

Step Controller

Quad Step Output Controller



The Step Controller module works with a LT110 Ride Height Sensor to create four outputs to drive step retards on an ignition controller. Each output switches to 12V when the output is enabled, and is pulled to ground when off. The status of the four outputs is shown with individual LED indicators.

Each time the Step Controller is powered up, the ride height from the LT110 is measured. This is considered the baseline ride height. At set increases in the ride height, the Step Controller will incrementally enable the outputs 1 through 4 in sequence. The increase in ride height that is needed for the ride height to increase by before an output is enabled can be programmed with switches accessible from the Step Controller front panel.

Two versions of the Step Controller are available. The Standard Range version has 3-10inches of total range, and the Extended Range version provides 6-20inches of total range. The minimum increment is 0.75inch for the standard range version, and 1.5inch for the extended range version. These can and can be increased in 0.25inch increments up to 2.5inches per output for the standard range, and in 0.5inch increments up to 5inches per output on the extended range version.

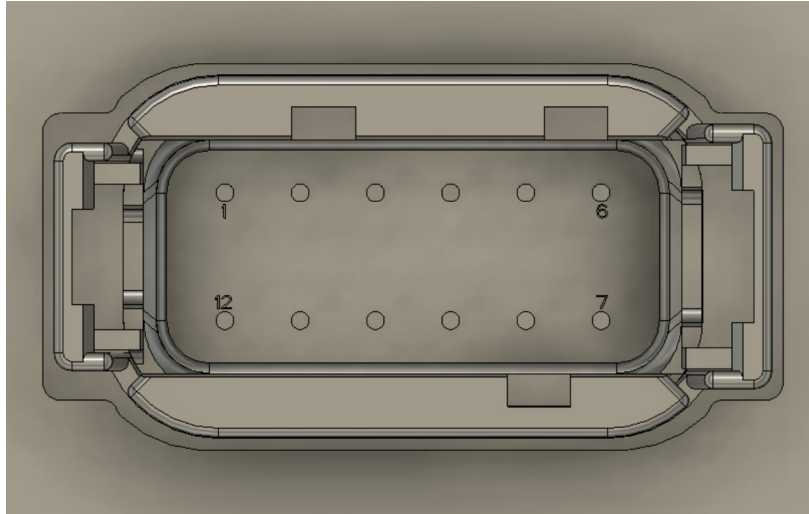
As ride height decreases each output will disable when the ride height measured decreases by one half of the set increment. For example, if the Step Controller is programmed to enable inputs every 2inches, and the baseline ride height is measured at 10inches. Output 1 will enable at 12inches, Output 2 at 14inches, Output 3 at 16inches, and Output 4 at 18inches. When the ride height goes down to 17inches Output 4 will turn off, when down to 15inches Output 3 will turn off, etc.

Notes:

- The LT110 sensor is powered through the Step Controller. Use the LT110 sensor cable to provide power and signals from the LT110 to the Step Controller.
- Outputs are enabled without disabling any previous output. For example, when Output 2 is enabled, Output 1 is still enabled.
- The programming switches are numbered 1-4 from left to right. Moving the switch up turns the switch on.
- With Switches 1-3 off, the default ride height increment is 0.75" (1.5" on Extended Range version). Switches 1-3 can be used in combination to get any ride height increment from 0.75-2.5" in 0.25" increments (1.5-5" range in 0.5" increments for extended range version).
 - Switch 1 - Enabling adds 0.25" (0.5" for extended range) to the ride height increment
 - Switch 2 - Enabling adds 0.5" (1" for extended range) to the ride height increment
 - Switch 3 - Enabling adds 1" (2" for extended range) to the ride height increment
 - Switch 4 - Changes behavior if there is an Error with the LT110 (see below).
- If the LT110 has an Error, the output voltage of the sensor goes to 5V. In this case the Step Controller outputs will depend on the Switch 4 setting:
 - Switch 4 Off - Outputs 1-3 will disable, and only Output 4 will enable
 - Switch 4 On - All outputs will be disabled
- LED's indicating the status of Outputs 1-4 are numbered left to right
- See LT110 Data sheet for mounting instructions for the ride height sensor
- Mating connector is a Deutsch DTM 12 pin PN: DTM06-12SA, terminals PN: 0462-201-2031

Item	Value	Units
Supply Voltage	10-20	Volts
Supply Current including LT110	<200	mA
Output Signals (4 Outputs)	11.5	Volts
Output current per Channel	10	mA
Update Rate	100	Hz

Connector Pinout



Note:

Top Row: 1→6

Bottom Row: 12←7

Pin	Description	Wire Color
1	Step 1 Output	Pink
2	Step 2 Output	Violet
3	Step 3 Output	Tan
4	Step 4 Output	Light Green
5	Ride Height Sensor - Input Voltage	White
6	Ride Height Sensor - 12V Power	Brown
7	Ride Height Sensor - Ground	Blue
8	Ride Height Sensor - Ground	Black
9	N/C	-
10	N/C	-
11	Power Supply - Switched 12V Input	Red
12	Power Ground	Black

