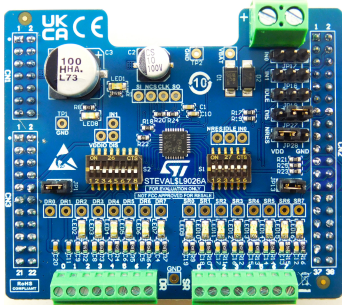


## L9026 multichannel driver evaluation board



### Features

- Operating input voltage: 3 V to 28 V
- Six configurable LS/HS drivers up to 0.5 A
- Two high-side drivers up to 0.5 A
- Idle mode for reduced current consumption
- Possible daisy chain configuration
- Two parallel input pins with input mapping functionality
- SPI communication interface for control and diagnostics
- Reference design with optimized bill of materials
- L9026 hosted in QFN32 package
- 4-layer PCB (70 x 59.8 mm)

### Description

The **STEVAL-L9026** is a tool designed to evaluate the **L9026** smart power device, designed by STMicroelectronics in advanced BCD technology. The L9026 is an 8-channel IC with 2 fixed HS drivers and 6 configurable HS/LS drivers designed for automotive applications (LEDs and relays) and compatible with resistive, inductive, and capacitive loads. The device offers advanced diagnostic and protection functionalities such as short to GND, open load, overcurrent, and overtemperature detection. The 8 output channels can be driven by SPI or by 2 dedicated parallel inputs that can be associated to different output thanks to a programmable internal multiplexer. Limp home functionality is also featured, which allows the use of 2 selected drivers in specific fault conditions, such as SPI fault, microcontroller fault, or supply UV. Daisy chain compatibility even with 8-bit SPI is available. The device is able to ensure operation in cranking scenarios down to VBATT = 3 V and very low quiescent current in the SLEEP condition.

A serial peripheral interface (SPI) is used for control and configuration of the loads as well as of the device. Status feedback of all diagnostic functions is also provided.

Thanks to the expansion connectors, the STEVAL-L9026 allows the complete control of L9026 communication interface (SPI) and parallel input/output.

The evaluation platform may be completed with an MCU board (**AEK-MCU-C1MLIT1**), which can be plugged on the STEVAL-L9026 and configured using its dedicated graphical user interface (GUI).

Product summary	
L9026 multichannel driver evaluation board	STEVAL-L9026
Configurable multichannel relay driver 2HS + 6HS/LS	L9026-B03N-TR
Applications	Body control module (BCM) HVAC and climate control Gasoline multi-point injection Diesel direct injection

# 1 Overview

## 1.1 Electrical characteristics

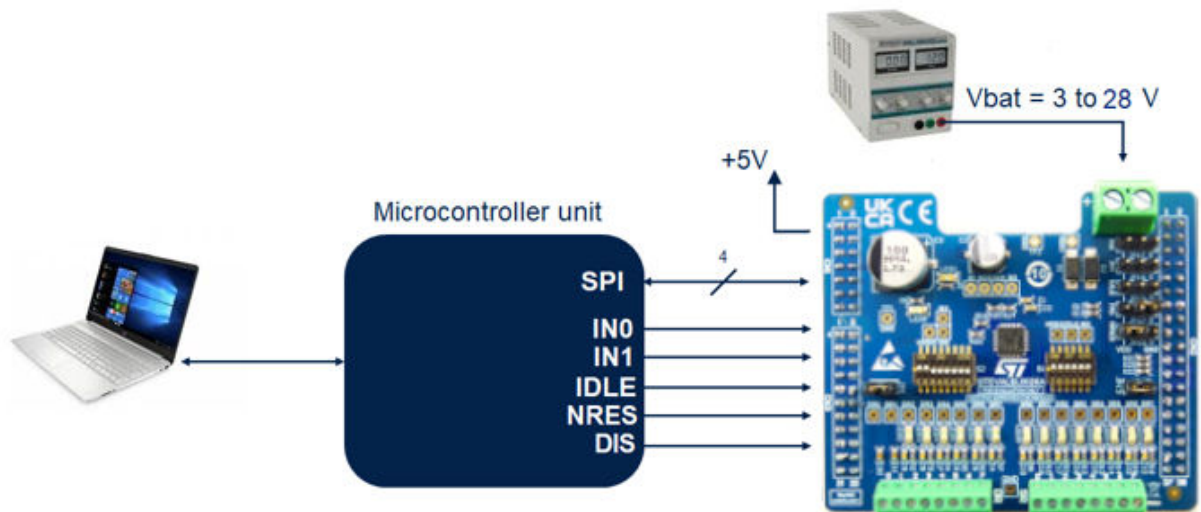
- Operative input voltage: 3 - 28V (for VBATT pin)
- Operative input voltage: 3 - 5V (for VDDIO pin)
- 6 configurable HS/LS drivers up to 0.5 A each
- 2 HS drivers up to 0.5 A
- Configurable inputs (using jumpers):
  - IN0/IN1
  - IDLE
  - NRES
  - DIS
- Configurable dip switch for all the L9026 available configurations
- SPI communication interface
- 70 x 59.8 mm 4-layer PCB

## 1.2 System requirements

- 3 V to 28 V power supply with current capability up to 8 A
- Loads: LED, relay, solenoid lamp with a rating of 12 V/0.5 A
- Oscilloscope and/or multimeter

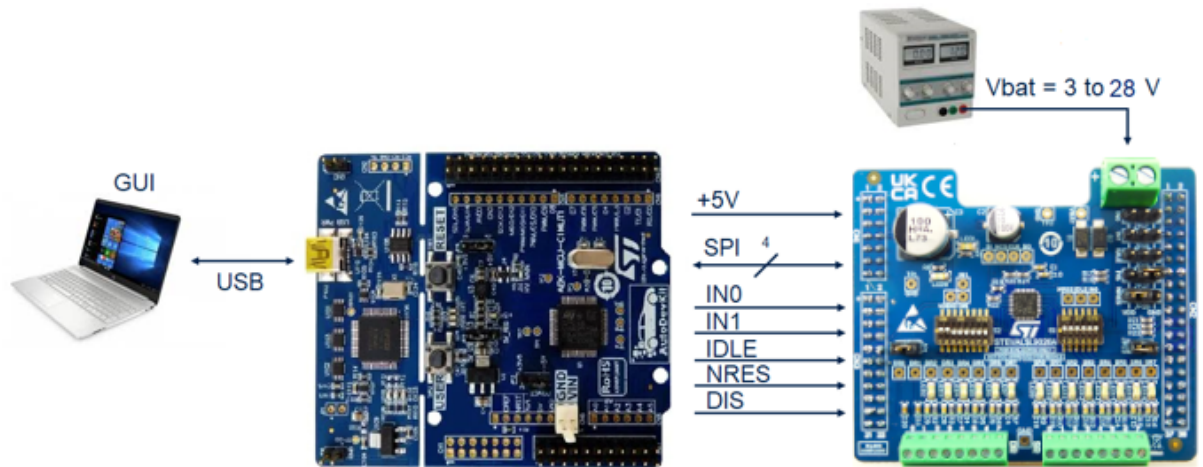
## 1.3 External connection

**Figure 1.** Connection with an arbitrary microcontroller board



*Note:* The configuration sequence is available in the STEVAL-L9026 user manual.

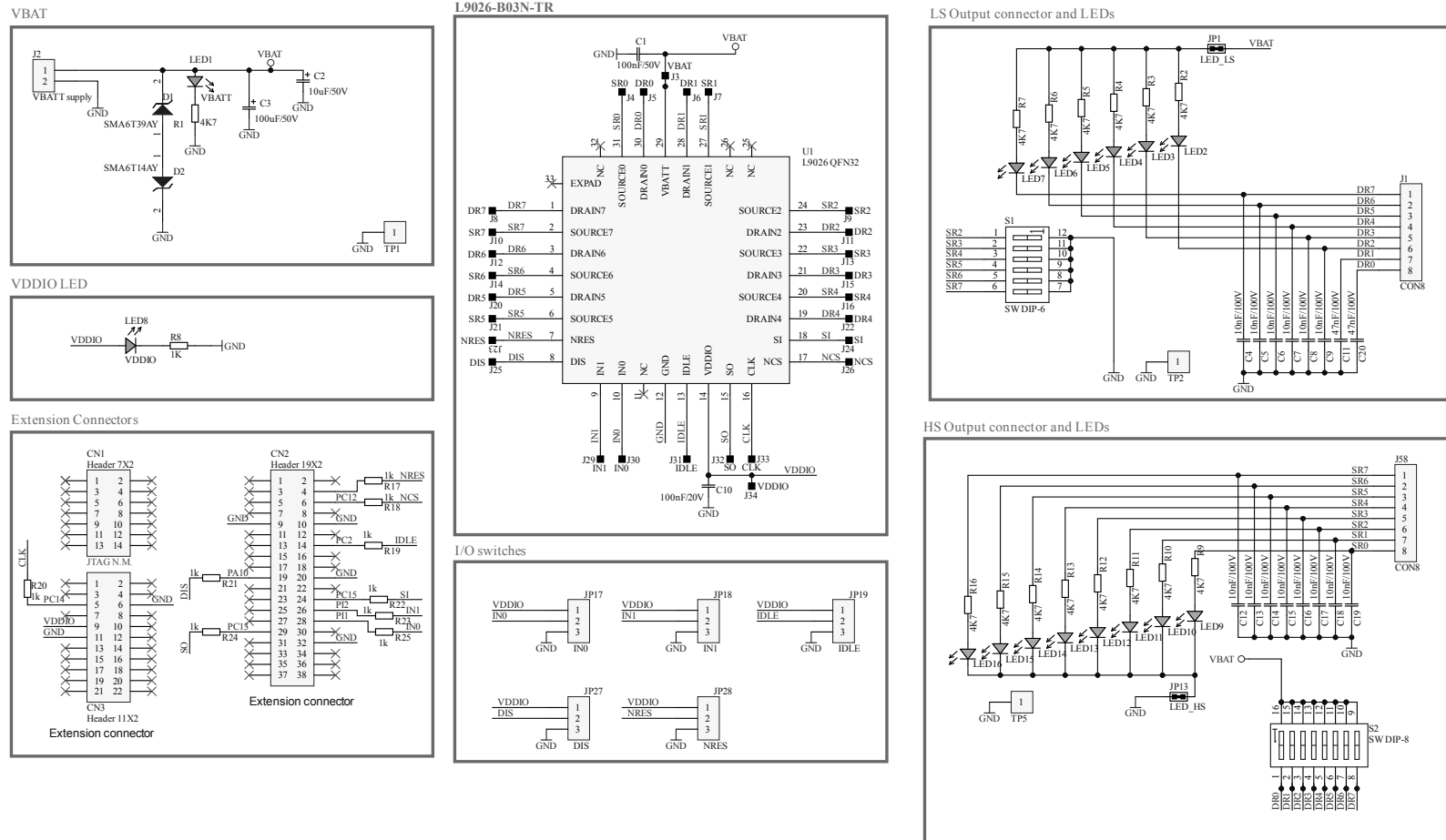
Figure 2. Connection with an arbitrary microcontroller board



Note: A graphical user interface is available on the AEK-MCU-C1MLIT1 interface.

## 2 Schematic diagrams

Figure 3. Evaluation board schematic



### 3 Board versions

**Table 1. STEVAL-L9026 versions**

Finished good	Schematic diagrams	Bill of materials
STEVAL\$L9026A <sup>(1)</sup>	STEVAL\$L9026A schematic diagrams	STEVAL\$L9026A bill of materials

1. This code identifies the STEVAL-L9026 evaluation board first version.

## **4 Reference documents**

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[1] STEVAL-L9026 user manual (UM3339)

## Revision history

**Table 2. Document revision history**

Date	Version	Changes
03-Feb-2025	1	Initial release.

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