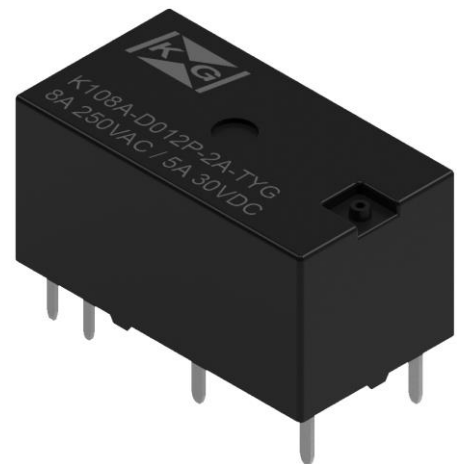


SUBMINIATURE INTERMEDIATE POWER RELAY

- > High switching capacity
 - 1A - 8A 250Vac
 - 2A, 1A+1B - 5A 250Vac
- > 3kV dielectric strength between coil and contacts.
- > Outline dimensions: (20.2 x 11.3 x 10.5)mm.
- > RoHS compliant materials and process.



Contact Data

| | | |
|------------------------------------|------------------------------------------------|----------------------------------|
| Contact Form | 1A | 2A, 1A+1B |
| Contact resistance [†] | No gold plating: | ≤50mΩ (1A 6Vdc) |
| | Gold plating: | ≤50mΩ (0.1A 6Vdc) |
| Contact material | AgSnO ₂ | |
| AC Contact rating [†] | 8A 250Vac | 5A 250Vac |
| DC Contact Rating | 5A 30Vdc | |
| Max Switching Voltage | 380Vac/240Vdc | |
| Max Switching Current | 8A | 5A |
| Max Switching Power | 2000VA/150W | 1250VA/150W |
| Set/Reset Time [‡] | ≤ 10 ms | |
| Operate Time (Single Side Stable) | ≤ 10 ms | |
| Release Time (Single Side Stable) | ≤ 5 ms | |
| Mechanical Endurance | 1 x10 ⁷ ops | |
| Electrical Endurance ^{**} | 100,000 ops at 8A 250Vac at 70°C ^{††} | 100,000 ops at 5A 250Vac at 70°C |
| | 30 000 ops at 5A 250Vac at 40°C ^{‡‡} | |
| Max Operating | 20 cycles/min | |

Characteristics

| | |
|-------------------------|------------------------------|
| Insulation resistance | 1,000MΩ (at 500 Vdc) |
| Dielectric strength: | |
| Coil to contact | 3kVac for 1 min. |
| Across open contacts | 1kVac for 1min. |
| Between contact sets | 2kVac for 1min. |
| Ambient temperature | -40°C to +85°C |
| Insulation resistance | 1,000MΩ (at 500 Vdc) |
| Vibration: | |
| Functional | 2 mm (DA) 10 Hz to 55 Hz |
| Survival | 3.5 mm (DA) 10 Hz to 55 Hz |
| Shock resistance: | |
| Functional [§] | 196 m/s ² |
| Survival | 980 m/s ² |
| Coil termination | PCB or Wire |
| Unit weight | 4.5g |
| Construction | Plastic sealed, Flux proofed |

* Typical value for Initial Contact Resistance: Using a sample quantity of at least 20 units, take the average value from 5 continuous measurements from each sample.

[†] Resistive load

[‡] Latching relays

[§] Unit may change state but is still functional

^{**} Resistive load at 70°C, 1.5s on / 1.5s off

^{††} 1s on 9s off

^{‡‡} 2s on 2s off

Coil Data

| | Single side stable (Non latching) | Single Coil (Latching) | Dual Coil (Latching) |
|------------------|-----------------------------------|------------------------|----------------------|
| Coil Consumption | 300mW | 150mW | 300mW |

Coil Resistance - Latching

($\Omega \pm 10\%$) at 23°C

| Nominal Coil Voltage | Min Set/Reset Voltage | Single Coil (Latching) | Dual Coil (Latching) |
|----------------------|-----------------------|------------------------|----------------------|
| 3Vdc | 2.4Vdc | 60 Ω | 2 x 30 Ω |
| 5Vdc | 4.0Vdc | 167 Ω | 2 x 83 Ω |
| 6Vdc | 4.8Vdc | 240 Ω | 2 x 120 Ω |
| 9Vdc | 7.2Vdc | 540 Ω | 2 x 270 Ω |
| 12Vdc | 9.6Vdc | 960 Ω | 2 x 480 Ω |
| 18Vdc | 14.4Vdc | 2160 Ω | 2 x 1080 Ω |
| 24Vdc | 19.2Vdc | 3840 Ω | 2 x 1920 Ω |

Coil Resistance – Single-Side Stable

($\Omega \pm 10\%$) at 23°C

| Nominal Coil Voltage | Pick-up Voltage min | Drop-Out Voltage max | Coil Resistance |
|----------------------|---------------------|----------------------|-----------------|
| 3Vdc | 2.4Vdc | 0.3Vdc | 30 Ω |
| 5Vdc | 4.0Vdc | 0.5Vdc | 83 Ω |
| 6Vdc | 4.8Vdc | 0.6Vdc | 120 Ω |
| 9Vdc | 7.2Vdc | 0.9Vdc | 270 Ω |
| 12Vdc | 9.6Vdc | 1.2Vdc | 480 Ω |
| 18Vdc | 14.4Vdc | 2.4Vdc | 1080 Ω |
| 24Vdc | 14.92Vdc | 2.4Vdc | 1920 Ω |

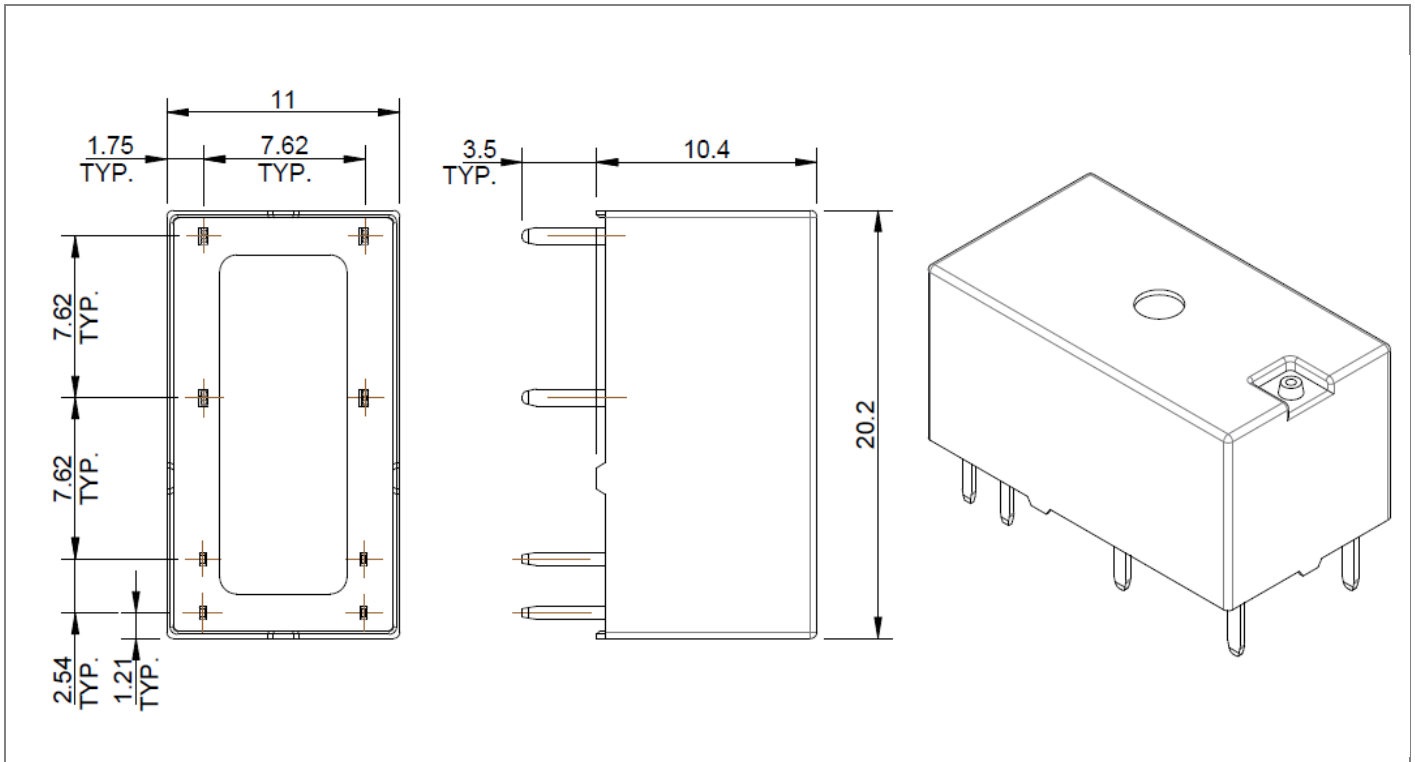
Ordering Information

| | | | | | | | | | |
|------------------------------|-------------------------------------------------------------------------------------------------|----------------------------|--------------------------|--------------------------|----------------------------|---|--------------------------|--------------------------|--------------------------|
| | K108 | - <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | - <input type="checkbox"/> | T | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Relay Series | | | | | | | | | |
| Coil Type: | S: Single Coil D: Dual Coil NIL: Single Side Stable | | | | | | | | |
| Coil Voltage ^{§§} : | 3,5,6,9,12,18,24 Vdc | | | | | | | | |
| Polarity: | P: Positive N: Negative | | | | | | | | |
| Contact Form: | 1A: Form 1A – Normally open (NO) 2A: Form 2A – Normally open (NO) 1X: Form 1X – (1A + 1B) | | | | | | | | |
| Contact Material: | T: AgSnO ₂ | | | | | | | | |
| Contact Plating: | G: Gold Plating O: No Plating | | | | | | | | |
| Construction: | Y: Sealed IP67 Z: Flux Proofed | | | | | | | | |
| Relay Type: | L1: Single Coil Latching L2: Dual Coil Latching Nil: Single Side Stable | | | | | | | | |

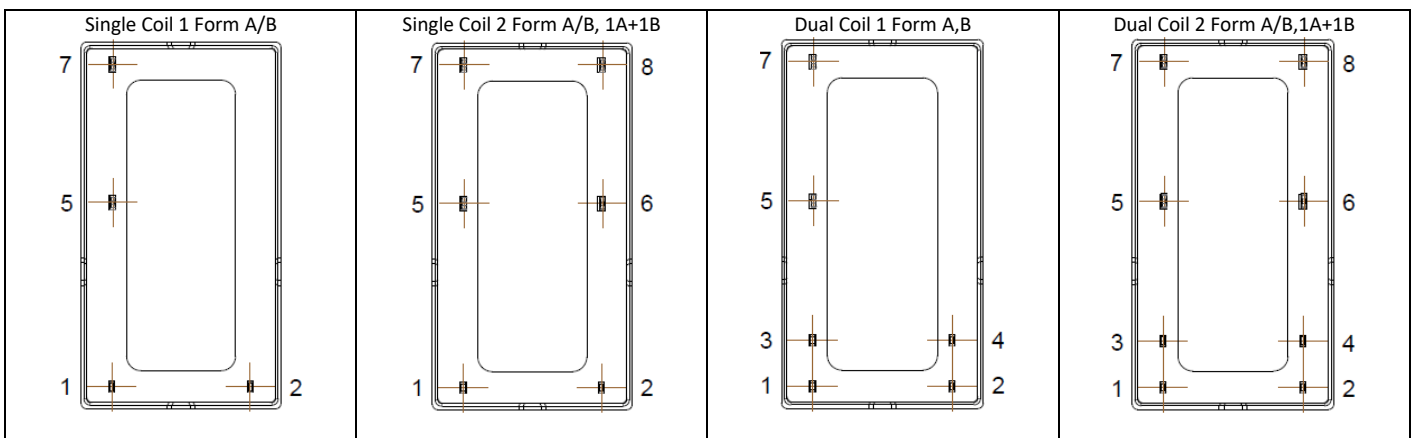
^{§§} Coil voltage should be indicated in three-digit format (6Vdc = 006)

Dimensional Drawings

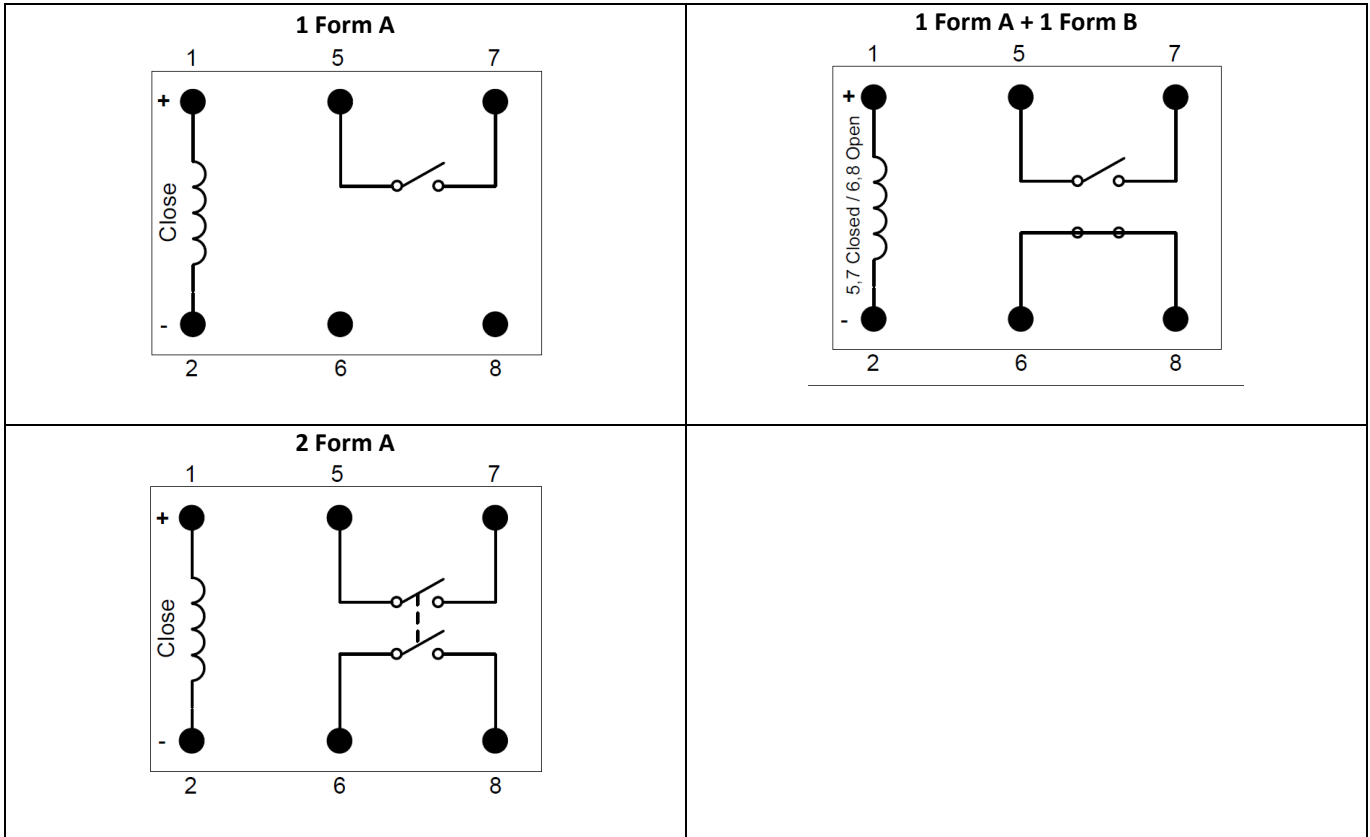
(Unit: mm)



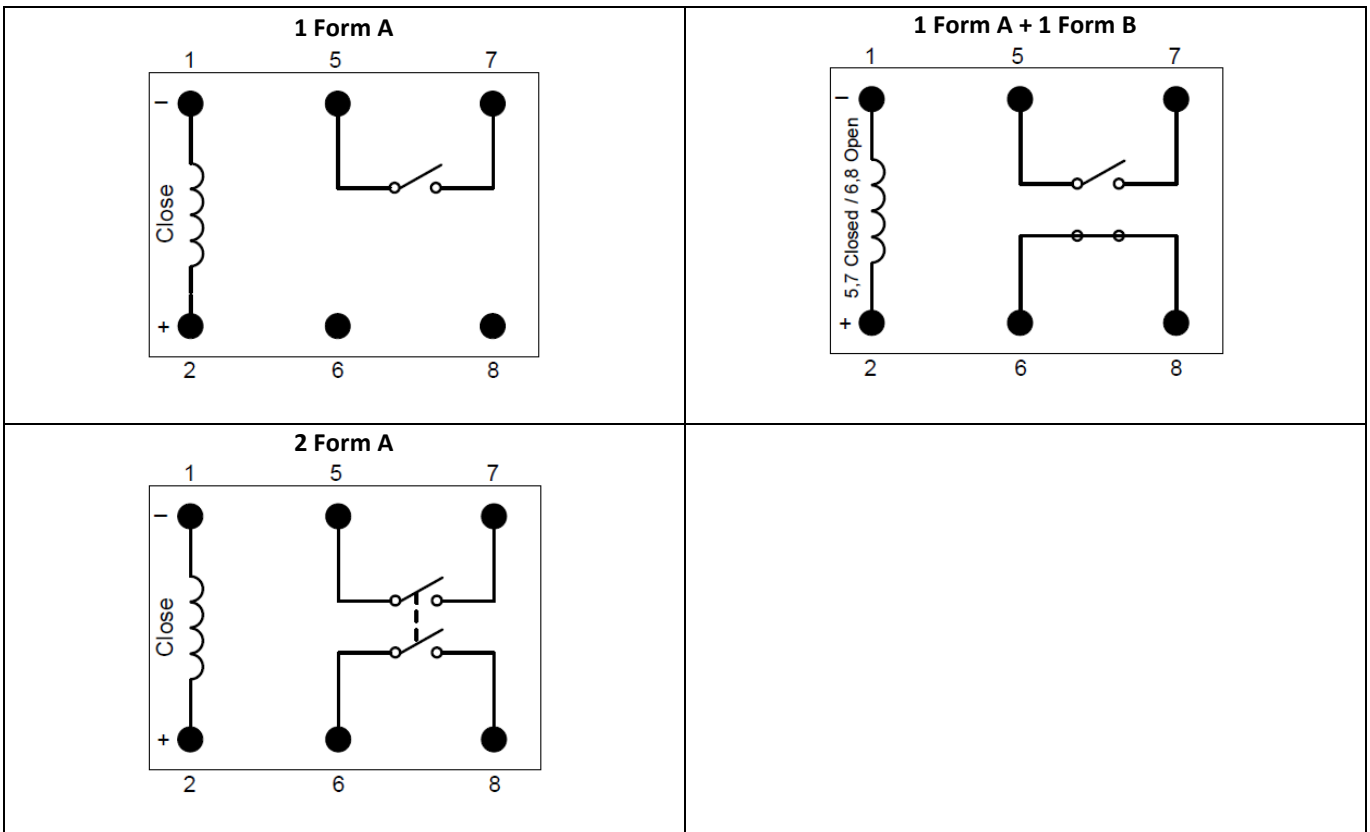
Pin Layout & Numbering (Bottom view)



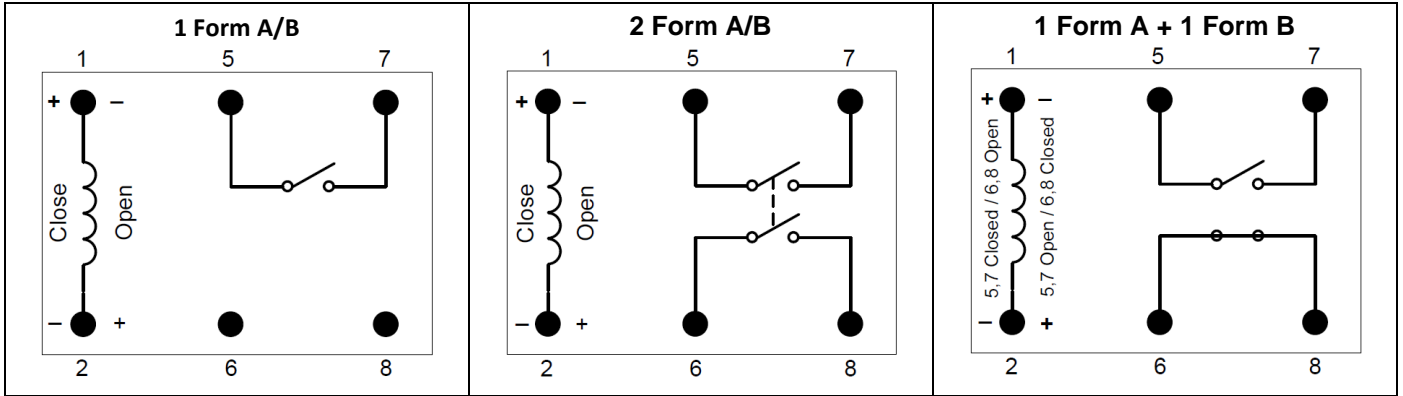
Single side stable – Positive Polarity



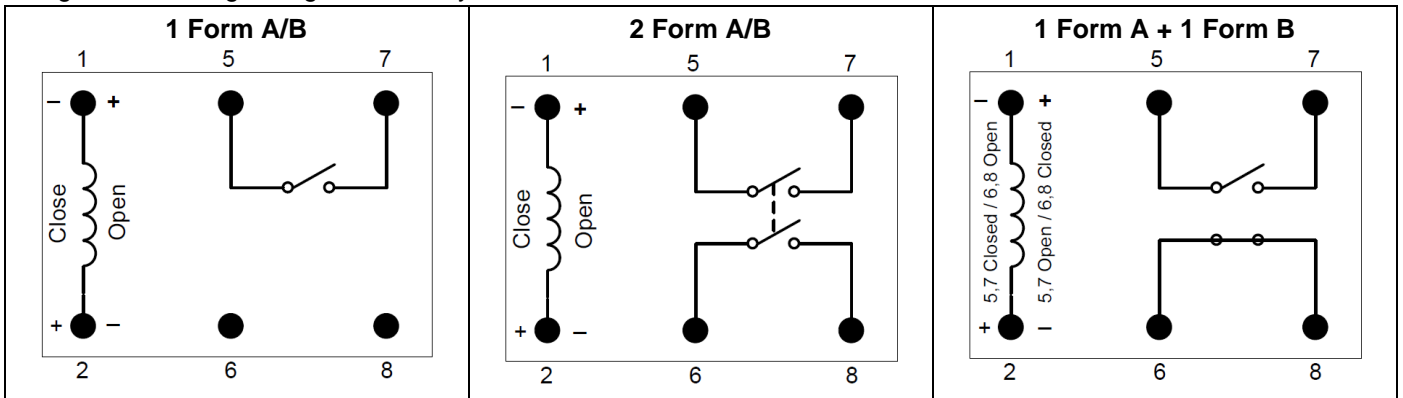
Single side stable – Negative Polarity



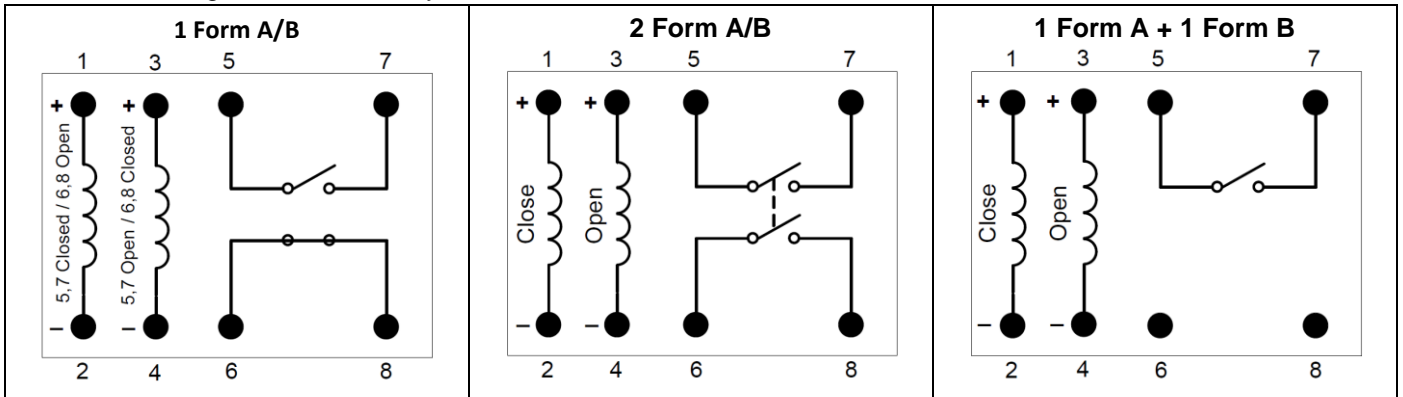
Single coil latching – Positive Polarity



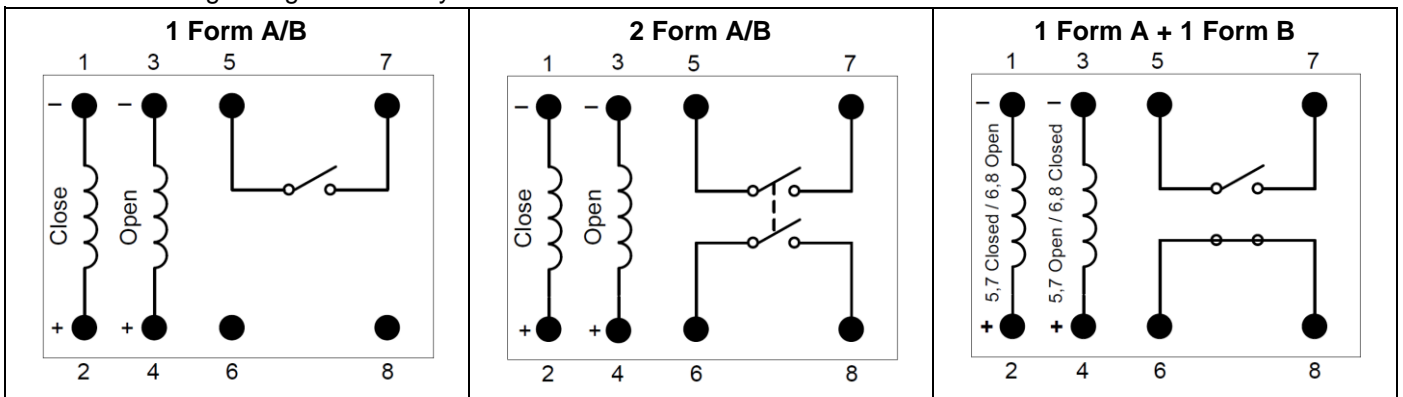
Single coil latching – Negative Polarity



Dual coil latching – Positive Polarity



Dual coil latching – Negative Polarity



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. Do not energize both coils of dual coil relays simultaneously.
3. Applying excessive heat to the relay terminals 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.