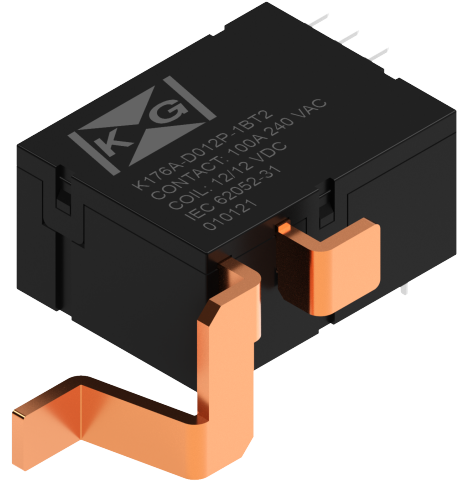


HIGH POWER LATCHING RELAY

- 100A Latching Relay
- UC3 capability as per IEC 62052-31:
 - Rated Operational Current (I_e) = 100A
 - Rated Operational Voltage (U_e) = 240V
- UC3 capability as per IEC 62055-31:
 - Rated Breaking Current (I_c) = 90A
 - Reference Voltage (U_n) = 240V
 - Rated Breaking Voltage (U_c) = 276V
- Auxiliary Contact : 1 Form A/B (Contact state is opposite from load contact state)
- 4kV dielectric strength between coil and contacts
- Outline dimensions: (42 x 32 x 20.8)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 @ 240V; 90A @ 276V
Contact form	1A or 1B
Contact material	AgSnO ₂
Contact resistance †	≤0.35mΩ (at 100 A)
Max. switching voltage ‡	276 Vac
Max. carrying current	120 A
Max. switching current §	100 A
Rated switching power	24,840 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 1.2μs/50μs
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
Destructive	980 m/s ²
Coil termination	PCB
Unit weight	±70g

* Load at which the relay can pass UC3 as per IEC 62052-31, IEC 62055-31

† 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 electrical endurance as per IEC 62055-31

§ 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	3W	6W
Pulse Duration	50ms	50ms

Coil Resistance

($\Omega \pm 10\%$) at 23°C

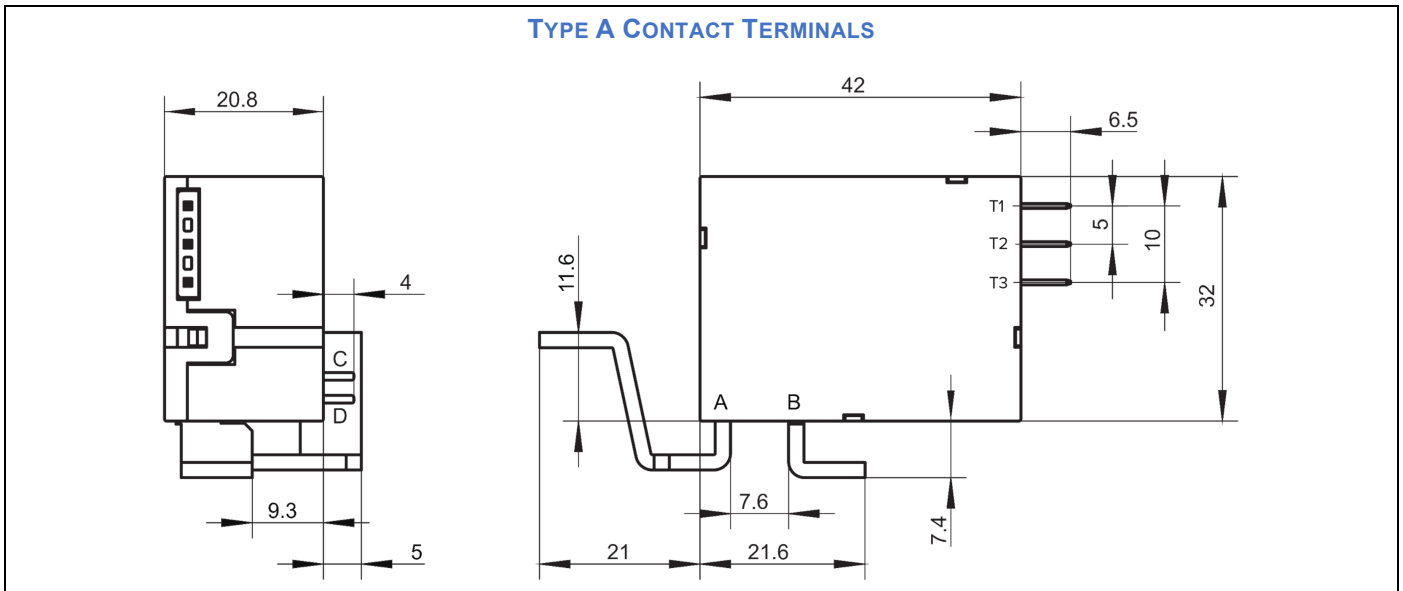
Nominal Coil Voltage	Min Set/Reset Voltage	Single Coil (Latching)	Dual Coil (Latching)
6Vdc	4.8Vdc	12 Ω	2 x 6 Ω
9Vdc	7.2Vdc	27 Ω	2 x 13.5 Ω
12Vdc	9.6Vdc	48 Ω	2 x 24 Ω
24Vdc	19.2Vdc	192 Ω	2 x 96 Ω
48Vdc	38.4Vdc	768 Ω	2 x 384 Ω

Ordering Information

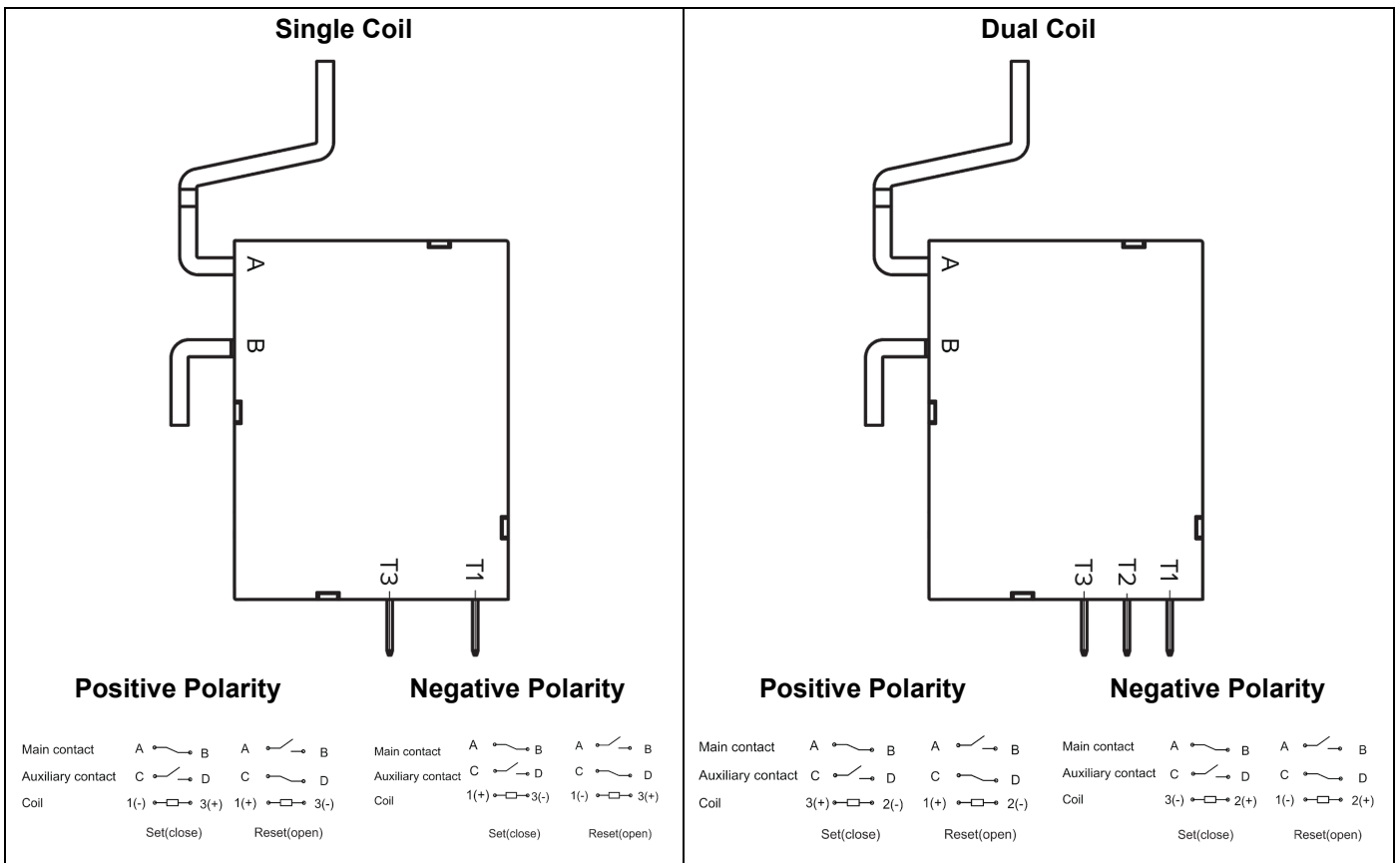
	K176	■	-	■	■	-	■	T	2	■	-Cxxxx
Relay Series											
Terminal Type:	A: See Drawing X: Custom Design **										
Coil Type:	S: Single Coil D: Dual Coil										
Coil Voltage **:	6, 9, 12, 24, 48Vdc										
Polarity:	P: Positive N: Negative										
Contact Form:	1A: Form 1A – Normally open (NO) 1B: Form 1B – Normally closed (NC)										
Contact Material:	T: AgSnO ₂										
Internal Contact Structure:	2: Dual Contacts										
Auxiliary Contact:	A: The auxiliary contact state is the opposite of the main contact state Nil: No auxiliary contact										
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)

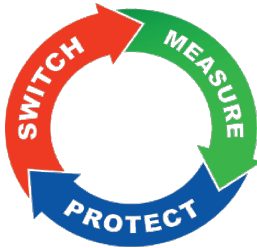


Wiring Diagrams



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.



6028 State Farm Drive, Rohnert Park, CA 94928
Tel: +1.888.513.1874
Email: techinfo@kgtechnologies.net
www.kgtechnologies.net



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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.