KAIZENSPEED®

PERFORMANCE DONE RIGHT

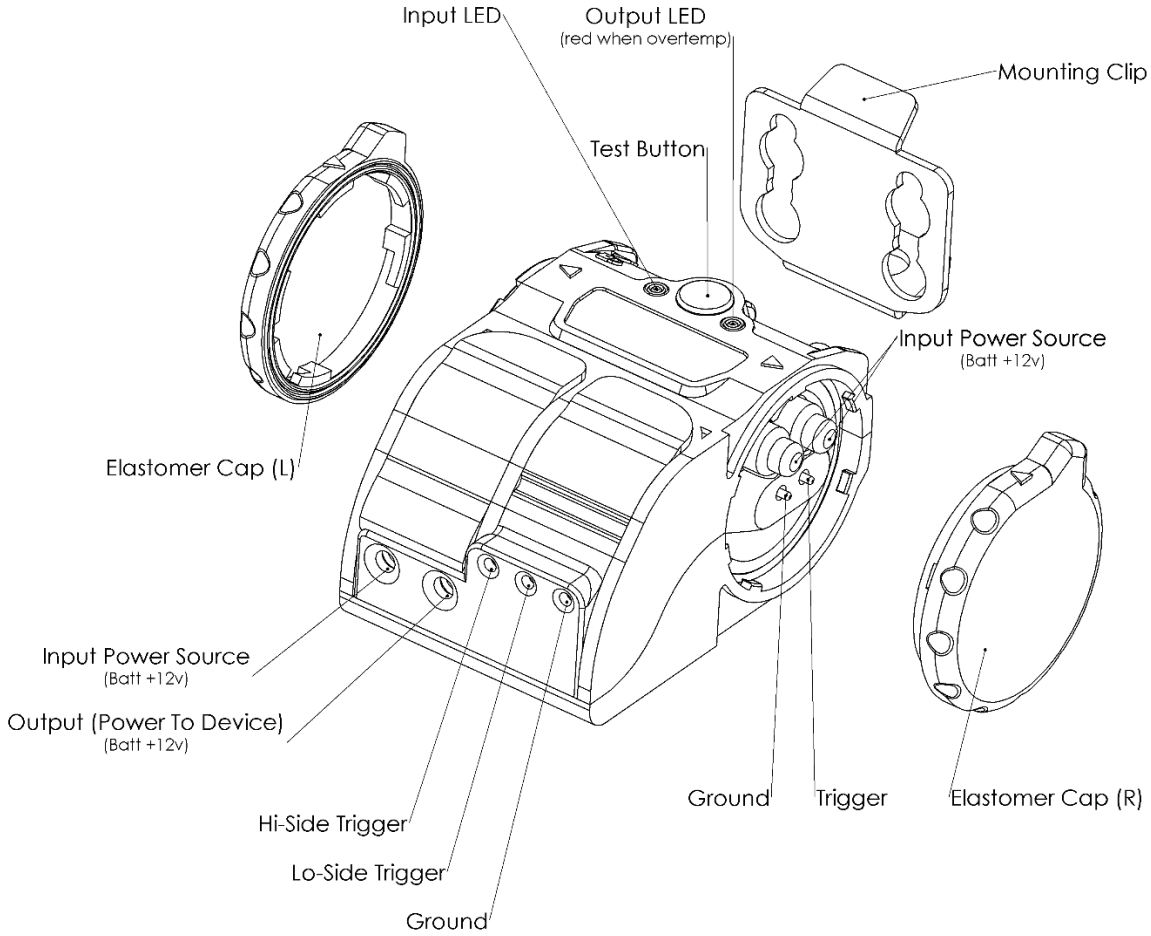
KS TUNED

Kaizen Relay

PN: KAI-5050

Features:

- Solid State
- 40A Capacity Per Relay
- 100A Per Input Power Wire
- PWM Capable to 225 HZ
- Hi or Lo Trigger
- Weather Resistant
- Interconnectable
- Mounting Clip functions as rotation lock



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kaizenspeed.com

Operation:

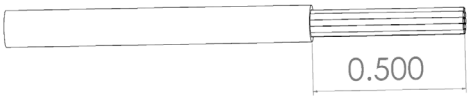
Input/Output Levers: To access the IO levers simply pick and lift the elastomer cover, then bend it down. Each lever has 15 degrees freeplay to allow your finger to get underneath it and lift. Lift the lever until it stops (it's hard!). You can now insert your wire (with insulation removed). Once inserted snap the lever down. That's it!

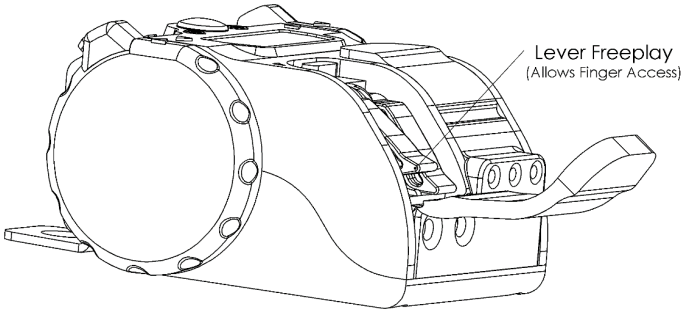
***Bad news:** **Your finger will hurt.**

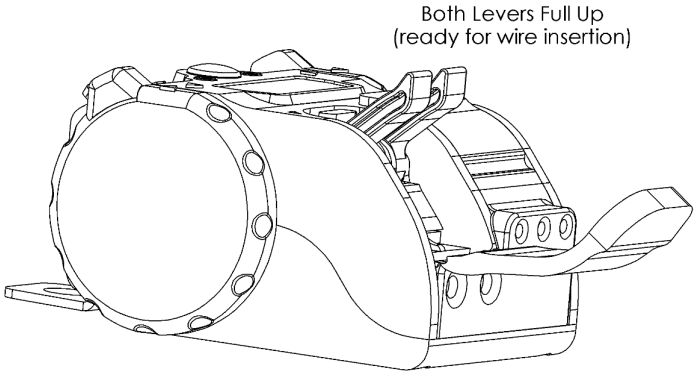
****Good news:** **Your conductors won't pull out** (and we'll improve the leverage for production)**.**

Wire Preparation: Besides stripping the insulation, no special wire preparation such as ferrules, crimps or tinning is necessary.

Input/Output: Strip .500" (12.5mm) and insert. *Note for Beta Users: This elastomer isn't very forgiving. Max 10 AWG tefzel (or 12 AWG generic/thick jacket) is preferred.



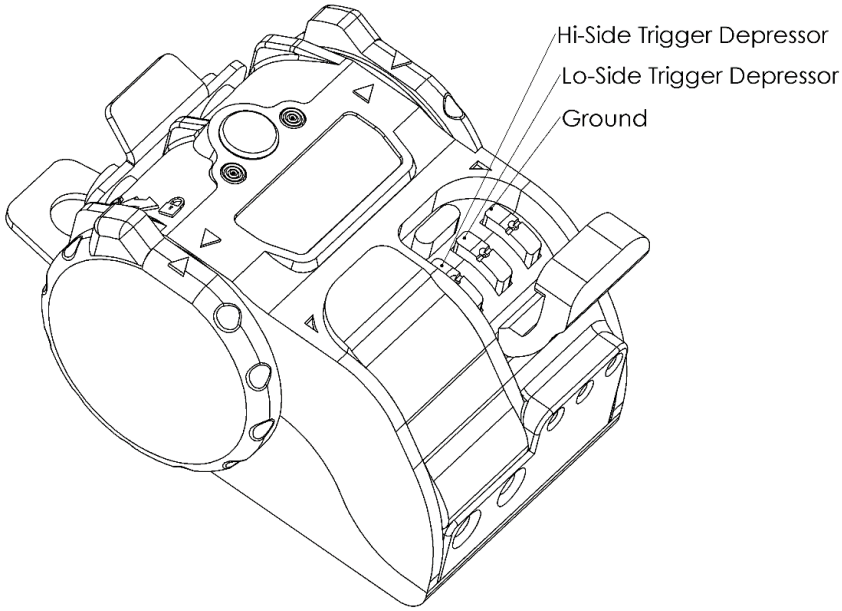


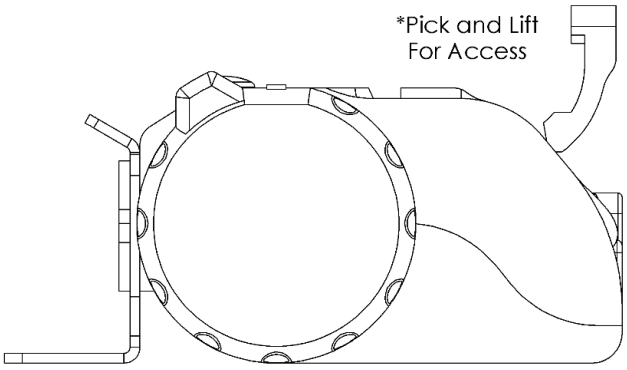


Operation (cont'd):

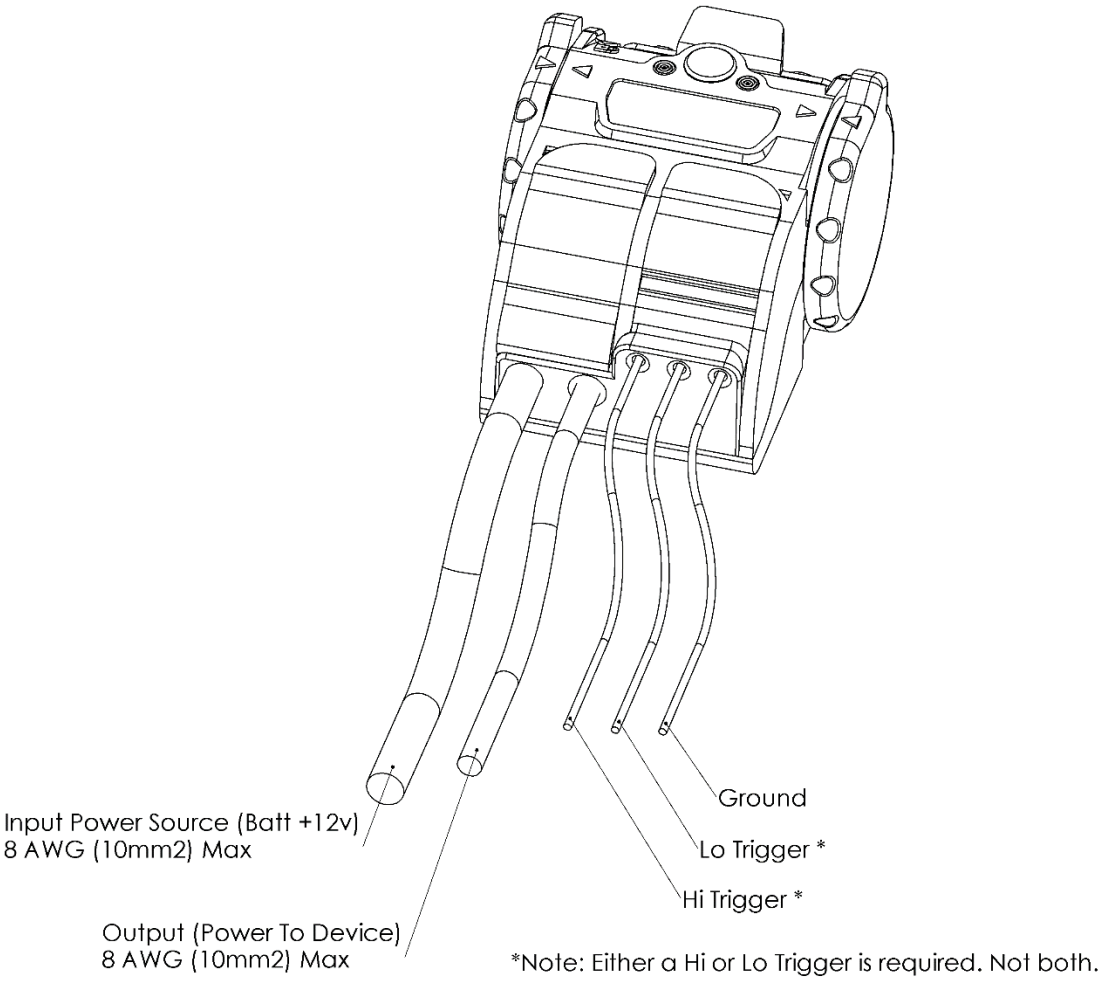
Trigger/Ground Depressors: Accessing the trigger and ground depressors is the same as the IO levers; simply pick and lift the elastomer seal. To insert a wire; depress and hold until the wire is fully inserted, then release. No tools required.

Trigger/Gnd: Strip .390" (10mm) and insert *Note for Beta Users: This elastomer isn't very forgiving. 18 AWG tefzel is preferred (smaller if generic thick jacket conductors are used).





Wiring Diagram: Single Relay



LED Indication:

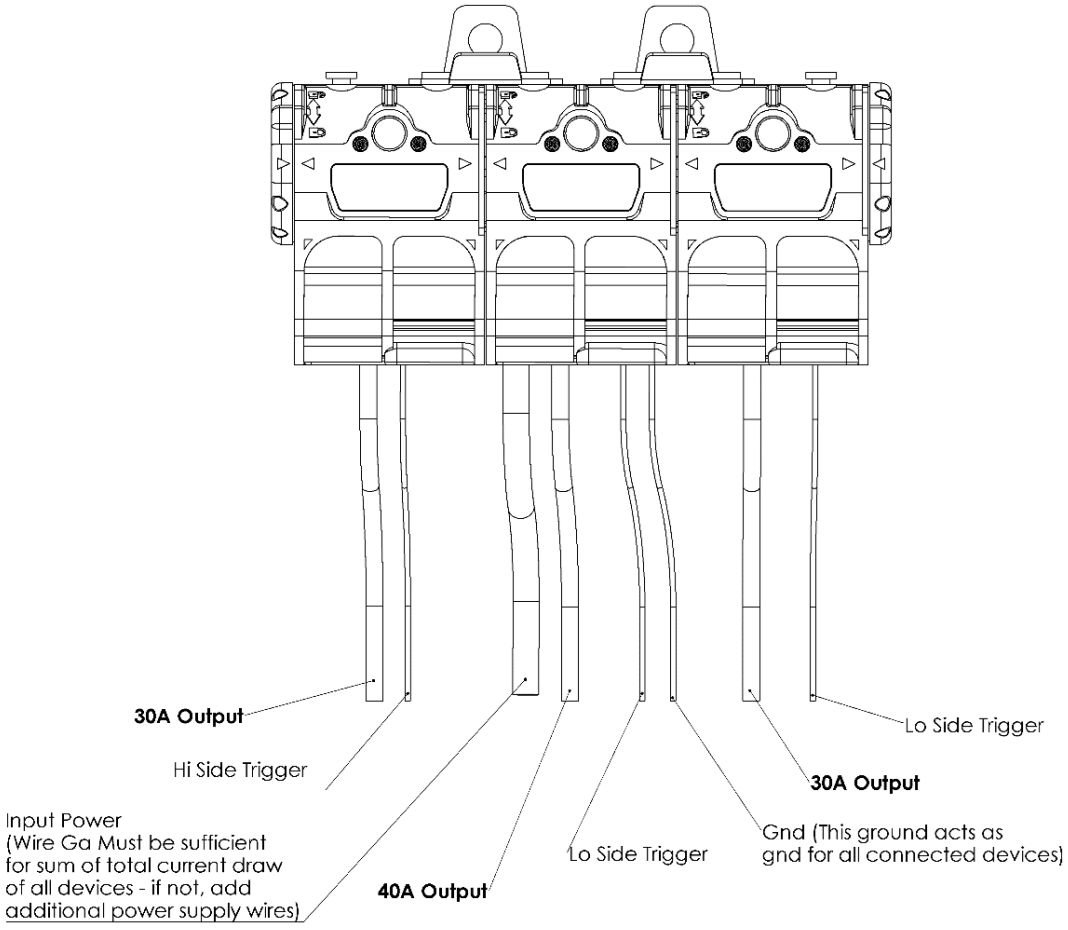
Left	Right	Status
ON	ON	Trigger ON, Output ON – Normal Operation
ON	OFF	Trigger ON, Output stuck OFF - Failed
OFF	ON	Trigger OFF, Output stuck ON - Failed
ON	ON	Trigger ON, Output ON – Overtemp (257F) (Turn off immediately, move from heat and/or reduce amp draw)

Notes about linking relays together:

Input power and ground is shared amongst connected relays. The pogo pins are nominally rated for 30 amps continuous. You must share the load equally to the left and to the right.

Use the following images for dos and don’ts.

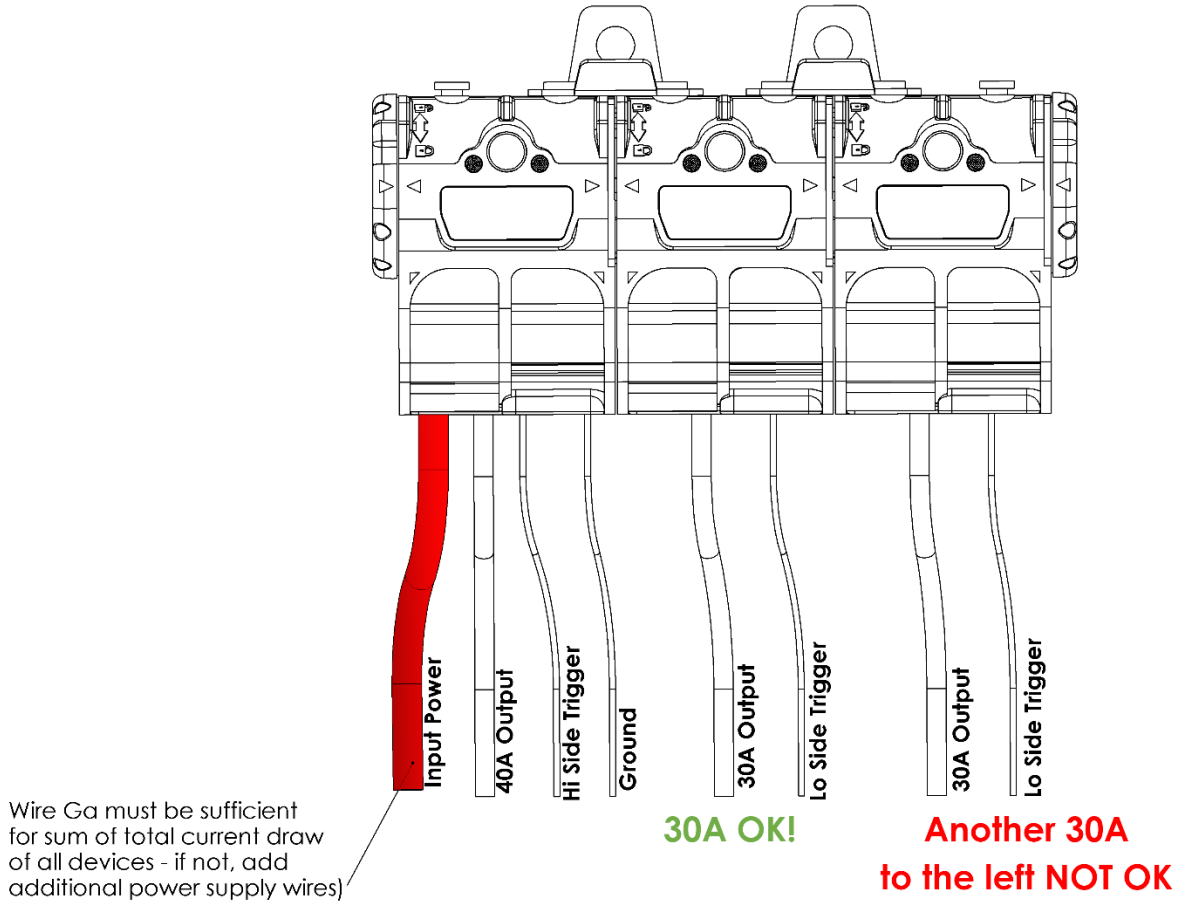
Correct 3-channel configuration: 100 amps



Incorrect 3-channel configuration: 100 amps

What's Wrong?

More than 30A capacity is to one side of the input.
(Pogo pins have a 30A limit)



Dos and Don'ts:

DO	DON'T
Trigger with Hi OR Lo	Trigger Hi AND Lo at the same time
Use low speed frequencies for best result	Use Frequencies greater than 225 Hz
Link relays equally to the left and right	Link high-current relays all to one side

Best Practices:

*** REDUCE THE HEAT TO INCREASE THE LIFE: The enemy of any solid state relay is heat – external heat sources as well as heat generated by the relay itself. To increase the life and avoid reaching overtemp use the following guidelines:**

1. Lower frequency = less heat. (Example: PWM fans at 70Hz rather than 150hz.)
2. Ensure minimum duty cycle is 25%; extended operation at low duty cycles <20% DC will generate significant heat.
3. Mount Kaizen Relays away from heat sources such as headers and hot engine components. A little airflow goes a long way.