

Getting Started Guide

MOTIX™ Motor Control Kit

September 2021

restricted



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General Safety Information



This Kit contains a spinning motor. Keep your fingers, hair, clothes and jewellery away from moving parts!

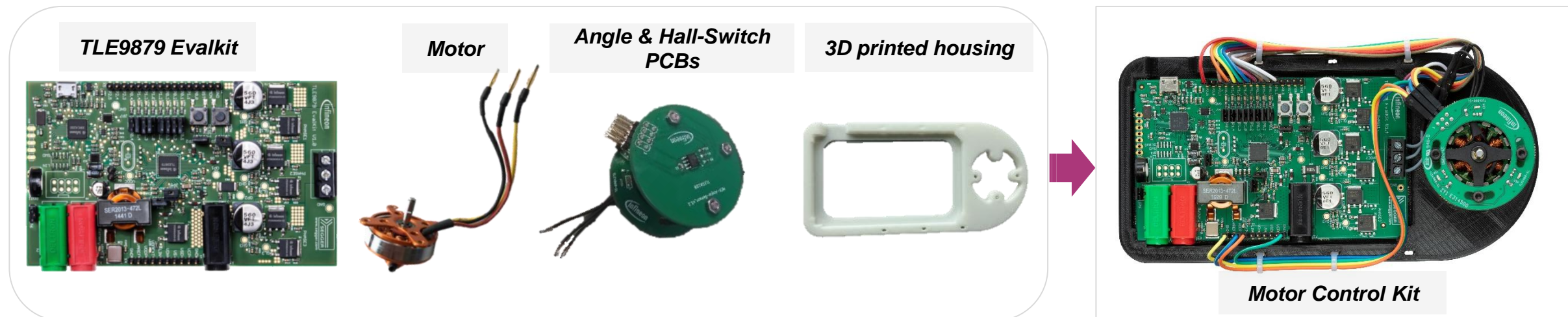


This Kit is only to be used by trained and educated personnel, such as engineers.

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MOTIX™ Motor Control Kit



Scope

It is a PnP motor control kit for rapid prototyping of 3-phase brushless DC motors.

Kit Content

- TLE9879 Evalkit
- Angle & Hall Switch PCBs
- Motor
- Cables
- 3D printed housing

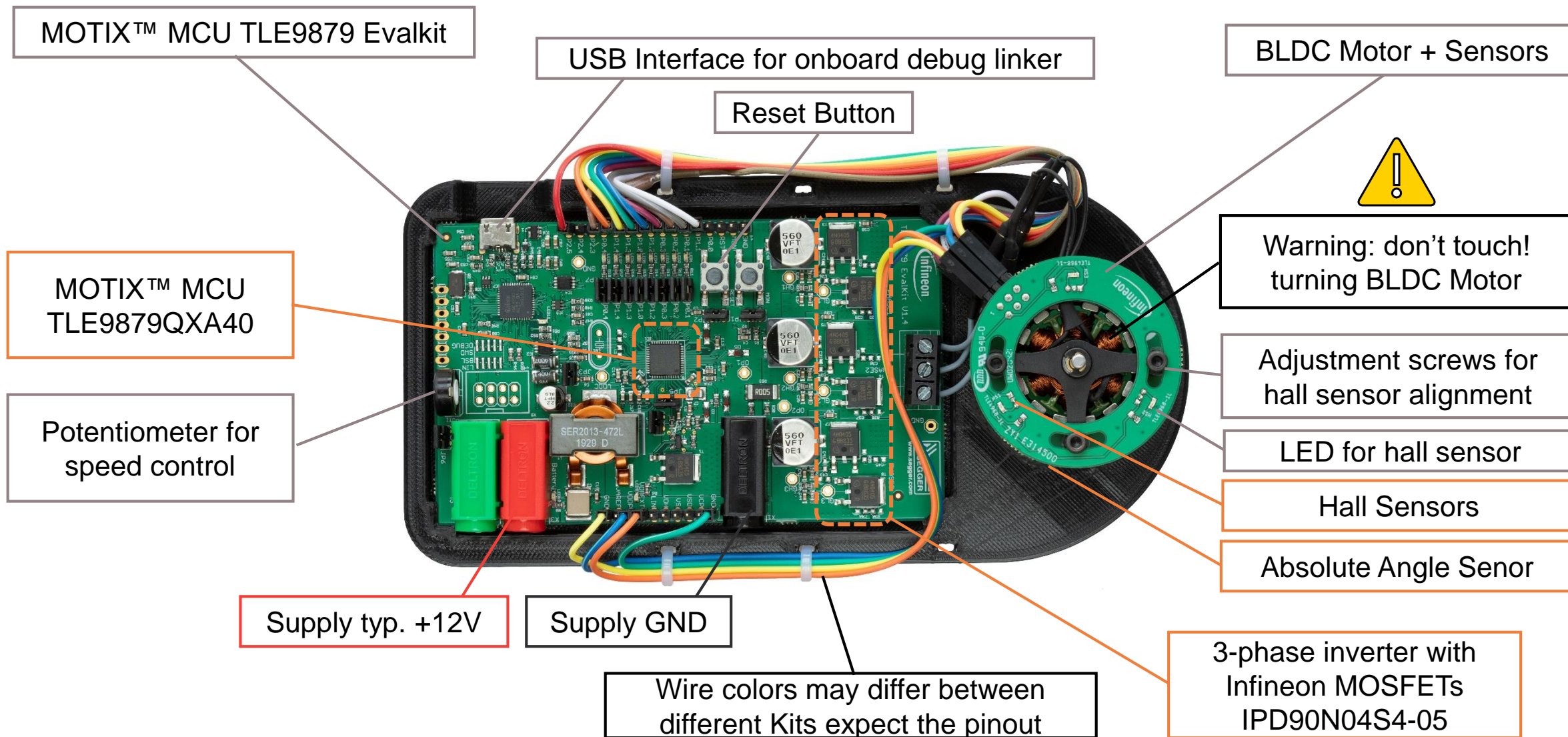
Main Components

- **MOTIX™ MCU:**
- TLE9879QXA40 → TLE9879 EVALKIT
- **Sensors:**
- TLE5012B-E1000
- TLE4968-1L

Target Applications

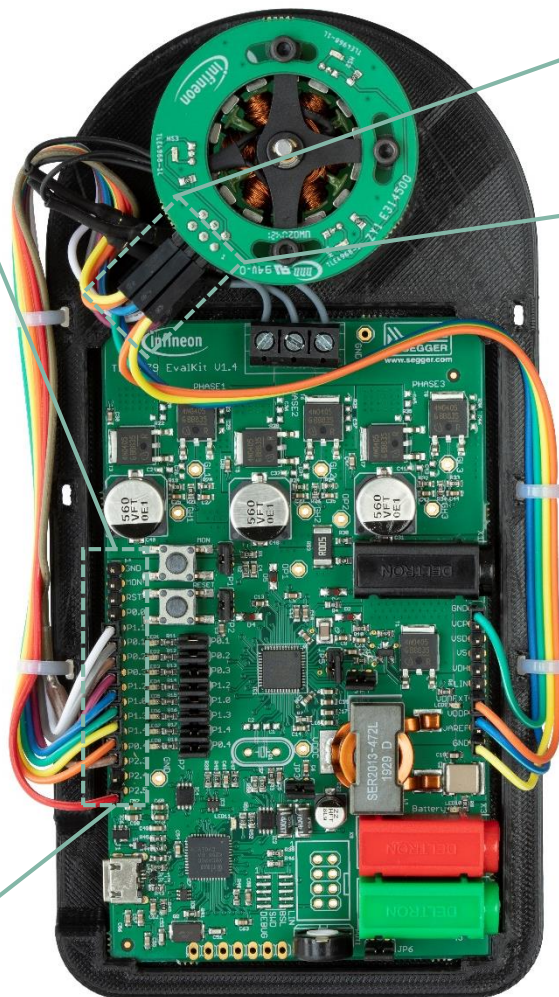
- Automotive 12V BLDC Applications
 - HVAC Blower
 - Cooling Fan
 - Water Pump
- Consumer BLDC Applications
 - Drones / Multicopter
 - Battery Power Tools
 - Robot Vacuums

MOTIX™ Motor Control Kit



Pinout and Signals

Signals	Pins
Not connected	GND
Not connected	MON
Not connected	RST
Not connected	P0.0
SPI Chip Select (CSQ)	P1.1
Incremental C (IFC)	P0.1
SPI Data	P0.2
SPI Clock (SCK)	P0.3
Hall 1	P1.2
Incremental A (IFA)	P1.0
Hall 2	P1.3
Hall 3	P1.4
SPI Data	P0.4
Not connected	P2.3
Potentiometer	P2.4
Incremental B (IFB)	P2.5



Hall Switch PCB connector

5: Hall 2	3: Hall 1	1: GND
6: Hall 3	4: n.c.	2: VDDEXT

Angle Sensor 5012B PCB connector

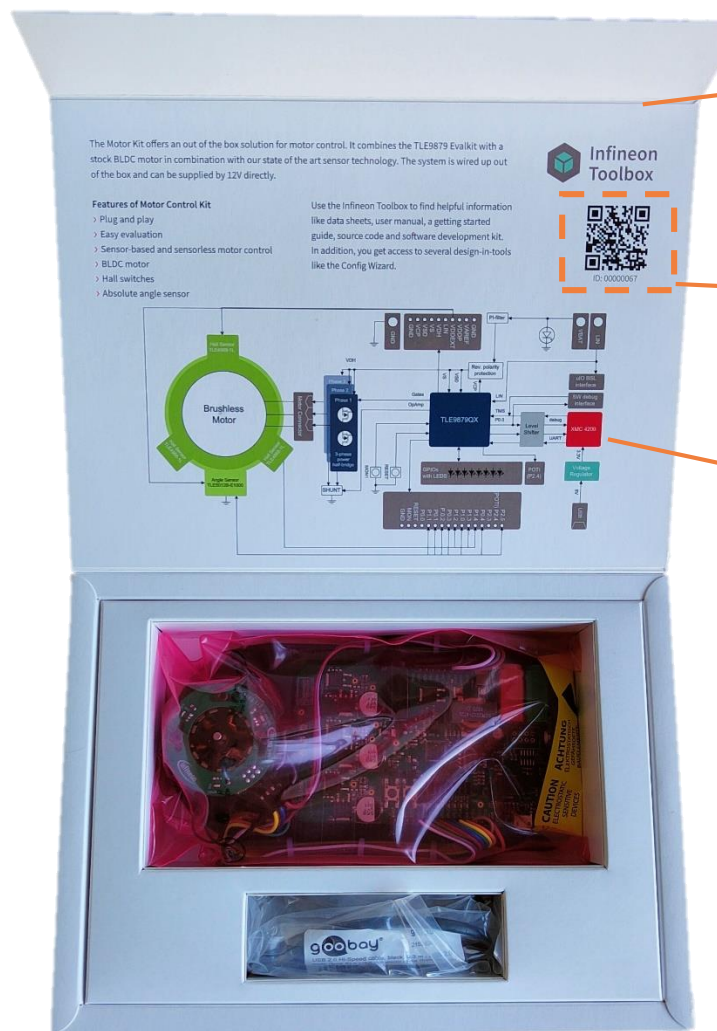
1: GND	3: SPI DATA	5: CSQ	7: SCK
2: VDDP	4: IFA	6: IFB	8: IFC

Pins TLE9879	Function	Pins 5012B PCB	Hall PCB
VDDEXT	5V Supply		2
VDDP	5V Supply	2	
GND	GND	1	1
P1.0	Incremental A (IFA)	4	
P2.5	Incremental B (IFB)	6	
P0.1	Incremental C (IFC)	8	
P0.2 + P0.4 (shorted)	SPI Data	3	
P1.1	SPI Chip Select (CSQ)	5	
P0.3	SPI Clock (SCK)	7	
P1.2	Hall 1		3
P1.3	Hall 2		5
P1.4	Hall 3		6

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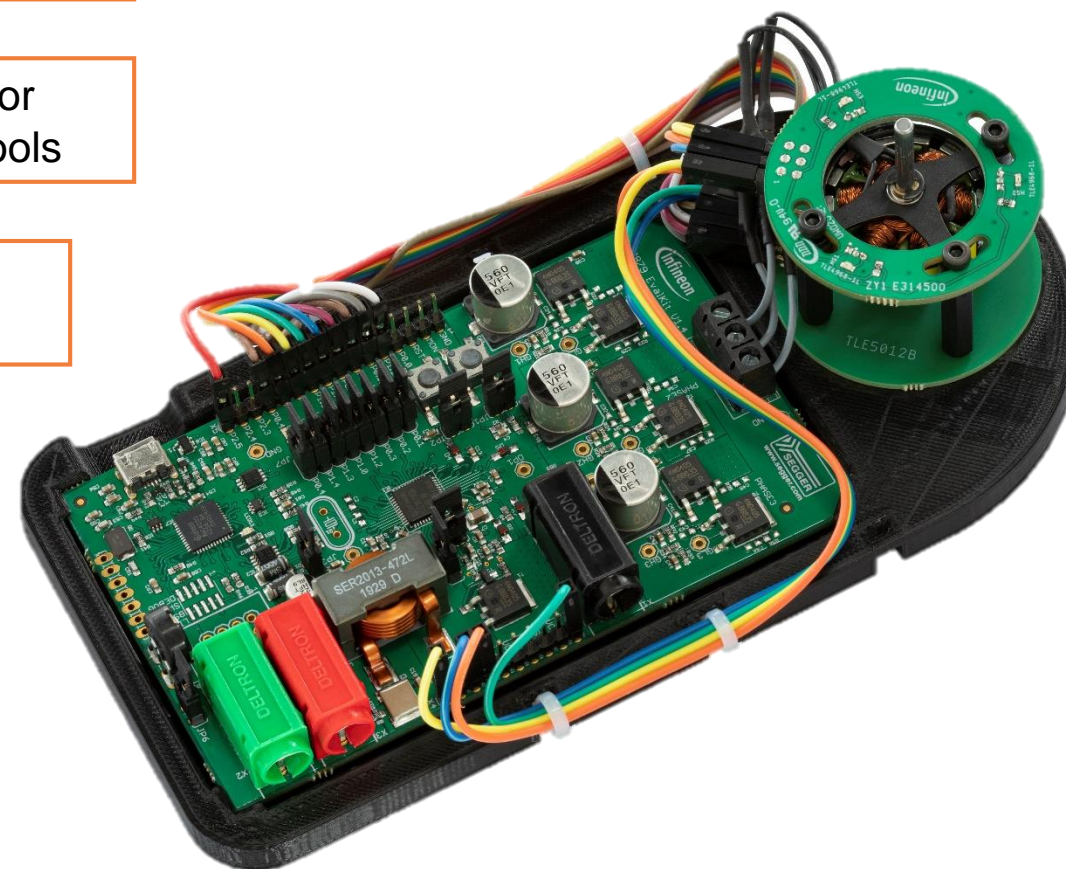
Getting Started



Box Content:
MOTIX™ Motor Control Kit
Micro USB Cable

Scan the QR code for
documentation and tools

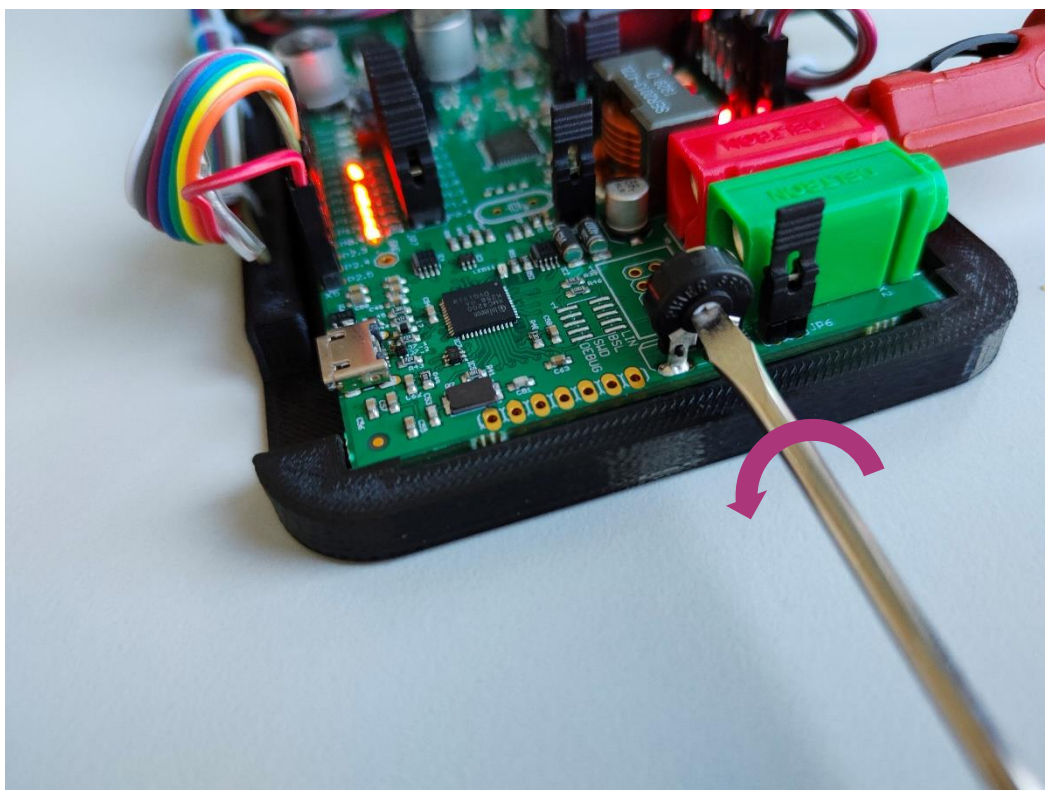
Simplified Block diagram



Getting Started

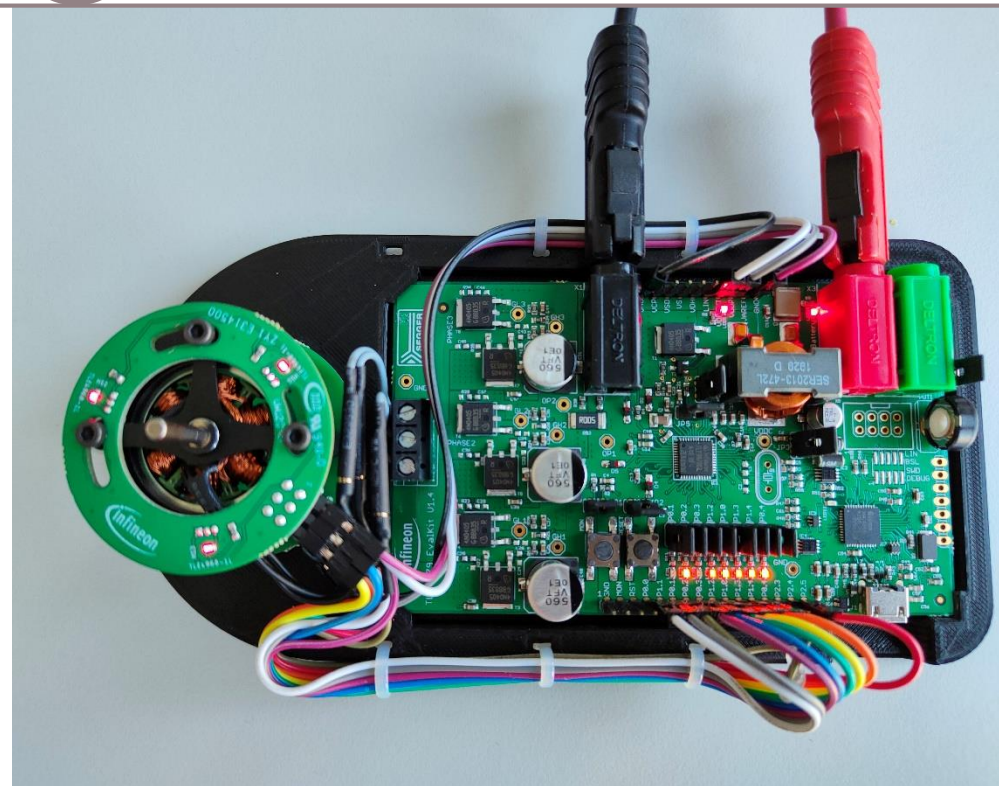
1

Turn Potentiometer to the left



2

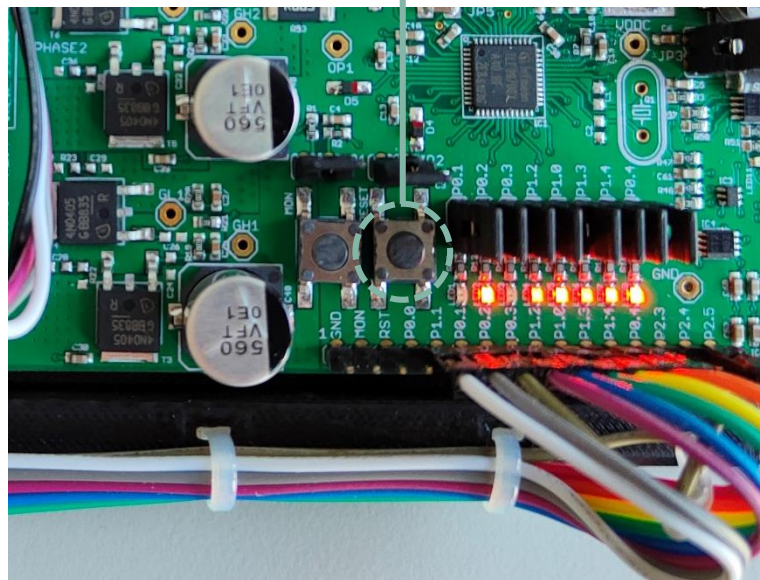
Supply the Kit with 12V



Getting Started

3

Press the Reset Button



4

Motor Control Kit starts calibration



- › The hall switch LEDs light up, showing the commutation pattern
- › The Motor starts spinning slowly
- › The calibration needs ~1min



Getting Started

5

Use Potentiometer to change the motor speed

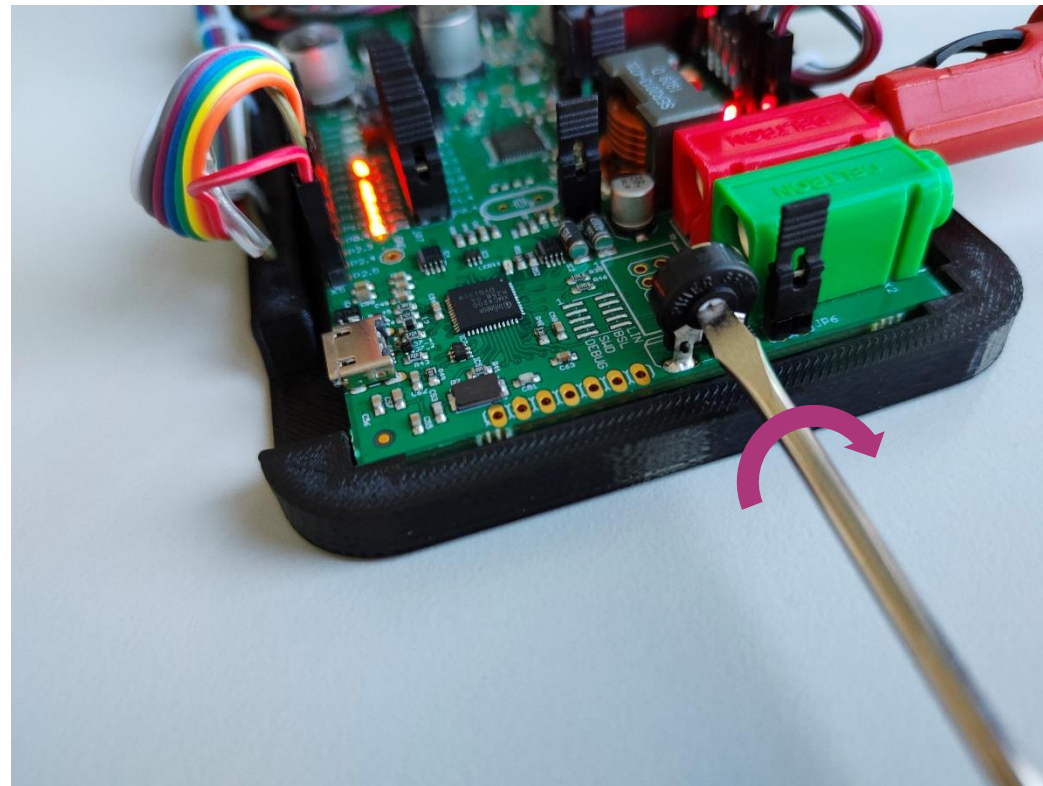
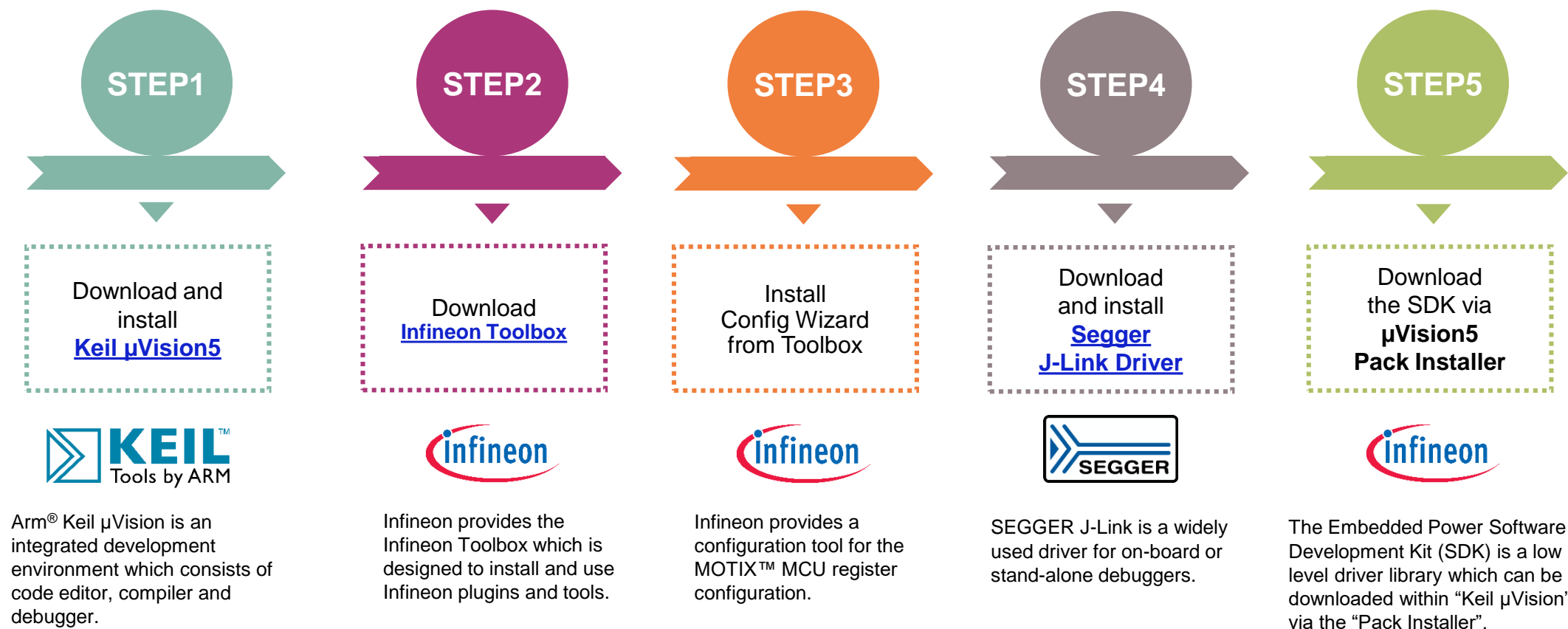


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Toolchain installation: General Overview

Infineon MOTIX™ MCUs are supported by a complete development tool chain provided by Infineon and third party vendors. The tool chain includes compilers, debuggers, evaluation boards, communication low level drivers and configuration tools as well as a variety of example software code.





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