

## Step 1 - Kelly KBL/KEB Series Controllers Configuration Program V3.1



## Kelly Controllers

<http://www.KellyController.com>


Configuration Wizard

## Controller Information

Model: KBL72201y      Serial Number: 10180480      SoftWare Version: 0302

## General Setting

Foot Switch [1] ☐ Enable ☒ Disable

Throttle Sensor Type [2] 3-wire Pot

Throttle effective starting position 20%

Throttle effective ending position 95%

Max Motor Current [3] 100%

Max Battery Current[4] 85%

## Description

1. If enabled, please turn on foot switch to activate throttle.
2. Usually Hall Throttle valid signal range is about 1V-4V. The controller will report fault for <0.5V or
3. The max output current as percentage of controller current rating. i.e. A 400A rated controller will limit the max output to 200A if you choose 50% here.
4. Controller will cut back motor current at high speed, to limit battery current. Controller can output Max Motor Current at low speed. Note motor current can be much higher than battery current at low speed.

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## Step 2 - Kelly KBL/KEB Series Controllers Configuration Program V3.1



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## General Setting

Start-up Delay [1] 0.5 sec.

Hall Sensor Type [2] 120 degree Start Check

Control Mode Balanced

Under Voltage [3] 60V

Over Voltage [4] 88V

Throttle Up/Down Rate 3 Fast  Slow

Power On High Pedal Disable ☒ Enable ☐ Disable

Releasing Brake High Pedal Disable[6] ☐ Enable ☒ Disable

## Description

1. Set delay time to wait for stabilization of B+, mostly for main contactor debouncing.
2. Select 60 degree or 120 degree according to your motor hall sensor type.
3. Controller will cut back current at battery voltage lower than 1.1x the value, cut out at the value, and resume operation at 1.05x the value.
4. Controller will cut back regen current at 0.95x the value, cut out regen if voltage reached the setting, and resume regen at 0.95x the value.
5. If enabled, the controller will report fault and not operate if throttle got effective output at power up.
6. If enabled, the controller will report fault and not operate if throttle got effective output when releasing the brake.

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### General Setting

Motor Top Speed [1]	100%	<input type="range"/>
Motor Poles[2]		<input type="text" value="8"/>
Half Speed In Reverse[3]		<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Boost Function[4]		<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Turbo Function[5]		<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Half Current in Reverse[6]		<input type="radio"/> Enable <input checked="" type="radio"/> Disable

### Description

1. slide the slider to change allowed top speed of your motor. Actually it's done by limiting motor voltage to the percentage of battery voltage.
2. Motor poles configuration. When using CAN to get controller's parameter, please configure this parameter accurately.
3. if enabled, the max reverse speed will be limited to half of the max forward speed if reverse switch closed.
4. If enabled, the controller will output max power right after Brake signal > 4.2V. Or say you can wire a boost switch between Brake Input and 5V to activate it.
5. If enabled, the max output current will be limited to half of normal condition if Brake signal > 4.2V. Or say you may wire a boost switch between Brake Input and 5V to activate it.
6. If enabled, the max output current will be limited to half at reversing. Activated by reverse switch.

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### Regeneration Setting

Regeneration [1]		<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Brake Switch [2]		<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Releasing Throttle Starts Regen [3]	Disable	<input type="range"/>
Regen Current by Brake Switch On	30%	<input type="range"/>
Max Regen Current [4]	100%	<input type="range"/>
Brake Sensor Type [5]		<input type="text" value="No Used"/>
Brake Sensor Starting Point	20%	<input type="range"/>
Brake Sensor Ending Point	80%	<input type="range"/>

### Description

1. Regen is to recover mechanical energy, and charge back to battery. It has braking effect. Battery and secure current path are required during regen. Braker/Contactor on battery line has to be closed.
2. If enable, turn off throttle and turn on brake switch will start regen.
3. If enable, regen starts just after throttle released. You may disable it by dragging the slider to the leftmost position. Brake switch or brake sensor isn't required for the mode. The mode is only available for firmware version 0209 or later.
4. Max regen current with max signal from brake sensor.
5. It's to vary regen on time. Please choose "Not Used" if analog brake sensor isn't used. You have to turn on brake switch to start the regen, then vary the regen with the signal. Brake Sensor Type is the same as Throttle Sensor Type.

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### Sensor Setting

Motor Temperature Sensor [1]

☐ Enable ☒ Disable

Controller Stop Output Temperature 125C



Controller Resume Output Temperature 110C



### CAN Setting

### Description

1. Thermistor is optional. Default to KTY83-122.

Alternative to a thermistor, voltage signal 4.5V to 30V on the motor temperature input pin (J2 Pin 4) will disable the controller.

calculating the max regen current in each mode:

actual regen current=max driving current\*0.5\*max allowed regen current of self-regen mode\*tps mode and max allowed regen current or max allowed regen current of braking switch mode

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### Finish Setting

Please click finish button to write configuration into the controller.

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