

50A POWER LATCHING RELAY

- » 5000W lamp load, 5Hp motor load
- » 8mm creepage. 4000Vac dielectric strength
- » SPST and SPDT configuration
- » Sealed IP67 and flux proof type available
- » Manual switch function available
- » Outline dimensions: (39.0 x 15.0 x 30.2)mm
- » RoHS compliant



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

Rated load	Form 1A 50A/250Vac 5000W 220Vac (lamp load) 5HP 250Vac (motor load)
	Form 1C 40A / 250Vac
Contact form	Form 1A, 1B or 1C
Contact material	AgSnO ₂
Max. switching voltage	440Vac
Max. switching current	50A
Max. switching power	1A: 12,500VA / 1C: 10,000VA
Electrical endurance	1A: 100,000 cycles @ 50A / 250Vac 30,000 cycles @ 5000W / 220Vac 30,000 cycles @ 5HP / 250Vac 1C: 30,000 cycles @ 40A / 250Vac
Mechanical endurance	1,000,000 cycles

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

Insulation resistance	1,000MΩ (at 500Vdc)
Dielectric strength:	
Coil to contact	4,000 Vrms for 1 min.
Across open contacts	1,500 Vrms for 1 min.
Dielectric creepage:	1A ≥8mm 1C ≥6mm
Operating temperature	-40°C to +70°C
Storage temperature	-40°C to +100°C
Ambient humidity	98% RH, +40°C
Vibration	1.5mm (DA), 10 to 55 Hz
Power Consumption	1.5W — Single coil 3.0W — Dual coil
Shock resistance:	
Functional*	10G
Destructive	100G
Unit weight	Approx. 32g
Termination	PCB

* Unit may change state but is still functional.

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

	Single Coil (Latching)	Dual Coil (Latching)
Coil Consumption	1.5W	3.0W
Pulse Duration	Min. 50ms, 100ms to 200ms recommended	Min. 50ms, 100ms to 200ms recommended

Nominal Coil Voltage	Min. Operating Voltage	Max. Operating Voltage	Coil Resistance (Ω± 10%) @ 23°C	
			Single Coil Resistance	Dual Coil Resistance
6Vdc	4.8Vdc	7.2Vdc	24Ω	2 x 12Ω
12Vdc	9.6Vdc	14.4Vdc	96Ω	2 x 48Ω
24Vdc	19.2Vdc	28.8Vdc	384Ω	2 x 192Ω
48Vdc	38.4Vdc	57.6Vdc	1536Ω	2 x 768Ω

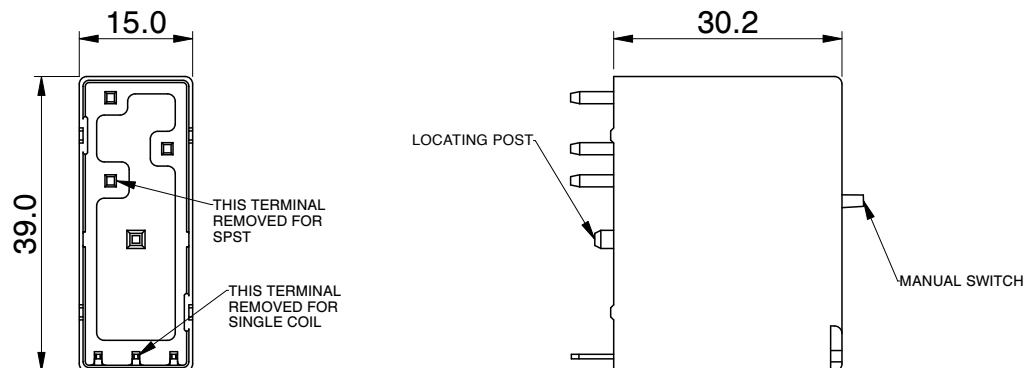
Ordering Information

Relay Series:	K110 - 2 - S 012 P - 1A T - Y
Configuration:	1: No switch; no locating post 2: With switch; no locating post 3: No switch; with locating post 4: With switch; with locating post 5: No locating post, with switch, reverse action
Coil Type:	S: Single coil D: Dual coil
Coil Voltage¹:	6, 12, 24, 48 Vdc
Coil Polarity:	P: Positive N: Negative
Contact Form:	1A: Form 1A – NO 1B: Form 1B – NC 1C: Form 1C
Contact Material:	T: AgSn ₂
Sealed/Non-Sealed:	Y: Sealed IP67 (Only for K110-1 and K110-3) Z: Flux proofed

¹ Coil voltage should be indicated in three digit format (6Vdc = 006)

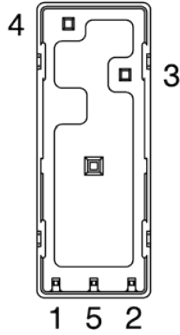
Dimensional Drawings

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

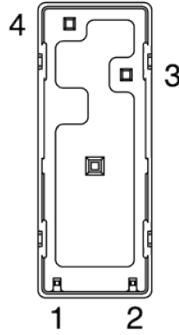


Dimensional Drawings (cont'd)

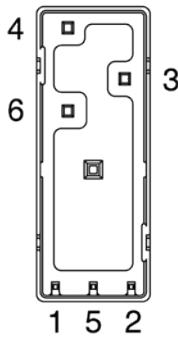
Dual Coil, Form 1A



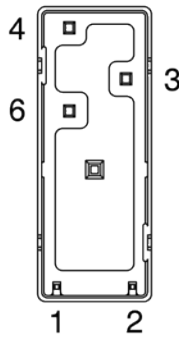
Single Coil, Form 1A



Dual Coil, Form 1C

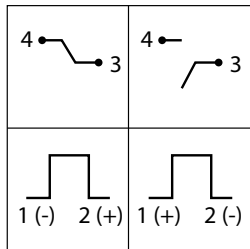


Single Coil, Form 1C

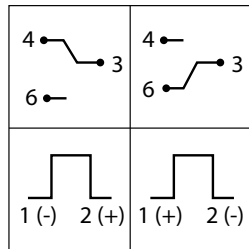


Wiring Diagrams

Single Coil, Form 1A

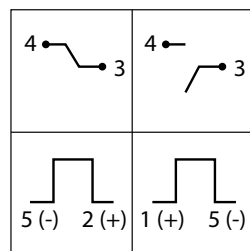


Single Coil, Form 1C

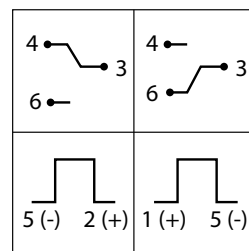


Positive Polarity

Dual Coil, Form 1A

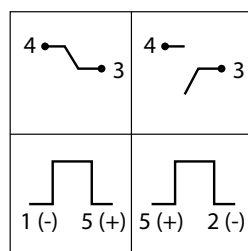


Dual Coil, Form 1C

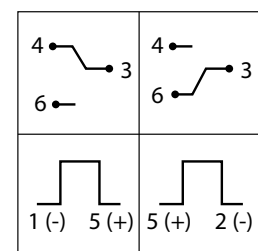


Negative Polarity

Dual Coil, Form 1A



Dual Coil, Form 1C



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 incur).
- 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.

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.