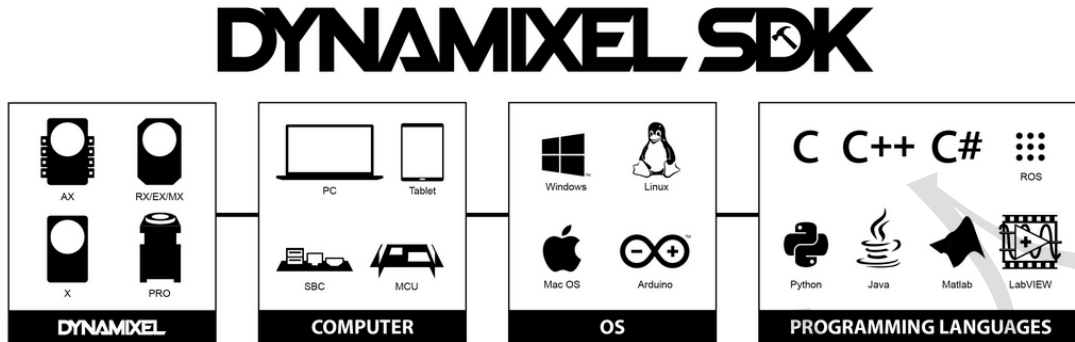# Overview

Dynamixel SDK

The **ROBOTIS Dynamixel SDK** is a software development kit that provides Dynamixel control functions using packet communication. The API of Dynamixel SDK is designed for Dynamixel actuators and Dynamixel-based platforms. It assumes that you are familiar with C/C++ programming. This e-Manual provides comprehensive information about ROBOTIS products and applications.

Supported Dynamixels

The Dynamixel SDK supports **all Dynamixel series** developed by ROBOTIS. For example, all series such as AX, RX, EX, MX, XL, XM, XH, PRO-L, PRO-M and PRO-H are supported by packet communication. For information on each Dynamixel model, please refer to the Dynamixel section of the following manual.

- http://emanual.robotis.com/

Supported Protocols

To control Dynamixel, communication should be established according to the protocol of Dynamixel. There are **versions 1.0 and 2.0 of the Dynamixel protocol**. The Dynamixel SDK supports both, and the user can use both protocols simultaneously using the Dynamixel SDK. Refer to the following manuals for details on the protocols.

- Dynamixel Protocol 1.0
- Dynamixel Protocol 2.0 (Recommended version)

Supported Devices

The Dynamixel SDK can be used on PCs such as **desktops** or **laptops**, as well as on **tablets**, and also on **SBCs** like Raspberry Pi and UpBoards. In addition, it can be used with **embedded boards** that support the Arduino IDE. Dynamixel uses TTL and RS485 communication. In order to use computer and Dynamixel, we recommend[USB2Dynamixel](#) or [U2D2](#) as interface device.

Supported Operating Systems

The Dynamixel SDK supports all three operating systems: **Windows**, **Linux**, and **macOS**.

Supported Languages

The Dynamixel SDK supports various programming languages like **C**, **C++**, **C#**, **Python**, **Java**, **MATLAB** and **LabVIEW**. In addition, Dynamixel SDK supports **ROS**, so it can be used as ROS library using C++ or Python modules.

- **C**: *Dynamic library and source code of this library and examples
- **C#, Java, MATLAB, LabVIEW**: Support based on dynamic library using C language
- **C++**: *Dynamic library and source code of this library and examples
- **Python**: Python module and examples
- **ROS**: ROS library using C++ and Python modules
  (* Dynamic library (*.dll, *.so, and *.dylib files) / .dll: dynamic-link library on Windows / .so: shared object on Linux / .dylib: dynamic library on macOS)