TLE4966K Double Hall Shield2Go

Quick Start
V1.0.0

Introduction

The TLE4966K is an integrated circuit double Hall-effect sensor designed specifically for highly accurate applications. Precise magnetic switching points and high temperature stability are achieved by active compensation circuits and chopper techniques on chip. They provide a speed signal at Q2 for every magnetic pole pair and a direction information at Q1, which is provided before the speed signal.

Key features are a 2.7V to 24V supply voltage operation, high sensitivity and stability of the magnetic switching points, high resistance to mechanical stress by Active Error Compensation and a reverse battery protection, superior temperature stability, peak temperatures up to 195°C without damage and an excellent matching between the 2 Hall probes.

Link to Datasheet and Product Page

Evaluation Board Notes

Breakable **Head**

Information

- Supply voltage is typ. 3.3 V, please refer to [TLE4966K datasheet](#) for more details about maximum ratings
- Pin out on top (head) is directly connected to the pins of the TLE4966K
- If head is broken off, only two capacitors are connected to the TLE4966K
- Software compatible with Arduino and library fully integrated into the Arduino IDE
- Sales Name S2GO S2GO_2_HALL_TLE4966K

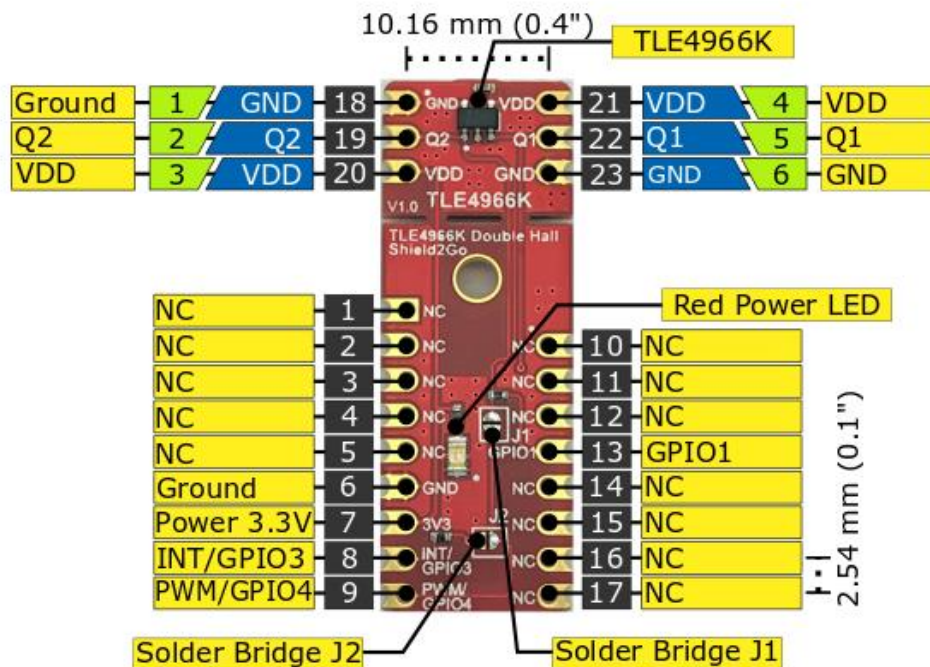Link to [Board Page](#)

Evaluation Board PCB Details

The

TLE4966K Double Hall Shield2Go

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Ground pins on board connected with each other.

Legend

Information	
Labelling of Pins in Datasheet	
Pin Number in Datasheet	
Physical Pin Number	
⚠ Warning	
Additional Information	
NC Not Connected	

10.16 mm (0.4") — TLE4966K

Ground	1	GND	18	GND · · VDD	21	VDD	4	VDD
Q2	2	Q2	19	Q2 · · Q1	22	Q1	5	Q1
VDD	3	VDD	20	VDD · · GND	23	GND	6	GND

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TLE4966K Double Hall Shield2Go

NC	1	NC			
NC	2	NC	NC	10	NC
NC	3	NC	NC	11	NC
NC	4	NC		12	NC
NC	5	NC		13	GPIO1
Ground	6	GND	NC	14	NC
Power 3.3V	7	3V3	NC	15	NC
INT/GPIO3	8	INT/GPIO3	NC	16	NC
PWM/GPIO4	9	PWM/GPIO4	NC	17	NC

Red Power LED

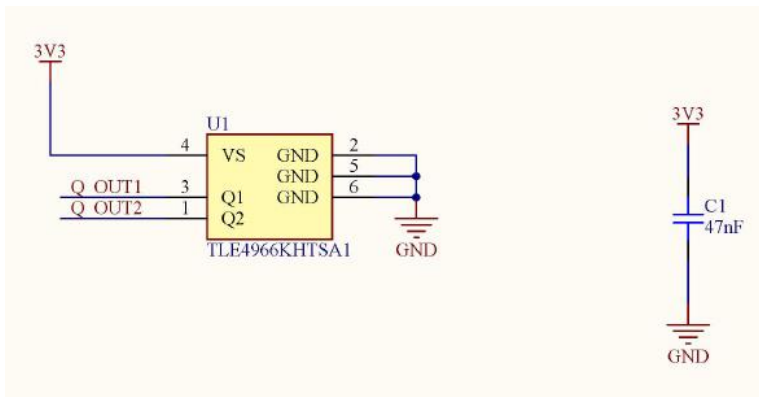2.54 mm (0.1")

Solder Bridge J2

Solder Bridge J1

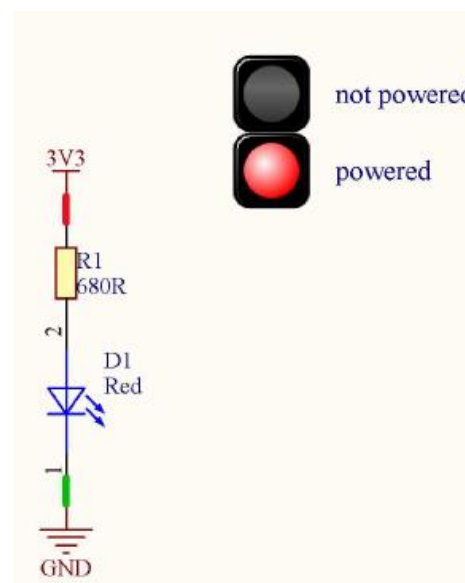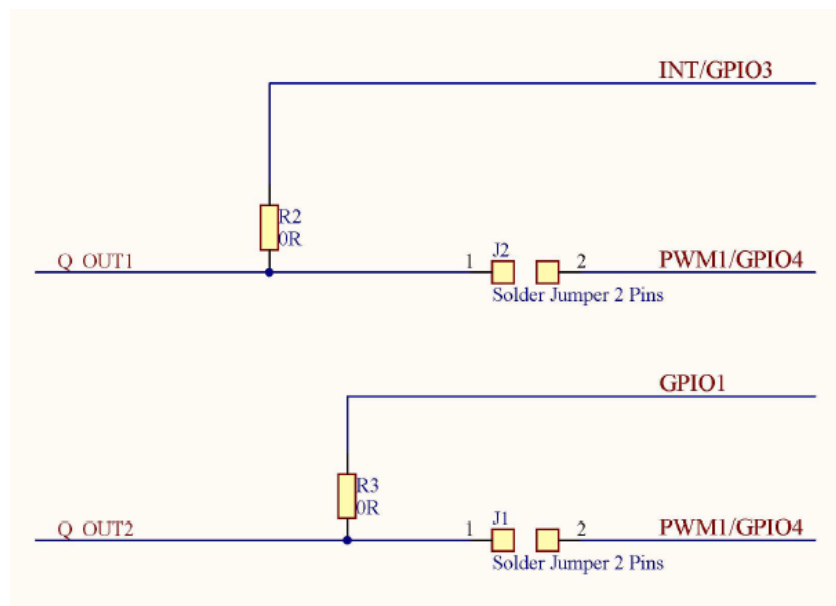**Solder Bridge J1 connects Q1 signal to PWM/GPIO4**

Solder Bridge J2 connects Q2 signal to PWM/GPIO4

V1.0.0

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Evaluation Board Schematic

- **J1 Jumper** - If soldered, connects Q1 signal to PWM1/GPIO4 pin.
- **J2 Jumper** - If soldered, connects Q2 signal to PWM1/GPIO4 pin

Arduino IDE

Arduino is a hardware-software prototyping environment IDE developed by arduino.cc:

- Installation Details for Windows:
  Click here
- Installation Details for Linux:
  Click here
- Installation Details for Mac OS:
 Click here
- Installation Details for Portable IDE:
  Click here

Arduino Quick Start

- What is Arduino? Click here
- Extended information about the Arduino environment. Click here
- How to import libraries? Click here
- How to install additional boards? Click here
- Problems related to Arduino? Click here for troubleshooting

How to download the library for Arduino - 1

Notes

- Open the Arduino IDE
- Navigate to
  Sketch – Include Library – Manage Libraries
- The Arduino library manager will be opened (see next slide for further instructions)
- Additional notes for installation can be found in the GitHub repository, e.g. if the library manager is not used

https://github.com/Infineon/TLx4966-Direction-Speed-Sensor
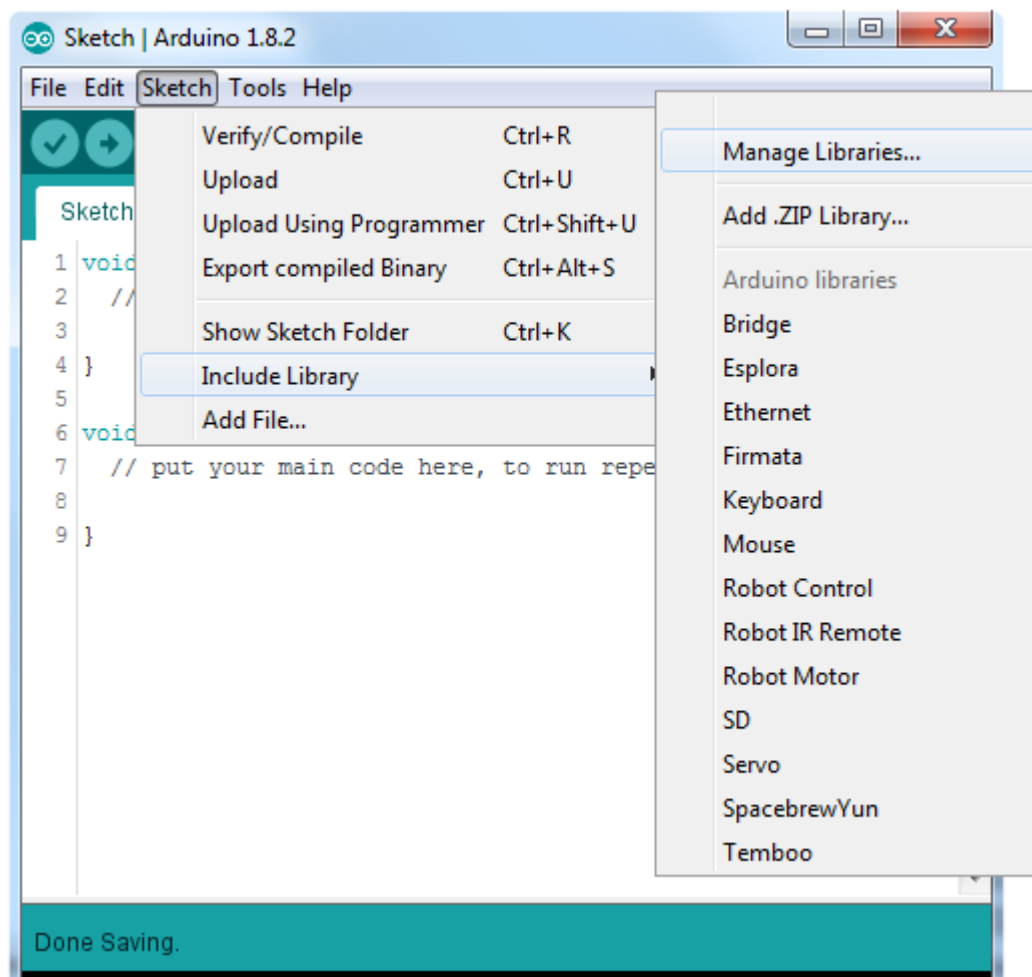
How to download the library for Arduino - 2
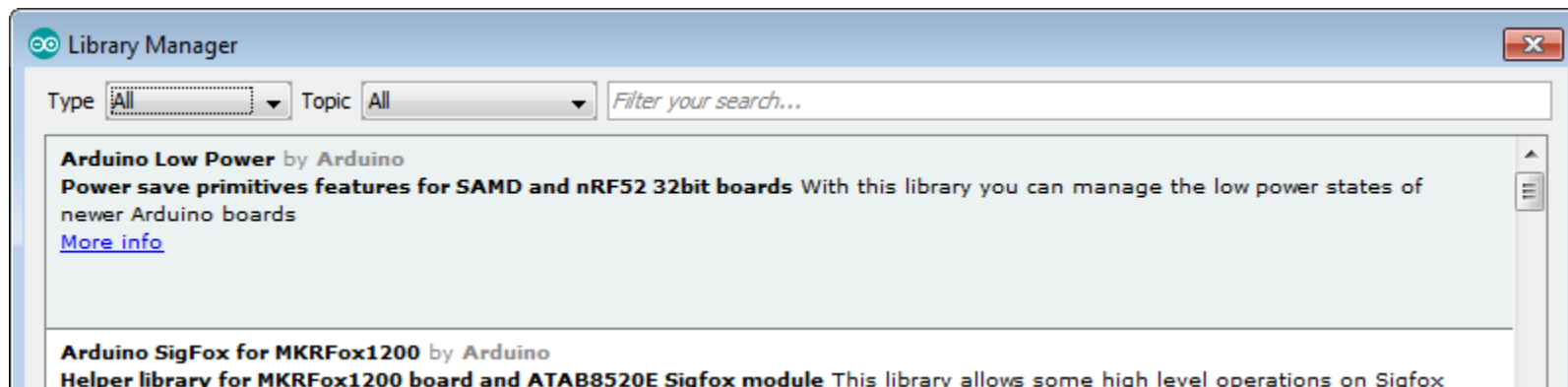
Notes

- The Arduino library manager is a comprehensive tool to install external libraries for Arduino
- Search for *TLx4966-Direction-Speed-Sensor* in the *Filter your search…* field
- Select as *Type: All* and *Topic: All* when searching for *TLx4966-Direction-Speed-Sensor*
- As shown in the picture, please choose the respective library and install it
- Regularly check your installed libraries for updates
- In case of problems, please visit also our GitHub repository and open an issue to get further help

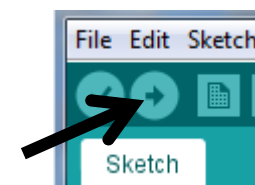https://github.com/Infineon/TLx4966-Direction-Speed-Sensor

Example with XMC™ 2Go

Notes

- The Shield2Go form factor of the Shield2Go evaluation board is directly compatible with the XMC™ 2Go board
- Stack the TLE4966K Double Hall Shield2Go board on top of the XMC™ 2Go as shown in the picture
- The additional pin on the left-top side (designated with NC) is left floating
- Using the XMC-for-Arduino Arduino integration, the Arduino library for the TLx4966 can be directly used
- Use the Out of Shaft 3D Add-On to test the examples

Steps

- Open one of the examples for the TLx4966 from *File – Examples* and select as board *XMC1100 XMC2Go*
- Connect the stacked boards to the PC and press the *Upload* button
- Select the related COM port from *Tools – Port* and open the serial monitor with the set baud rate (see sketch/code with Serial.begin(<BAUDRATE>);)

https://github.com/Infineon/XMC-for-Arduino
https://github.com/Infineon/TLx4966-Direction-Speed-Sensor