
Contact form	1A or 1B
Contact material	AgSnO <sub>2</sub>
Max. switching voltage	440Vac
Max. switching current	120A
Max. switching power:	
AC switching	33,240VA
DC switching	3,360W
Electrical endurance	10,000 cycles
Mechanical endurance	100,000 cycles

### Characteristics [Click here for glossary of terms](#)

Insulation resistance	1,000 MΩ (at 500Vdc)
Dielectric strength:	
Coil to contact	4,000 Vac for 1 min.
Across open contacts	2,000 Vac for 1 min.
Dielectric creepage: SPST	≥8mm
Operating temperature	-40 to +70°C
Storage temperature	-40 to +100°C
Ambient humidity	98%RH, +40°C
Vibration	1.0mm (DA), 10 to 55 Hz
Shock resistance:	
Functional*	10G
Destructive	100G
Unit weight	Approx. 85g
Termination	PCB

\* Unit may change state but is still functional.

### Coil Data [Click here for glossary of terms](#)

	Single Coil (Latching)	Dual Coil (Latching)
<b>Coil Consumption</b>	2.4W	4.8W
<b>Pulse Duration</b>	Min. 50ms, 100ms to 200ms recommended	Min. 50ms, 100ms to 200ms recommended

Coil Resistance (Ω± 10%) @ 23°C				
Nominal Coil Voltage	Min. Operating Voltage	Max. Operating Voltage	Single Coil (Latching)	Dual Coil (Latching)
6Vdc	4.8Vdc	7.2Vdc	16Ω	2 x 8Ω
12Vdc	9.6Vdc	14.4Vdc	60Ω	2 x 30Ω
24Vdc	19.2Vdc	28.8Vdc	250Ω	2 x 125Ω
48Vdc	38.4Vdc	57.6Vdc	1000Ω	2 x 500Ω

## Ordering Information

<b>Relay Series:</b>	K120	C	-	S	012	P	-	1A	T
<b>Terminal Type:</b>	B: See drawing <sup>1</sup> C: See drawings <sup>1</sup> X: Custom design <sup>2</sup>								
<b>Coil Type:</b>	S: Single coil D: Dual coil								
<b>Coil Voltage<sup>3</sup>:</b>	6, 12, 24, 48 Vdc								
<b>Polarity:</b>	P: Positive N: Negative								
<b>Contact Form:</b>	1A: Form 1A – NO 1B: Form 1B – NC								
<b>Contact Material:</b>	T: AgSnO <sub>2</sub>								

<sup>1</sup> Other standard terminal type drawings available upon request.

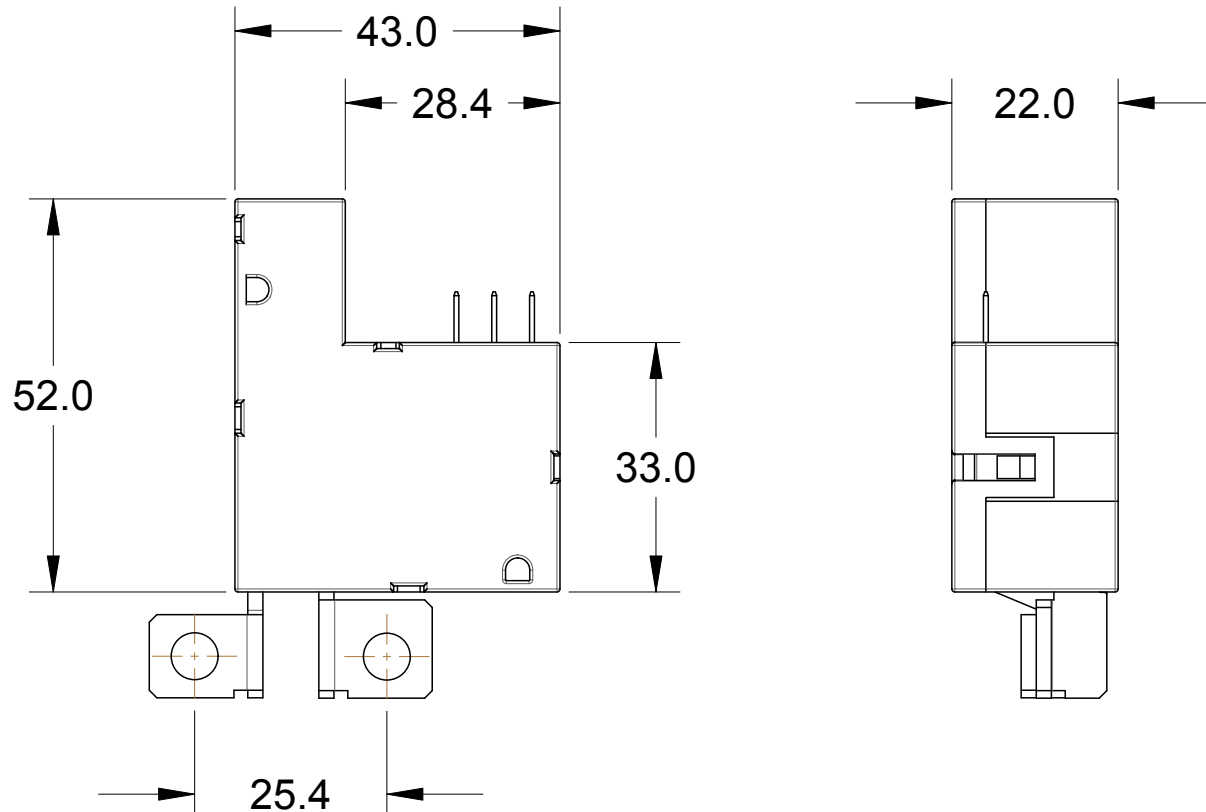
<sup>2</sup> For custom designs, please contact KG Technologies. Integrated shunts, flex-wire, copper extensions and brass terminals available.

<sup>3</sup> Coil voltage should be indicated in three digit format (6Vdc = 006)

## Dimensional Drawings

All dimensions in mm unless otherwise noted. For more information, please contact KG Technologies.

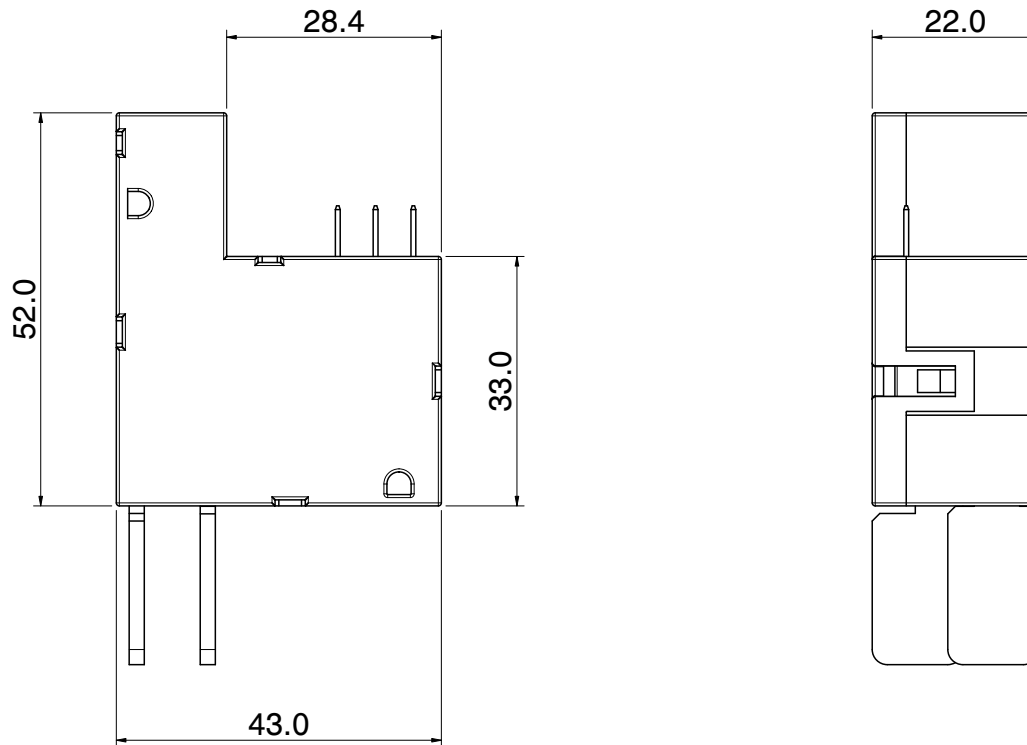
### B-Style Terminals



## Dimensional Drawings

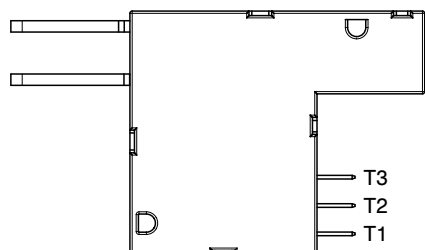
All dimensions in mm unless otherwise noted. For more information, please contact KG Technologies.

### C-Style Terminals

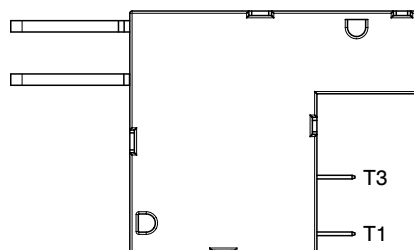


## Wiring Diagrams

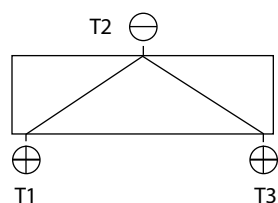
### Dual Coil



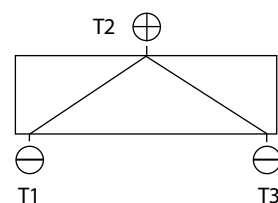
### Single Coil



### Dual Coil Connection

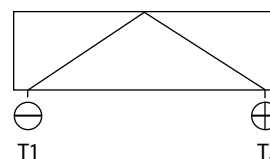


Positive Polarity

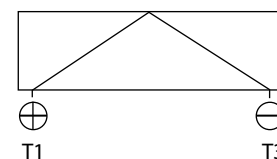


Negative Polarity

### Single Coil Connection



Positive Polarity



Negative Polarity

## Application Notes

**Dual Coil – Positive Polarity:** Place a negative connection on T2. Then apply a 50ms positive pulse to T1 to close the contacts or to T3 to open the contacts.

**Dual Coil – Negative Polarity:** Place a positive connection on T2. Then apply a 50ms negative pulse to T3 to open the contacts or to T1 to close the contacts.

**Single Coil – Positive Polarity:** Place a negative connection on T1. Then apply a 50ms positive pulse to T3 to close the contacts. Place a positive connection on T1. Then apply a 50ms negative pulse to T3 to open the contacts.

**Single Coil – Negative Polarity:** Place a positive connection on T1. Then apply a 50ms negative pulse to T3 to close the contacts. Place a negative connection on T1. Then apply a 50ms positive pulse to T3 to open the contacts.

## Additional Application Notes

**1:** It is possible that during transit or final assembly the relay could change state. Therefore, it is recommended that all relays be set to the desired state via a power supply.

**2:** In order to maintain an “Open” or “Closed” state of the relay, the coil voltage should reach the rated voltage. The pulse width should be 50ms minimum to ensure a proper change of state. DO NOT energize both T1 and T3 at the same time on a Dual Coil or energize the coil for longer than 1 minute (damage to the coil could occur).

**3:** Relays without flex-wire cannot be tin-soldered. Moving or bending the terminals could cause damage to the internal structure of the relay.

**4:** For definitions of terms used in this data sheet, see glossary at [www.kgtechnologies.net](http://www.kgtechnologies.net).

**Disclaimer:** This data sheet is for reference only. All specifications are subject to change without prior notice. KG Technologies, Inc. cannot predict every possible application for our relays. While we do our best to make our relays as versatile as possible, we highly recommend contacting our engineering team if you have any questions. KG Technologies, Inc. is not responsible for malfunctioning relays when operated outside the specified parameters given in this data sheet.