

## ■ Description

Multi-purpose, low-cost manipulator

6 DOF (built with Dynamixel Pro)

Modular structure for easy maintenance

Lightweight design for easy placement and mobility.

Endures payload suitable for small to mid scale operations.

Wide operation range

Suitable for repetitive and high precision operation

USB interface, RS-485 communication

Provides SDK for user programming

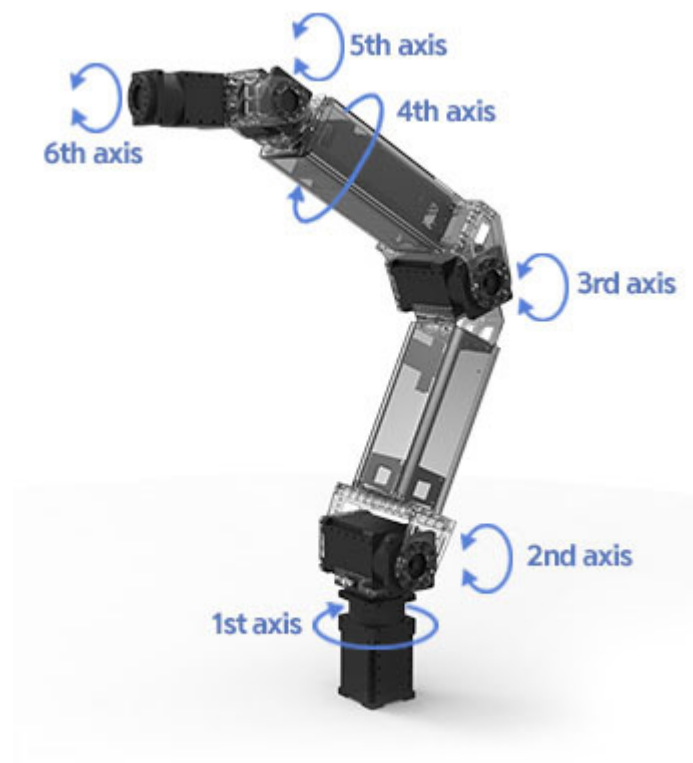
(provides examples of forward / inverse kinematics, profile control)

## ■ Package Contents

Description		Quantity
Product	Manipulator-H (fully assembled)	1
Storage bag	Case	1
PC interface	USB2Dynamixel	1
Accessory	Extra cable set (4P, 2P)	1 set
		2
	Screw set (WB M2.5 and others)	1 set
	USB memory (SDK, Quickstart)	1

## ■ H/W Specifications

	Manipulator-H
DOF	6
Payload (kg)	3
Repeatability (mm)	±0.05
Speed (Each joint, deg/sec)	180
Weight (kg)	5.5
Reach (mm)	645
Rated voltage (VDC)	24
Communication	RS-485 (Multi Drop Bus)
Power (Joint)	200W : 2EA
	100W : 2EA
	20W : 2EA
Software	ROBOTIS Manipulator SDK
Controller	PC (Not Included)



## ■ S/W Specifications

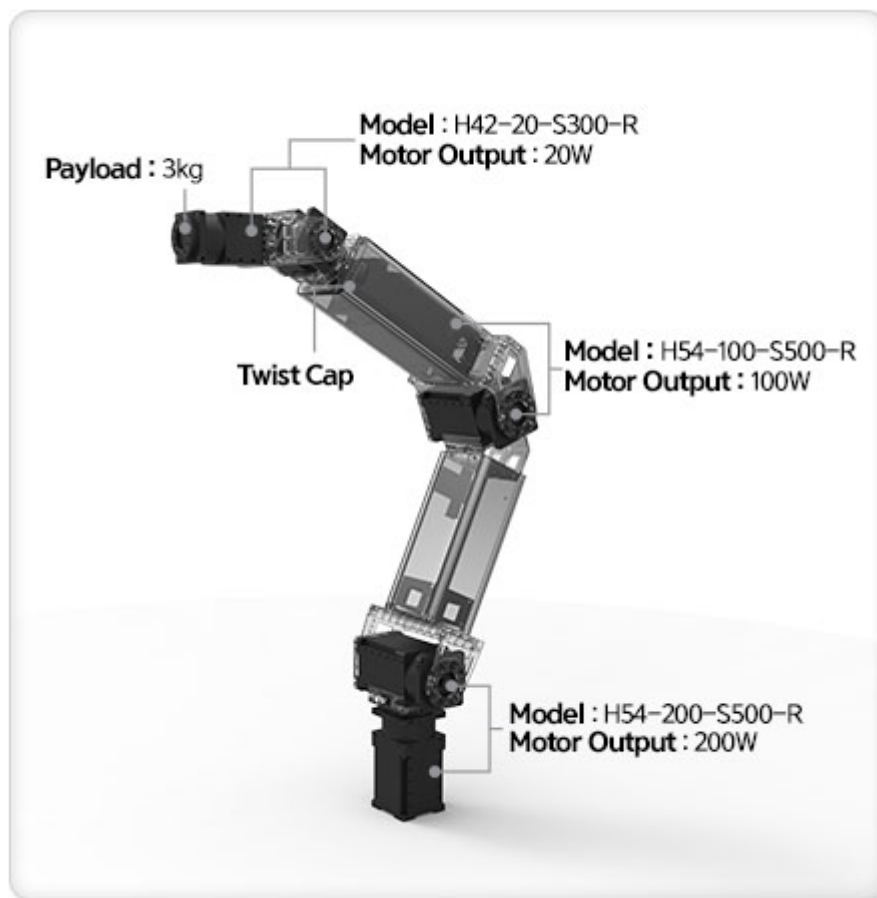
Arm access communication protocol library and examples

Arm control parameter setting and monitoring example

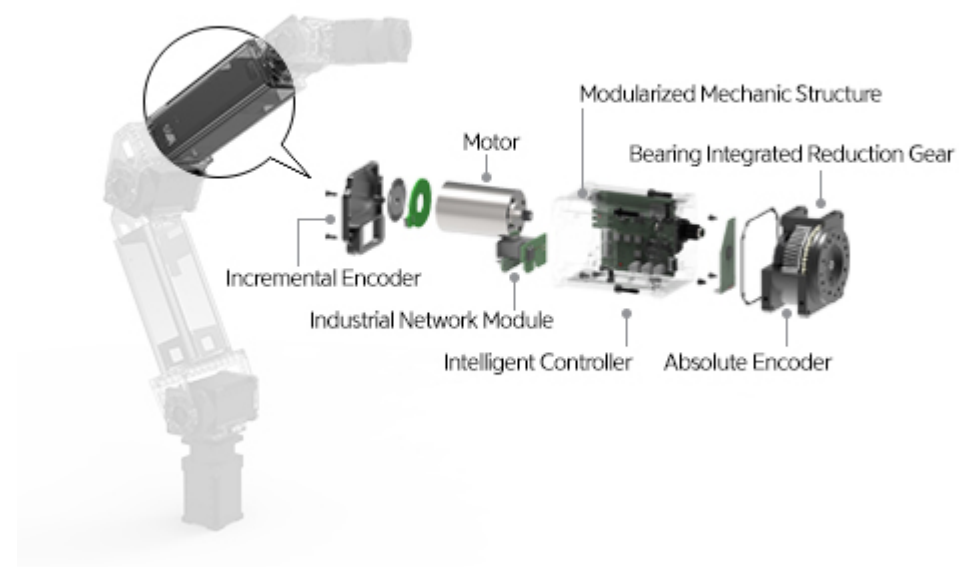
Kinematics library (FK, IK) and examples

Joint / end point profile control library and examples

## ■ Actuator Configuration



## ■ Actuator (DYNAMIXEL PRO) Description



### **All-in-one module**

DC Motor + Controller + Driver + Sensor + Cycloid Reduction Gear

### **Small, Lightweight**

Minimized module size with the self-developed small, lightweight, cycloid reduction gear

High weight to output rate (0.05Nm/g)

High shock resistance

### **Precise control and low backlash**

Incremental encoder and contactless magnetic encoder for absolute positioning

Low backlash of 3~4arcmin

Performance data provided, tested by KOLAS (Korea Laboratory Accreditation Scheme)

### **Torque control using current sensor**

High current sensing algorithm and current feedback control

Position, speed, and current control using an algorithm

### **Easy development environment**

Provides C-based library

Provides various solution examples (C++, LabVIEW, C#, eclipse, JAVA, etc.)

## **■ Key Purpose**

Research and Education

- Experiment with kinematics and dynamics

- Design and research two-armed robot system

- Mobile robot system

Industrial Field Operation

- Test and examination equipment

- Small transport system