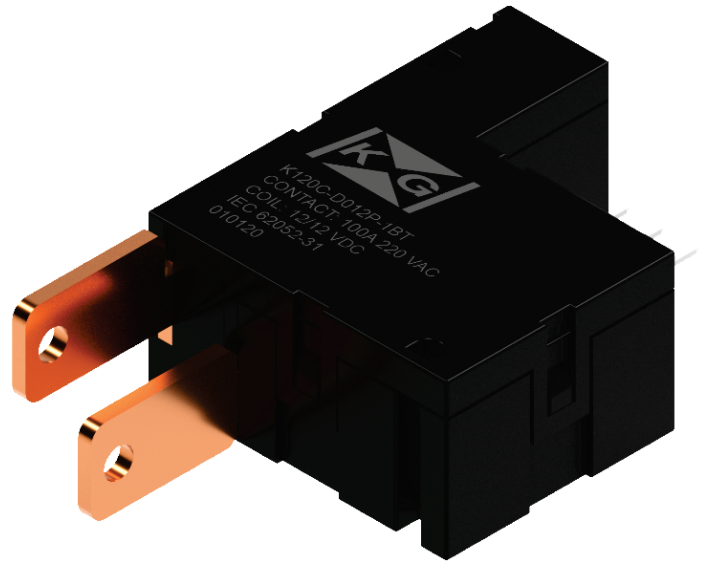


HIGH POWER LATCHING RELAY

- > 120A Latching Relay
- > UC3 capability as per IEC 62052-31:
 - Rated Operational Current (Ie) = 100A
 - Rated Operational Voltage (Ue) = 220V
 - 4kV dielectric strength between coil and contacts
- > Outline dimensions: (52 x 43 x 22)mm
- > Custom assemblies available with flex wire and/or copper extensions, and/or with integrated shunt
- > RoHS compliant materials and process



Contact Data

Rated Load*	100A @ 220V
Contact form	1A or 1B
Contact material	AgSnO ₂
Contact resistance †	0.35mΩ (at 100 A)
Max. switching voltage ‡	220 Vac
Max. carrying current	120 A
Max. switching current §	100 A
Rated switching power	22,000 VA
Set time	≤ 20 ms
Reset time	≤ 20 ms
Electrical endurance	10,000 cycles
Mechanical endurance	100,000 cycles

Characteristics

Insulation resistance	1,000MΩ (at 500 Vdc)
Dielectric strength:	
Coil to contact	4kVac for 1 min 10kV 1.2us/50us
Across open contacts	2kVac for 1min
Dielectric creepage	8 mm
Ambient temperature	-40°C to +85°C
Ambient humidity	5% - 85% RH
Vibration	1.5 mm (DA) 10 Hz to 55 Hz
Shock resistance:	
Functional**	98 m/s ²
Survival	980 m/s ²
Coil termination	PCB or Wire
Unit weight	85g

* Load at which the relay can pass UC3 as per IEC 62052-31

† Typical value for initial contact resistance per relay pole: Using a sample quantity of at least 20 units, take the average value from 5 continuous measurements from each sample

‡ Voltage at which the relay can pass UC3 as per IEC 62052-31

§ Current at which the relay can pass UC3 as per IEC 62052-31

** Unit may change state but is still functional

Coil Data

	Single Coil (Latching)	Dual Coil (Latching)
Coil Consumption	< 2.4W	< 4.8W
Pulse Duration	50ms	50ms

Coil Resistance

($\Omega \pm 10\%$) at 23°C

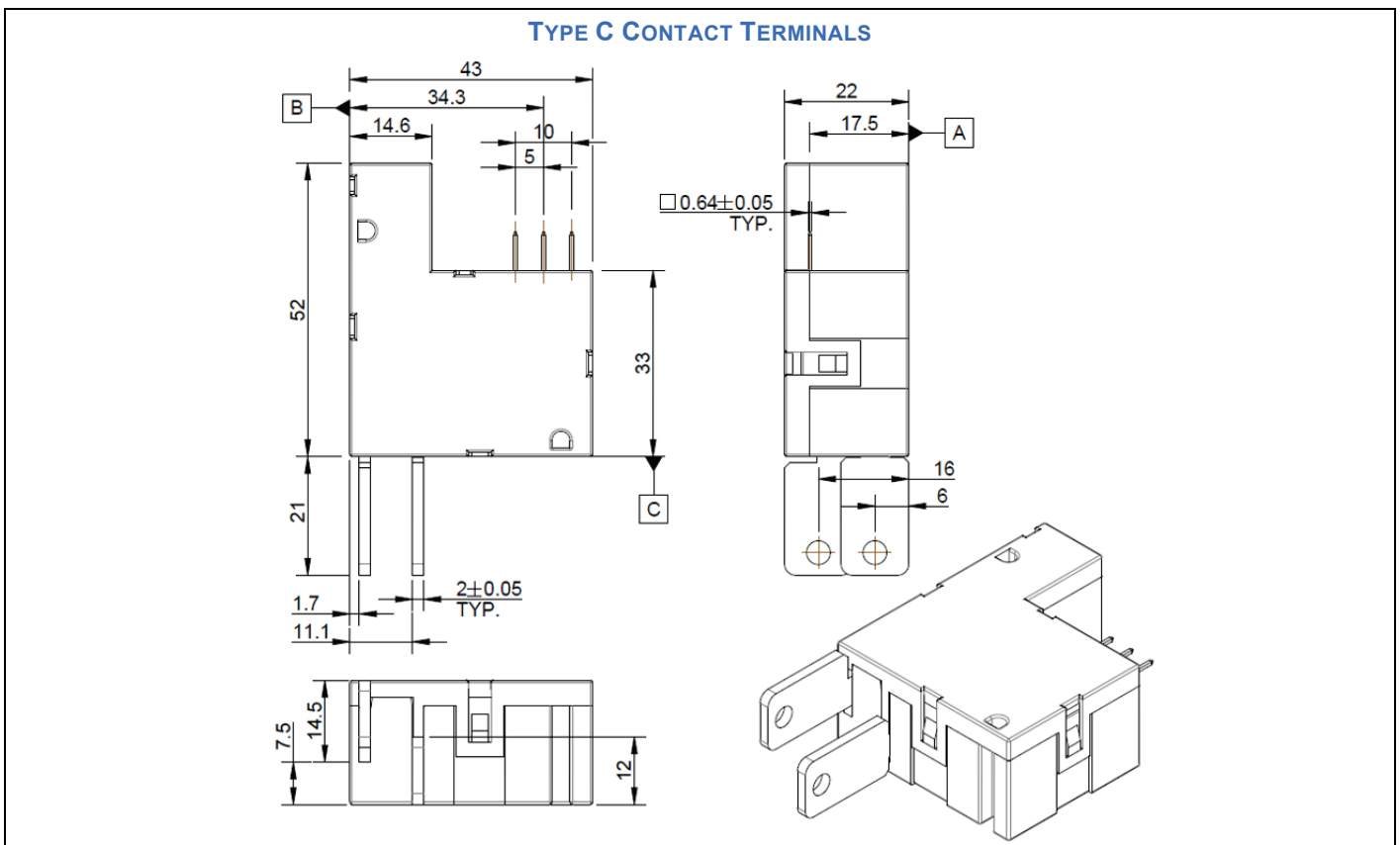
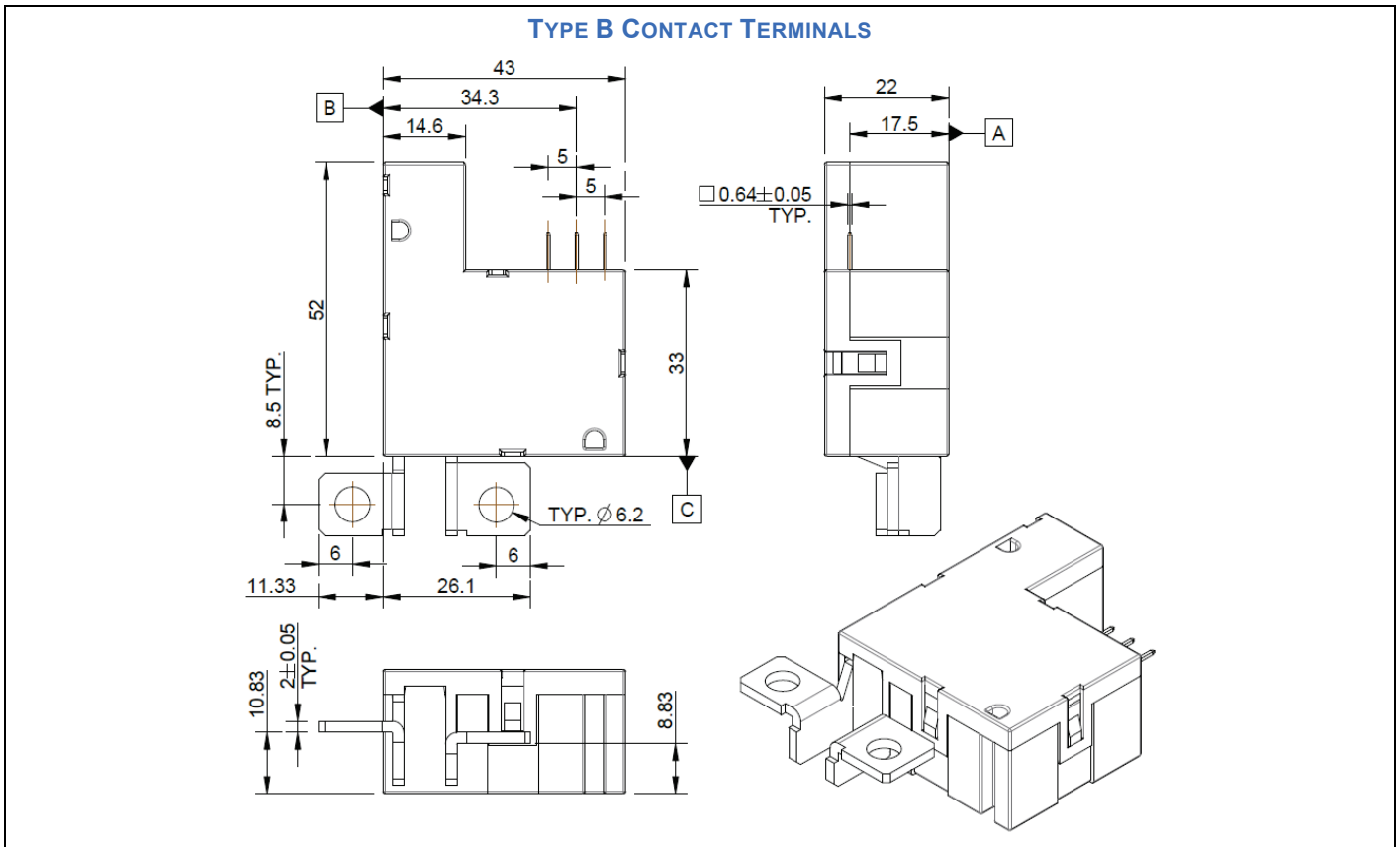
Nominal Coil Voltage	Min Set/Reset Voltage	Single Coil (Latching)	Dual Coil (Latching)
6Vdc	4.8Vdc	16 Ω	2 x 8 Ω
9Vdc	7.2Vdc	34 Ω	2 x 17 Ω
12Vdc	9.6Vdc	60 Ω	2 x 30 Ω
24Vdc	19.2Vdc	250 Ω	2 x 125 Ω
48Vdc	38.4Vdc	1000 Ω	2 x 500 Ω

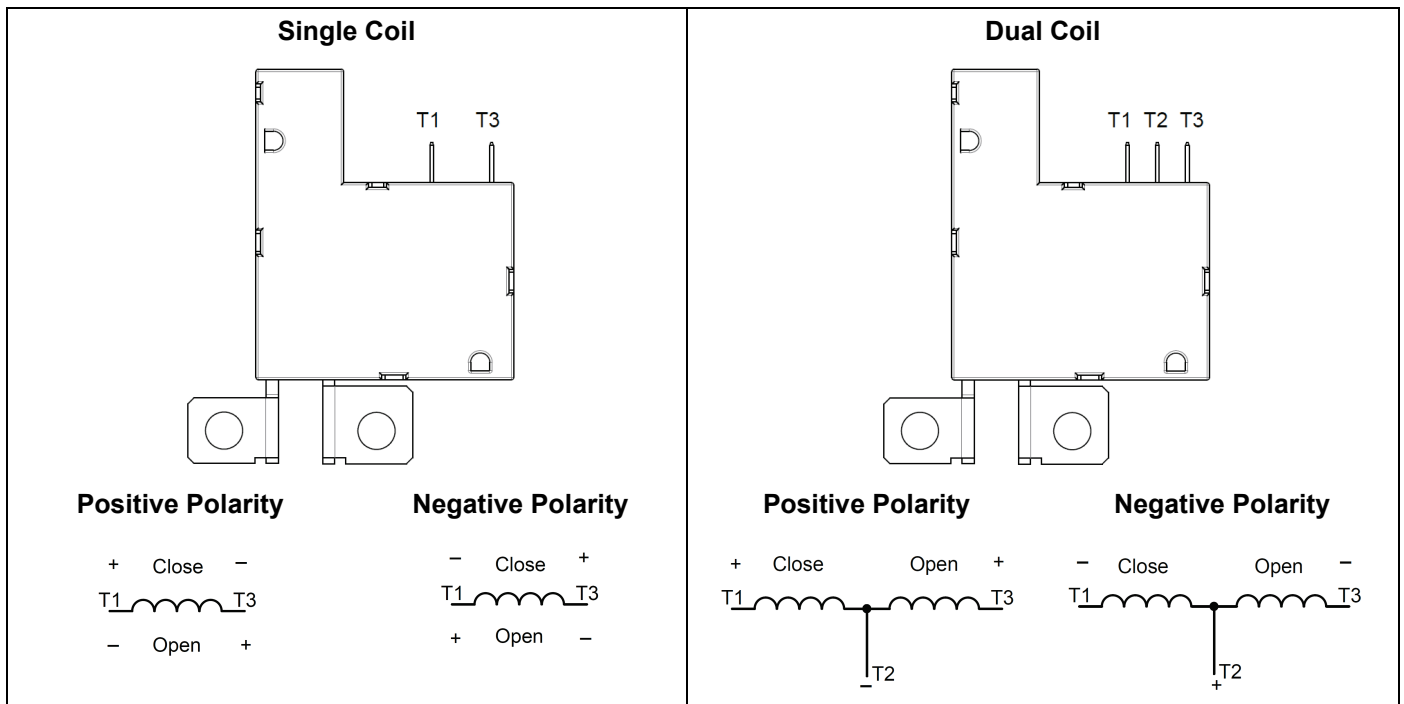
Ordering Information

Relay Series	K120	<input type="checkbox"/>	- <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	- <input type="checkbox"/>	T	-Cxxxx
Terminal Type:	B: See drawing C: See drawing X: Custom Design ^{††}							
Coil Type:	S: Single Coil D: Dual Coil							
Coil Voltage ^{‡‡} :	6,9,12,24,48 Vdc							
Polarity:	P: Positive N: Negative							
Contact Form:	1A: Form 1A – Normally open (NO) 1B: Form 1B – Normally closed (NC)							
Contact Material:	T: AgSnO ₂							
Custom Number:	Cxxxx: Where xxxx represents a unique number for custom relay terminal designs							

^{††} For custom designs, please contact KG Technologies. Integrated shunts, flex-wire, copper extension and brass terminals available

^{‡‡} Coil voltage should be indicated in three-digit format (6Vdc = 006)





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. Applying excessive heat to the relay terminals (soldering or welding) can cause damage to the internal structure of the relay and should be avoided.
4. Moving or bending the terminals can cause damage to the internal structure of the relay and should be avoided.
5. For definitions of terms used in this data sheet, see glossary at www.kgtechnologies.net.

Disclaimer: This datasheet 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 datasheet.