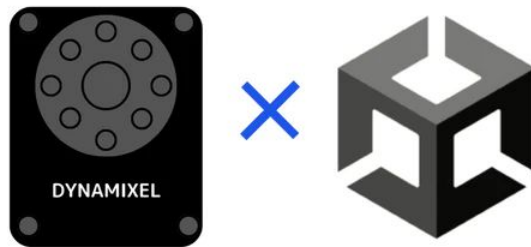


**DYNAMIXEL FOR UNITY**



# Hello Dynamixel - 1

DynamixelForUnity  
Tutorial and Learning Materials

# Agenda

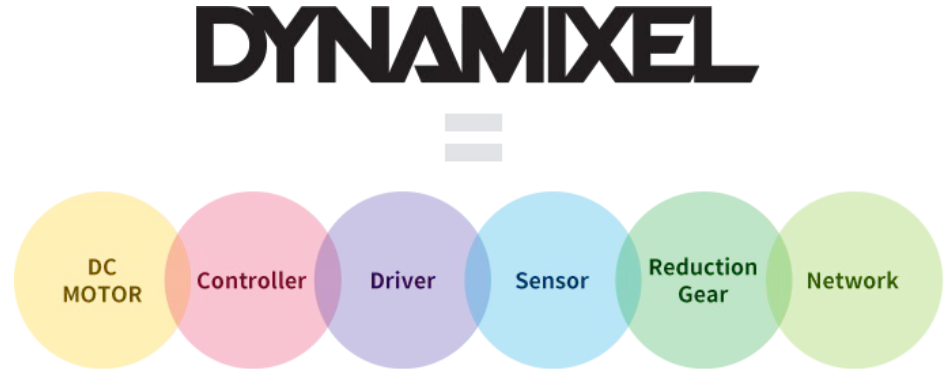
1. Introduction to Dynamixel Servomotors
  - a. What is a Dynamixel servomotor
  - b. Control Methods for Dynamixel Servomotors
  - c. Basic overview of available motors
2. PC Connection and Power Supply
  - a. Main Components for using Dynamixel Servomotors
  - b. Connecting to PC and Power Supply
3. Integration with Unity3D
4. Value of DynamixelForUnity
5. About this series of tutorials

# 1. Introduction to Dynamixel Servomotors

# What is a Dynamixel Servomotor

## Dynamixel: A Smart Actuator Brand by ROBOTIS

- All-in-One Module
- Multiple control modes
  - including position, velocity, and current.
- Easy Operation

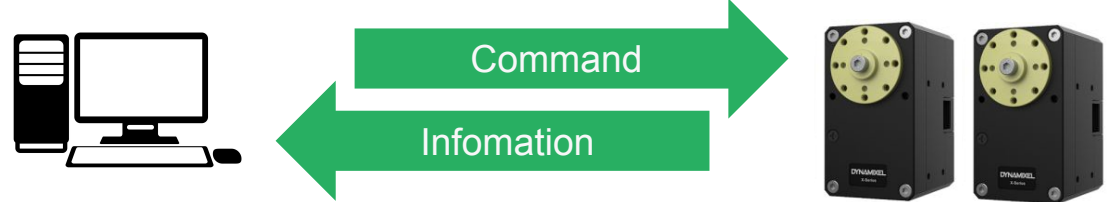


# Control Methods for Dynamixel Servomotors

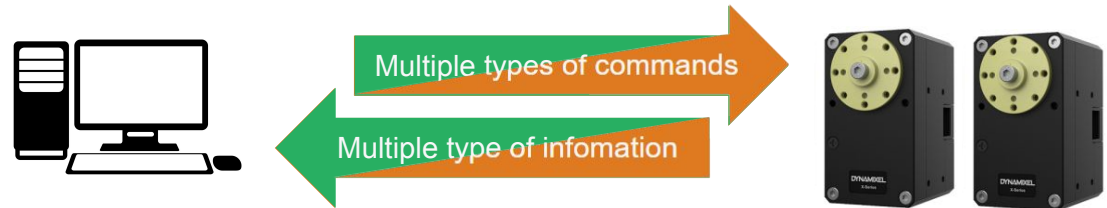
- Set/Get methods



- GroupSync methods



- GroupBulk methods



# Basic overview of available motors

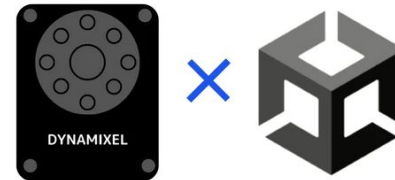
## Protocol 1.0



## Protocol 2.0



**DYNAMIXEL FOR UNITY**



# Basic overview of available motors

## X Series

- Wide range of prices and performances.
- Versatile choice suitable for various applications.



## P Series

- High-performance, high-end series.
- Ideal for demanding applications, despite the higher cost.



## 2. How to connect your Dynamixel Motor?



# Main Components for using Dynamixel Servomotors

1. Dynamixel servomotor
2. 3-pin TTL or 4-pin RS-485 cables
3. U2D2 (USB serial interface)
4. SMPS (Power supply)
5. SMPS2Dynamixel (Power supply)

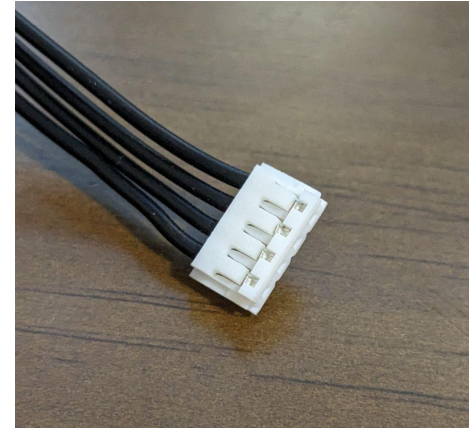
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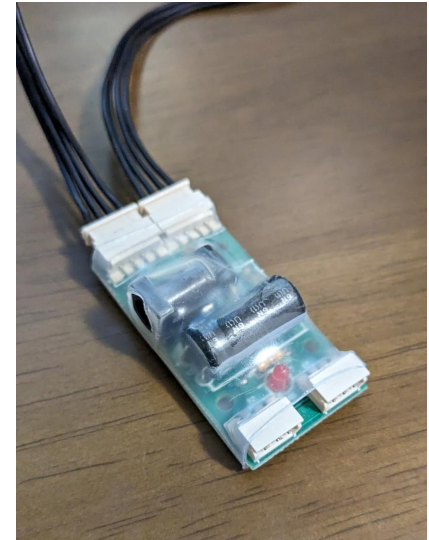
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# Connecting to PC and Power Supply

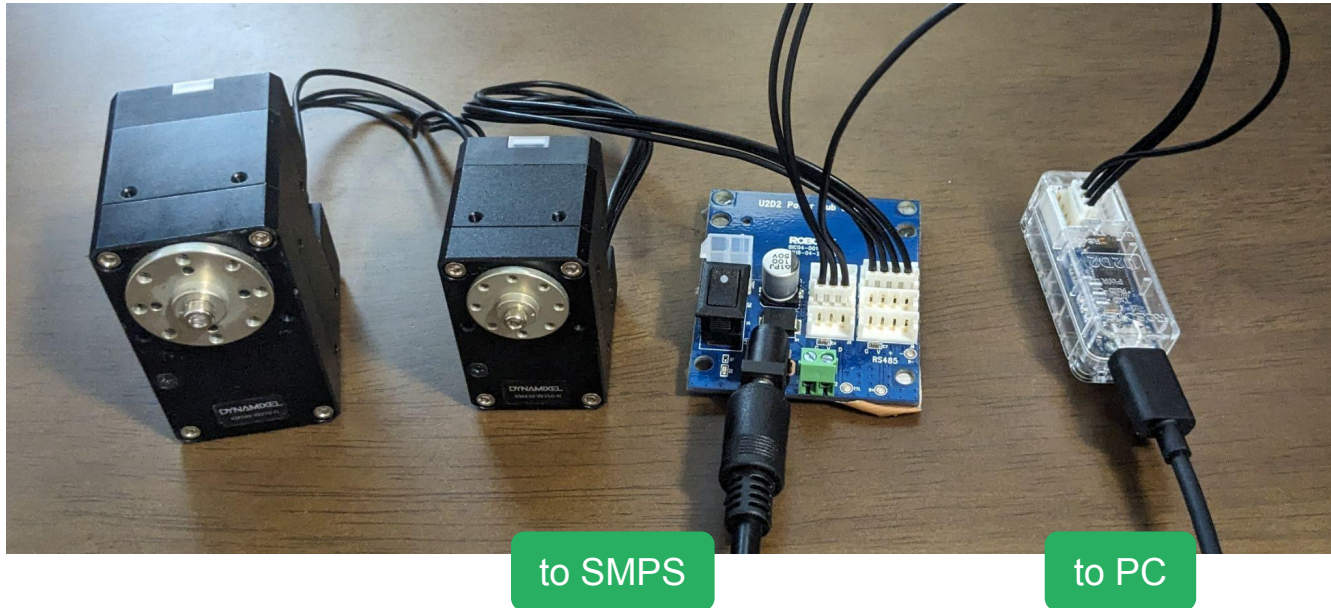
All cable connections and disconnections must be made after the power is **turned off**.





# Connecting to PC and Power Supply (using U2D2 Power Hub Board)

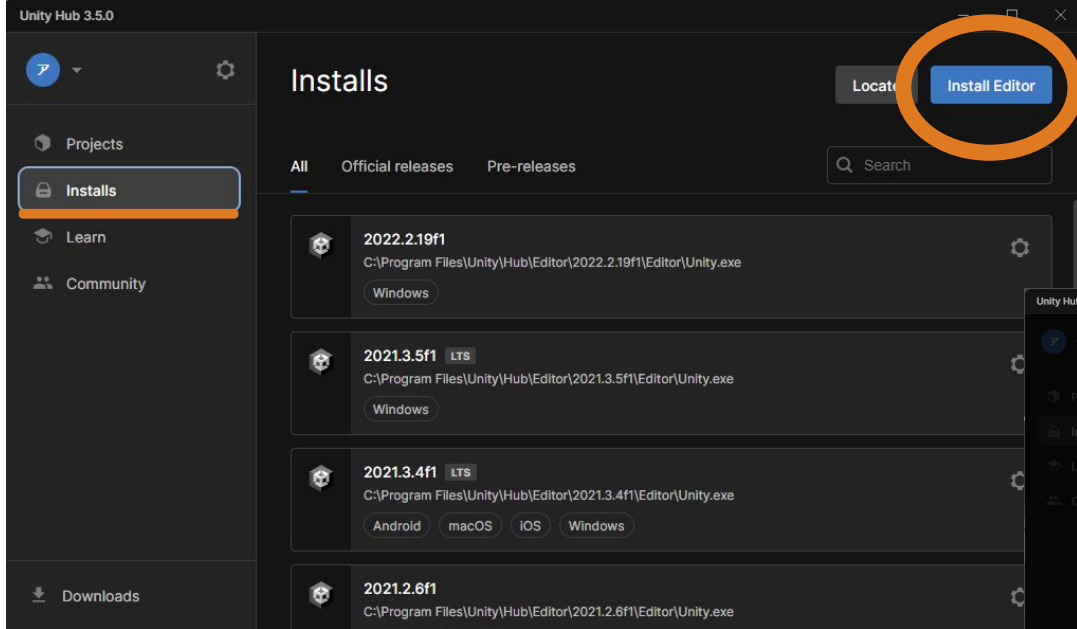
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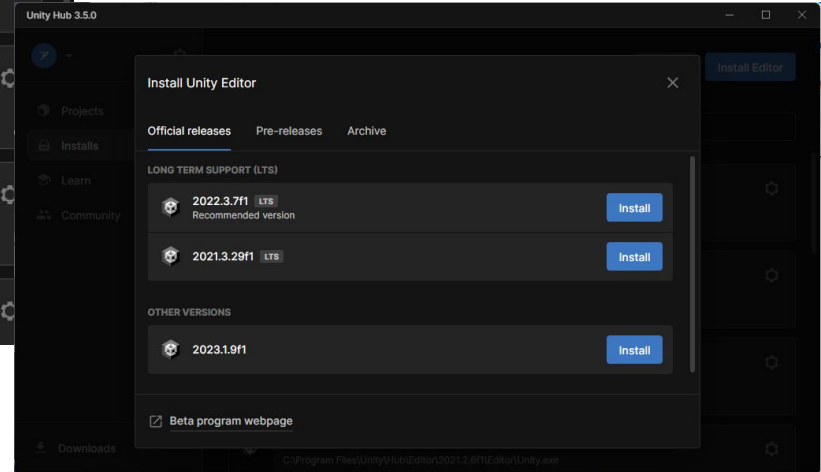


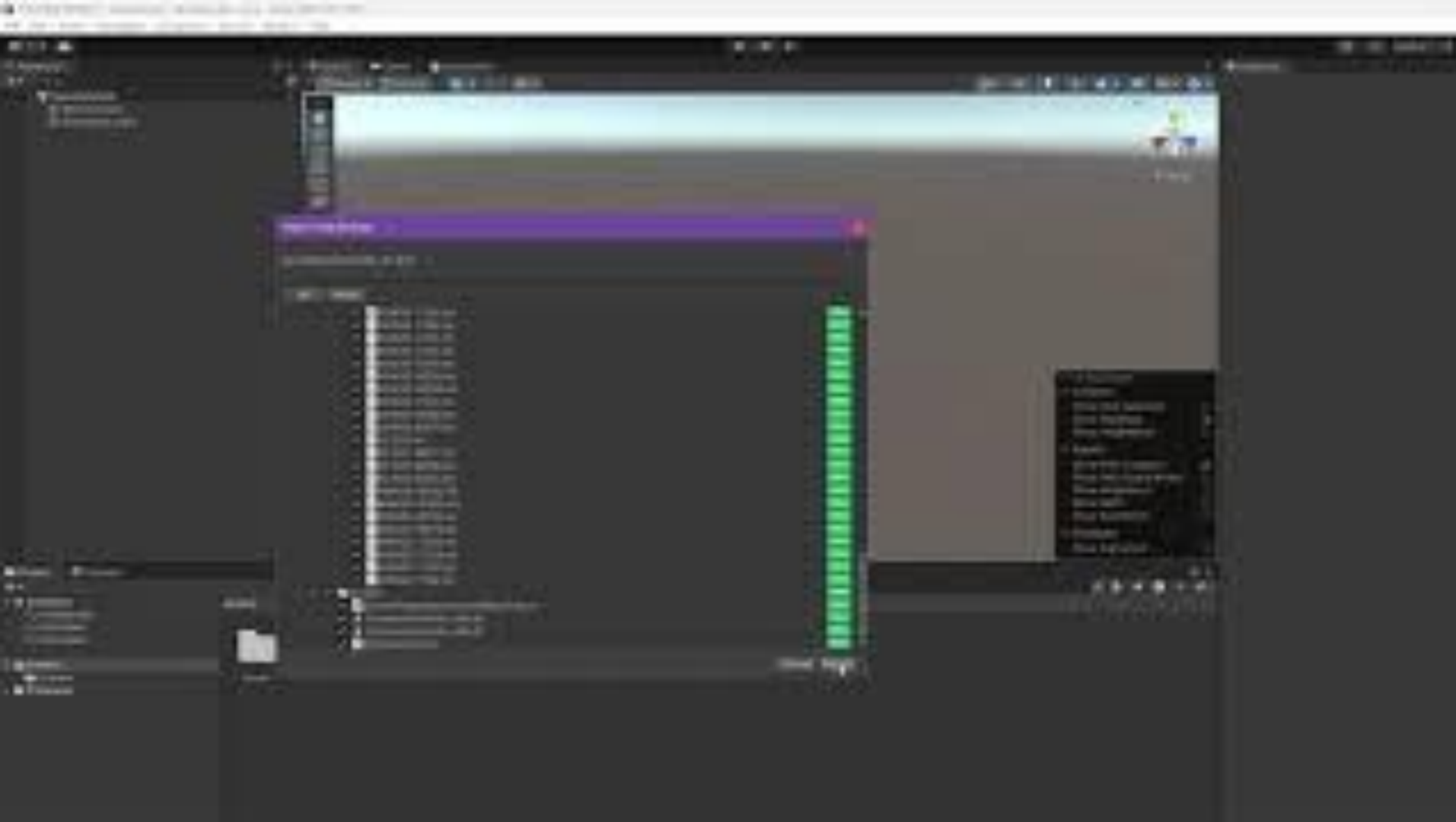
### 3. Dynamixel Control from Unity3D

# Download Unity Editor



**2022** or Later,  
**LTS**  
is recommended





## 4. Value of DynamixelForUnity

# Value of DynamixelForUnity

1. Easy Integration in Under 5 Minutes
2. Unified Control for Multiple Motors
3. Abstraction of Low-Level Functionalities
4. Efficient and Optimized Performance

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## 5. About this series of tutorials

# About this series of tutorials

1. Hello Dynamixel -1 : What is a Dynamixel servomotor ?  [This video](#)
  2. Hello Dynamixel -2: Basic principles of motor control of D4U.
  3. Hello Dynamixel -3: Setting and Using various control modes - position control mode - Torque based position control - wheel mode -
- and more...