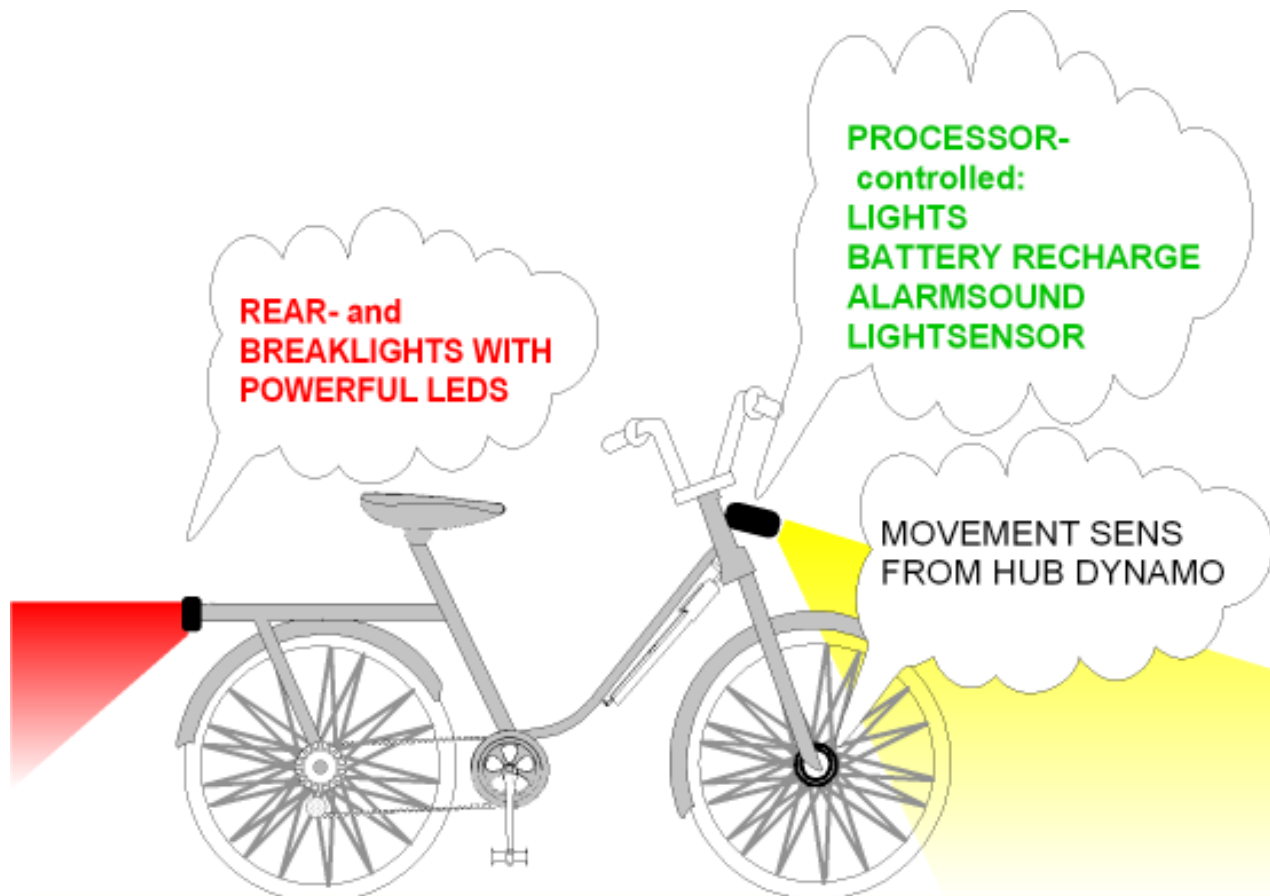


# Light-My-Bike

**Maintenance free automatic light system for cycles  
Just enjoy your bike, and maintain full safety.**



- when the bike is moving and it's dark, the lights turn "ON" automatically
- when stopping (eg. trafficlighs), the lights will be ON for a predefined time
- automatic breaklight (no separate switch)
- elektronic alarmnoice (WOW...WOW...WOW)
- lights ON/OFF allso manually
- the battery is recharged during drive



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## Functionality

**Light-My-Bike** is a revolutionary system based on common sense applied to readily available technologies.

**Light-My-Bike** has been designed to ease your life with your bike.

Instead of a traditional dynamo that's positioned against your wheel, or a traditional huge and heavy battery pack, **Light-My-Bike** uses a hub-based dynamo system that generates the necessary electricity.

Thanks to its design there are no moving parts that consume your leg powers, instead all generated power goes straight into the system.

The Hub Dynamo is controlled by a computer who only takes power from the dynamo when it's needed. A bonus feature is that the computer also knows the speed of the spinning wheel.

This speed detecting capability brings along a few excellent features.

As the computer knows if we're moving or not, you don't have to worry about leaving your lights on, or indeed, turn the lights on.

Coupled with a light sensor the computer can automatically tell whether it's dark outside and switch on the lights automatically when your start riding in the dark.

**Light-My-Bike** is also programmed not to turn the light off immediately, convenient when you're waiting for the traffic lights to change.

The speed sensor will also detect when you're slowing down and automatically turns on the brake light.

Thanks to the Hub Generator only a very small set of rechargeable batteries are needed. Above 3mph these batteries are basically not needed, but they can still power the lights for about 20 minutes; Enough for most in-town journeys.

**Light-My-Bike** has also got a built in horn, should you need it.

Also remember that thanks to the lack of any moving parts, **Light-My-Bike** is virtually maintenance free. The only consumables are the batteries and the main light bulb. The rear light unit for example uses maintenance free L.E.D lights that require very little power.



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## Features at a glance

### **Current Features**

- Virtually maintenance free
- Automatic lights thanks to speed and light level sensors.
- Automatic brake light increases rider safety
- No moving parts
- Hub Generator maximises the power to effort ratio without any friction losses
- Compact design thanks to minimal battery requirements
- Intelligent charging means your batteries are always fully charged
- Built in horn eliminates the need for a separate horn
- Traffic Light delay; Lights stay on for short time after the rider has stopped.
- When the bike has stopped after a certain time, all functions are shut down to prevent battery drain.

### **Possible Future Features**

- Built in theft alarm, the movement sensor already exists
- Incline/Decline sensor would allow for extended charging in down hills, and no charging when going up-hill.
- Details can be registered in the software such as owner information, frame number, etc
- Use the Hub Generator to power other devices such as GPS, Mobile phone, two way radio etc.
- Speedometer and Odometer



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## Technical info

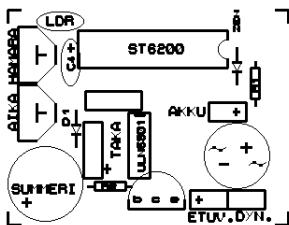
**Light-My-Bike** is controlled by a microcomputer that has got a set of inputs and outputs

### Inputs

- Pushbuttons with pullup-resistors, activ 0V: On/Off; Alarmsounder and 2inputs in reserv.
  - Puls-input from the dynamo
- 2 analog inputs with potentiometers for:
- Adjusting the level of the Light-sensor to turn the lights ON
  - Adjusting the level of the delay to turn the lights OFF when stopped

### Outputs 3,6V:

- Headlight 1A. LED tail light 100mA, breaklight 100mA
  - Alarmsound 100mA
  - Output for battery recharging with current limiting

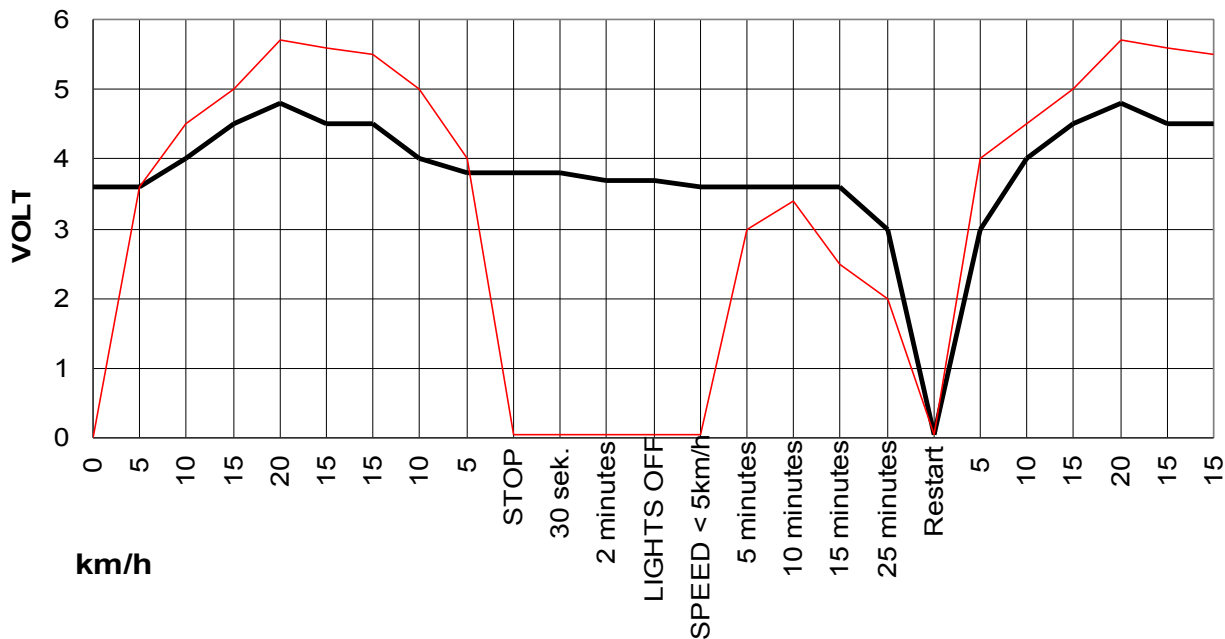


Circuitboard here, in natural size, measures: 29x38mm. On the circuitboard you will find, alarm summer, potentiometers, lightsensor and wire connectors.

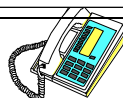
### Battery Charge/Recharge Volt/Speed (km/h)

Battery nom. 3,6V (3\*1,2V NiMH)

— Battery VDC  
— Dyn. VAC



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