

Halogen-Booster©

Halogen-Booster for H1 and H7 55W standard vehicle lamps

Halogen-Booster Guide

Version 1

1 Introduction and Product Features

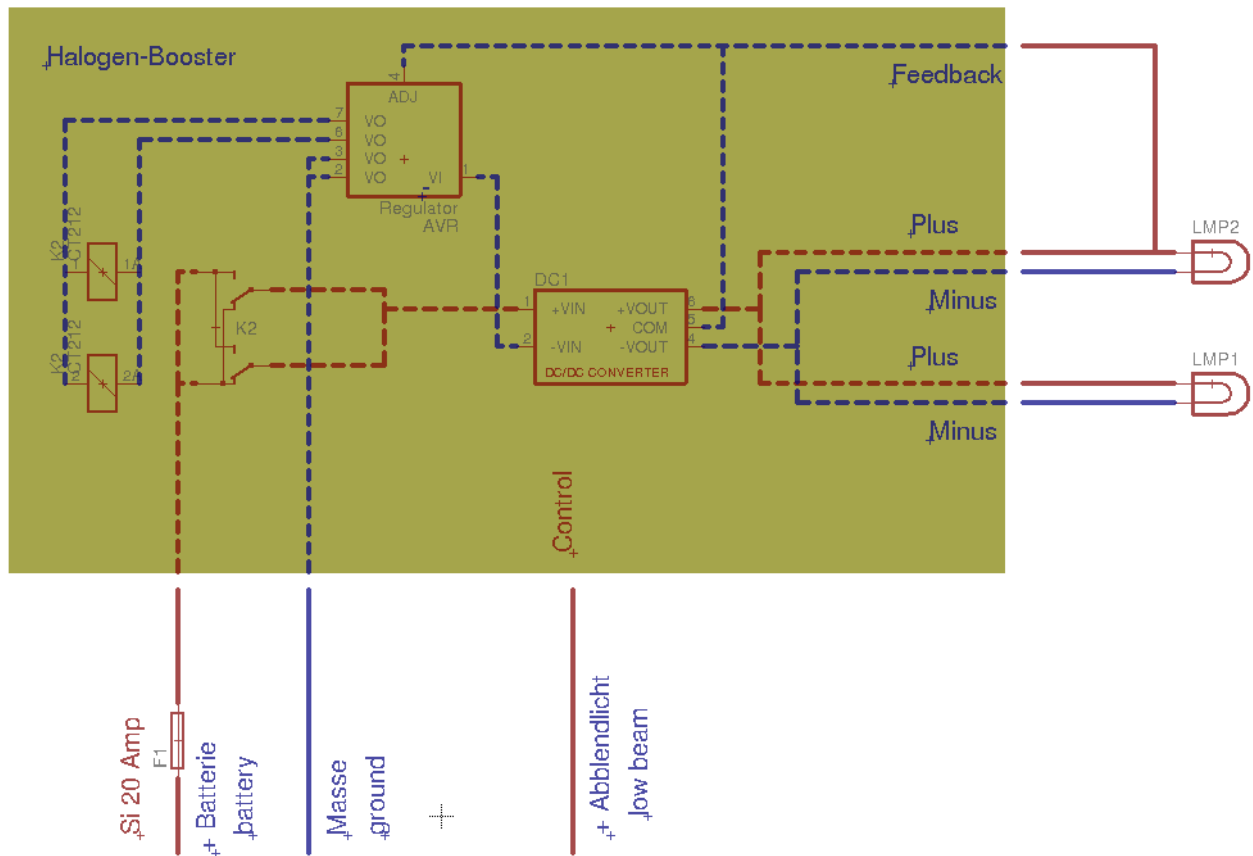
Halogen-Booster is an electronic step-up converter with voltage control and soft start function for Halogen lamps. The aim of the Halogen Booster is to operate halogen lamps at their performance limit for as long as possible.

With the Halogen-Booster, H1 and H7 lamps can be operated with a permanent voltage of 14.4 volts. This results in a 500 lumen enhanced luminous intensity per lamp opposite a lamp operated with 12.5 volts. The technically achievable lifetime of the lamp by operation with 14.4 volts is ensured by the electronic control and the Soft Start function.

Features:

- Soft start
- Up to 500 lumens of extra light from a standard bulb
- Switch-on delay
- Permanent PWM operation with PLL regulation
- PLL regulated built-in step-up converter
- Constant brightness, regardless of the input voltage
- Overvoltage and spikes protection (17 volt cut-off)
- Optional undervoltage protection against deep discharge of the battery
- Fixed voltage to 14.4 volts measured at the lamp base
- Variable supply voltage 10.5-16.0 volts; output 14.4 volts
- For standard H1 and H7 bulbs (separate supply connections)
- Booster is Plug-n-Drive
- Powered by a AVR Attiny45 & Attiny13 Microcontroller
- Size (136mm x 83mm x 44mm)

2 Connection diagram



Ground cabel:

2x 1.5mm² Ground to Battery or Chassis (as short as possible)

Plus cabel:

2x 1.5mm² Plus to Battery+, fuse with 20A (as short as possible)

Li cabel:

Control, one plus signal from the low beam switch (minimum cross-section is sufficient)

Ref cabel:

Feedback / sensor cable, must be connected to the positive pole of the lamp that has the shorter connection cable. The connection is made at the lamp base, not just anywhere on the way to the lamp! If the cable is not or incorrectly connected, the booster switches itself off or does not start.

L+ and L- :

Power supply for the lamps, each for one lamp, the original ground and plus cable remain unused and must be disconnected and isolated. Only the new cables are used for control.

3 *Technical specifications*

Bulbs:

- H1 and H7 standard bulbs with 55W
- Lifetime: min. 150 hrs; min. 1000 switching cycles

Power supply:

- 11-16 Volt
- 11-15 A permanent, depending on the input voltage

Power output:

- 13.2 - 14.4 Volt; 150 Watt

Hardware:

- Microprocessor Attiny 45 with 16MHz
- Microprocessor Attiny 13 with 8MHz
- Step-up converter 200 Watt

Requirements:

- 16/20A Fuse
- all cables 1.5mm²