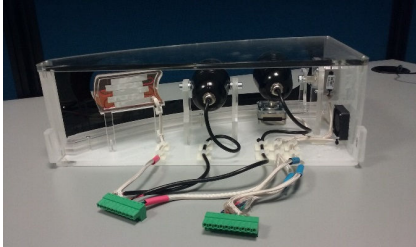


## Loads for Adaptive Front Lighting (AFL) system with LED lights, motors and cooling fan



### Features

- Vehicle headlight simulation equipment for adaptive front light (AFL) adjustment system:
  - two stepper motors for horizontal and vertical displacement
  - four LEDs for high beam, low beam, daytime running light (DRL) and turn indicator light
  - cooling fan
- Allows simulation and testing of complete car headlight assemblies and AFL applications
- Cables and connectors included
- Compatible with [AEKD-AFLPANEL1](#) with all the required electronics to drive the system
- Assembled size: 400 x 200 x 140 mm (approx.)
- WEEE and RoHS compliant
- Part of the AutoDevKit ecosystem

### Description

The [AEKD-AFLLIGHT1](#) is a car headlight assembly able to accommodate adaptive front light (AFL) adjustment systems for simulation and development purposes. It consists of a plexiglass housing and two stepper motors for light projection angle adjustment in the x and y directions, a high beam lamp, a low beam lamp that can be directionally adjusted by the stepper motors, a LED string simulating the DRL and another LED string simulating a turn indicator, as well as a small cooling fan.

All the loads are wired to two connectors that can be directly plugged onto matching connectors on the [AEKD-AFLPANEL1](#) companion ECU panel with all the necessary boards and drivers to control the system, allowing rapid prototyping and significantly shorter time to achieve application proof of concept and trial phases.

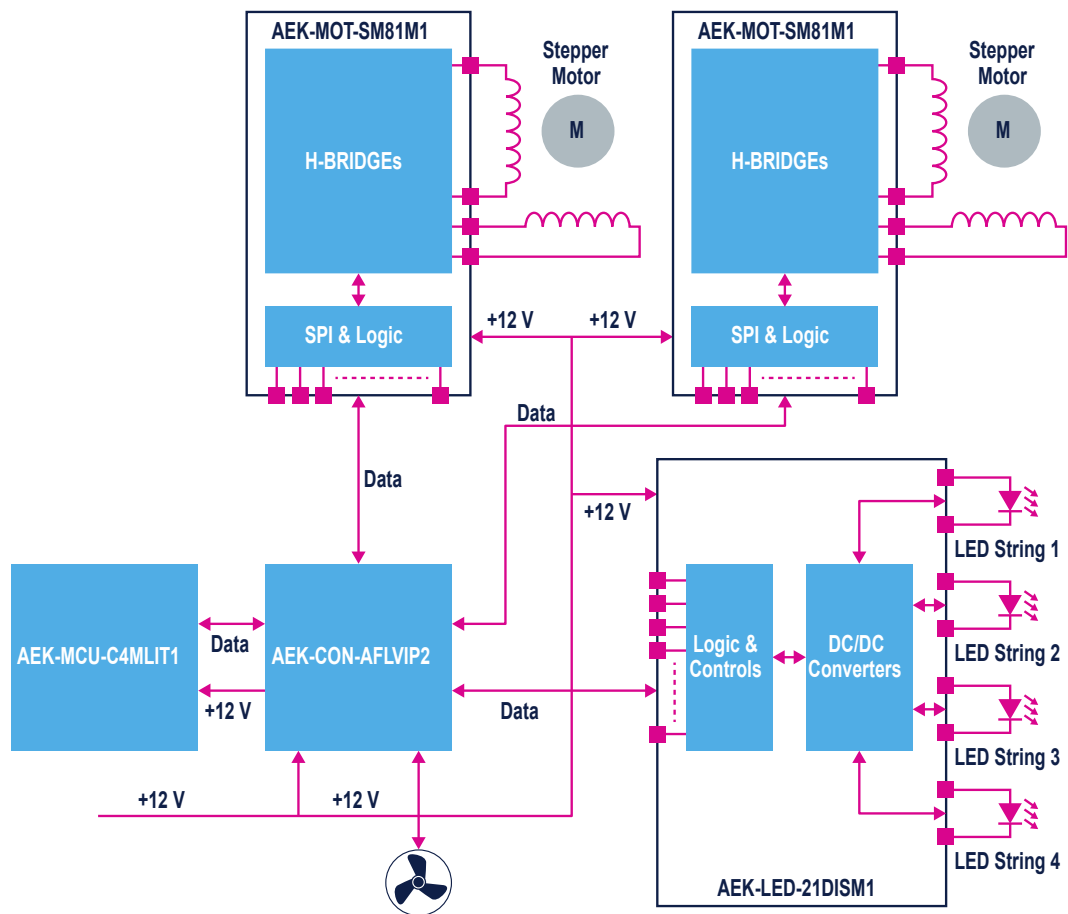
| Product summary   |  |
|---|--|
| Adaptive front lighting motor, light and fan loads for AutoDevKit | <a href="#">AEKD-AFLLIGHT1</a>                                       |
| AutoDevKit adaptive front lighting kit                            | <a href="#">AEK-AFL001</a>   |
| AutoDevKit Studio for 32-bit power architecture MCUs              | <a href="#">STSW-AUTODEVKIT</a>                                      |
| Applications  | Adaptive front lighting systems for vehicles<br>Car chassis lighting |

# 1 Adaptive front lighting simulation tool overview

The AEKD-AFLLIGHT1 kit includes all the loads indicated in the block diagram below inside a specially designed acrylic shroud with appropriate cabling and connectors.

**Figure 1. AutoDevKit adaptive front lighting system block diagram**

- AEKD-AFLLIGHT1 loads:
- two stepper motors: one for up-down and one for lateral angular displacement of a light
- four LED lighting strings: high beam, low beam, DRL, direction light
- a cooling fan

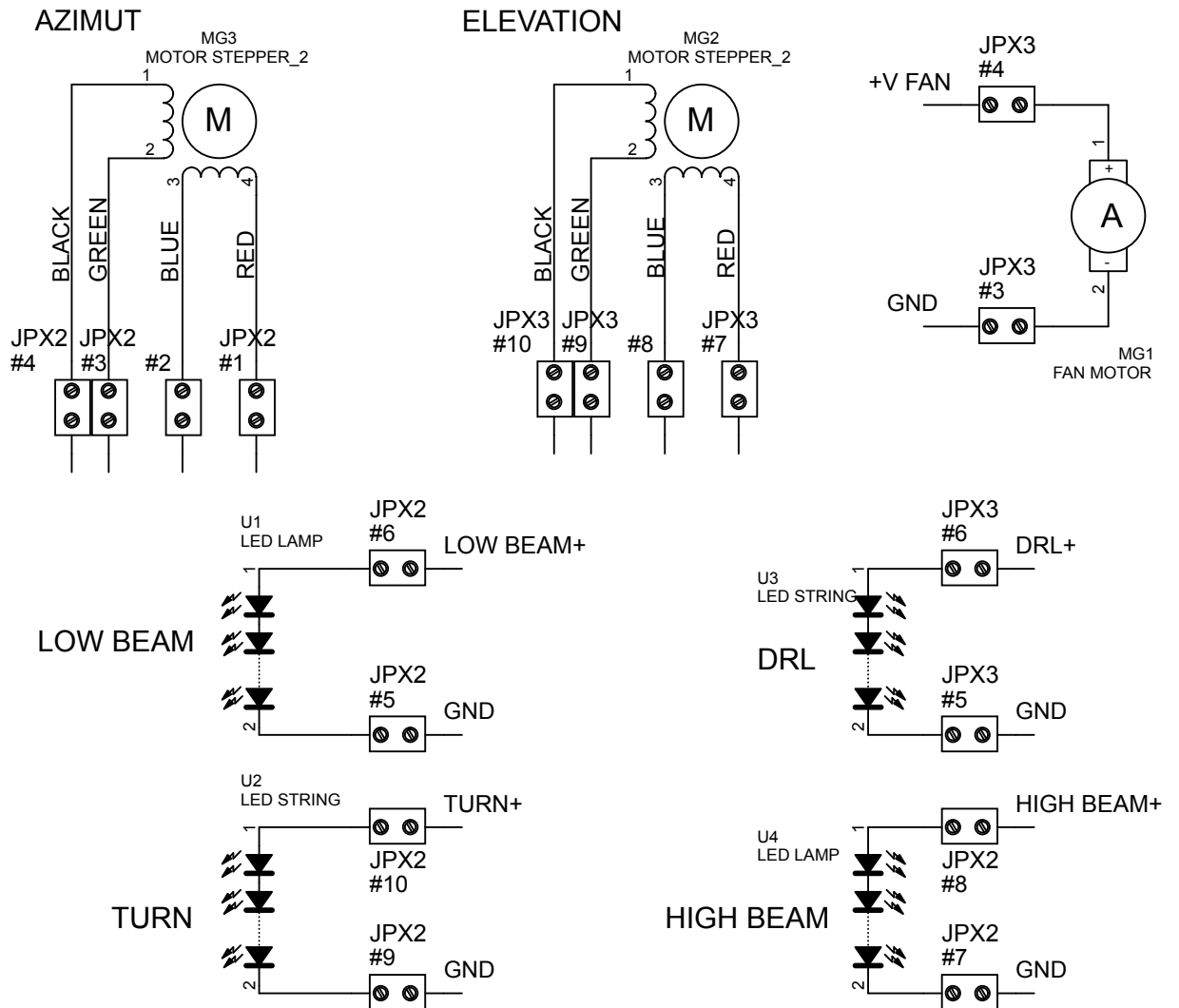


**Related links**

[AutoDevKit: Adaptive Front Lighting demonstration kit video on YouTube](#)

## 2 Schematic diagrams

Figure 2. AEKD-AFLIGHT1 schematic diagram



## Revision history

**Table 1. Document revision history**

| Date        | Version | Changes  |
|-------------|---------|--|
| 23-Aug-2019 | 1       | Initial release.   |
| 08-May-2024 | 2       | Updated product summary table and <a href="#">Section Features</a> . |

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