Guide: Interfacing with  
CubeMars AK Series Motors

Contents

[Resources 2](#_Toc182570323)

[CubeMars 2](#_Toc182570324)

[STM32 2](#_Toc182570325)

[CubeMars Software 3](#_Toc182570326)

[STM32 4](#_Toc182570327)

# Resources

## CubeMars

Specs and graph: <https://www.cubemars.com/goods-982-AK80-9.html>

Different specs and graph: <https://uav-en.tmotor.com/html/2021/A_0106/640.html>

AK Series Q&A: <https://www.cubemars.com/article-262-AK+Series.html>

AK Series Module Driver User Manual (in the folder): <https://www.cubemars.com/images/file/20240611/1718085712815162.pdf>

Software and guides: <https://www.cubemars.com/article.php?id=261>

Download “CubeMars upper computer” from the last link and follow the first few video guides to connect the motor. If you can’t connect, try installing “CH340 Driver” on your PC. To get the motor running, watch video 2, “MIT mode control”, and make sure you follow all the steps.

## STM32

NUCLEO-L476RG website: <https://www.st.com/en/evaluation-tools/nucleo-l476rg.html>

For easy access to convenient references, the following files have been collected in the “NUCLEO-L476RG” folder:

* Data brief for Nucleo-64 boards (nucleo-l476rg.pdf)
* User manual for Nucleo-64 boards (um1724-stm32-nucleo64-boards-mb1136-stmicroelectronics.pdf)
* Pinout for NUCLEO-L476RG (NUCLEO-L476RG Pinout.png)
* Screenshot of default IOC configuration (IOC Config Default.png)
* Screenshot of current IOC configuration (IOC Config 2024-10-28.png)
* Datasheet for STM32L476xx microcontrollers (stm32l476rg.pdf)
* Reference manual for STM32L47xxx microcontrollers (rm0351-stm32l47xxx-stm32l48xxx-stm32l49xxx-and-stm32l4axxx-advanced-armbased-32bit-mcus-stmicroelectronics.pdf)

# CubeMars Software

The CubeMars software (referred to as the “upper computer”) can be downloaded from the link under *Resources* above.

A screenshot of a computer

Description automatically generated

Connecting

Debug panel

Adjust parameters

Run motor

# STM32

Based on code from Long

Structure of main.c and includes in main.h

Constants and typedefs in cubemars\_control.h

Functions in cubemars\_control.c