

# HOVIS Lite

## 응용모델 조립 매뉴얼

### 9자유도 4족 인체감지 보행로봇

인체감지센서, 거리센서, LED센서 활용



Dongbu Robot

# 호비스 라이트 응용모델 조립 매뉴얼

## 9자유도 4족 인체감지 보행로봇 부품리스트

HOVIS Lite



ID 0 ID 3 ID 8  
ID 10 ~ ID 15



**x9** DRS-0101  
HerkuleX Servo (Horn 체결)

**x4** DRB-0001  
Front / Back

**x4** DRB-0002  
Hand

**x11** DRB-0004  
Universal Plate

**x5** DRB-0009  
U2-type Bracket



**x4** DRB-0011  
U4-type Bracket

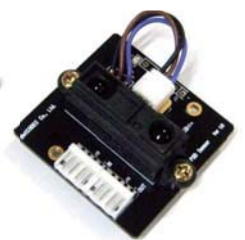
**x1** DRB-0007  
Battery Case & Holder

**x1** DRL-0728  
7.4V Li-Po Battery  
(3,000mAh)

**x1** DRC-005T  
Controller

**x59** DRJ-0001  
L-type Joint  
(Single Nut)

**x15** DRJ-0002  
L-type Joint  
(Double Nut)



**x2** DRJ-0003  
L-type Joint  
(Hole only)

**x6** DRJ-0006  
L-type Joint  
(12.5mm, Double Nut)

**x9** DRJ-0011  
Bushing Set

**x1** LED모듈  
(별매)

**x1** 인체감지 센서  
모듈 (별매)

**x1** 거리 센서  
모듈 (별매)

### 1:1 SCALE

**x18** DRA-0051  
Nut (M2)

**x4** DRA-0054  
Bolt (PH/M 2.0x13)

**x76** DRA-0056  
Bolt (PH/M 2.0x4)

**x72** DRA-0058  
Bolt (PH/M 2.0x6)

**x11** DRA-0059  
Bolt (PH/M 2.0x8)

**x9** DRA-0062  
Bolt (PH/M 3.0x8)

**x27** DRA-0064  
Bolt (PH/T 2.0x5)

**x12** DRA-0069  
Hand Bolt (CH/T 1.7x4)



**x2** DRA-0002  
Harness (75mm)



**x7** DRA-0003  
Harness (100mm)



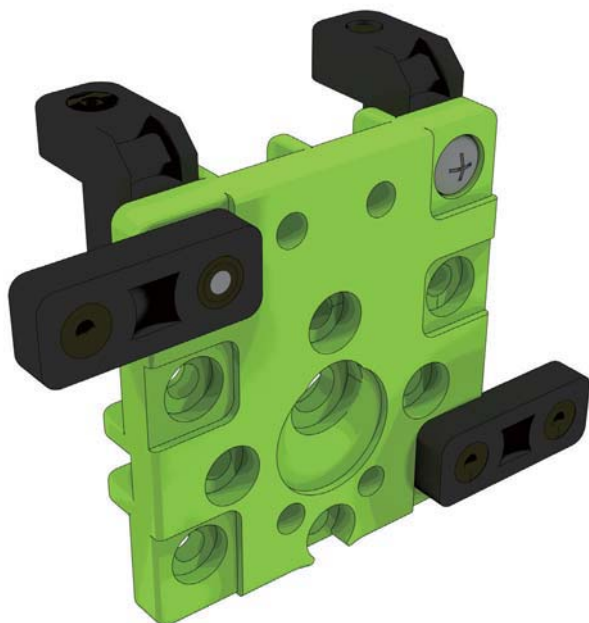
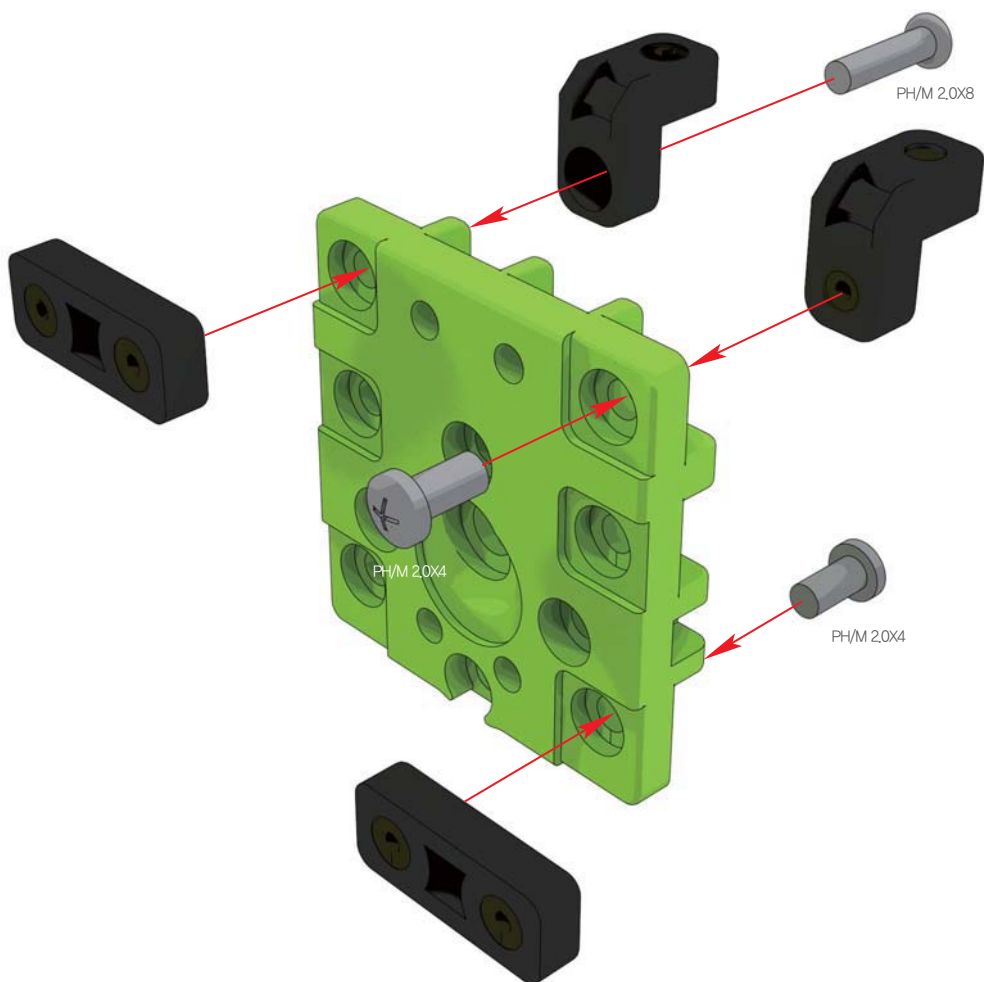
**x3** DRA-0006  
Harness (200mm)

# 호비스 라이트 응용모델 조립 매뉴얼

## 9자유도 4족 인체감지 보행로봇

(인체감지센서, 거리센서, LED센서 활용)

# HOVIS Lite



### 사용부품



**DRA-0056** 27개  
Bolt (PH/M 2.0x4)



**DRA-0059** 17개  
Bolt (PH/M 2.0x8)



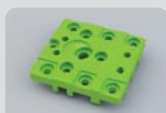
**DRJ-0001** 17개  
L-type Joint (Single Nut)



**DRJ-0002** 17개  
L-type Joint (Double Nut)

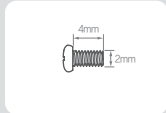


**DRJ-0006** 27개  
I-type Joint (12.5mm, Double Nut)

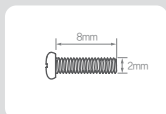


**DRB-0004** 17개  
Universal Plate

### 1:1 SCALE



PH/M 2.0x4



PH/M 2.0x8

사용부품



DRA-0054  
Bolt (PH/M 2.0x13) 2개



DRA-0056  
Bolt (PH/M 2.0x4) 4개



DRA-0058  
Bolt (PH/M 2.0x6) 2개



DRJ-0006  
I-type Joint  
(12.5mm, Double Nut) 6개



DRB-0004  
Universal Plate 2개

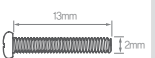
1:1 SCALE



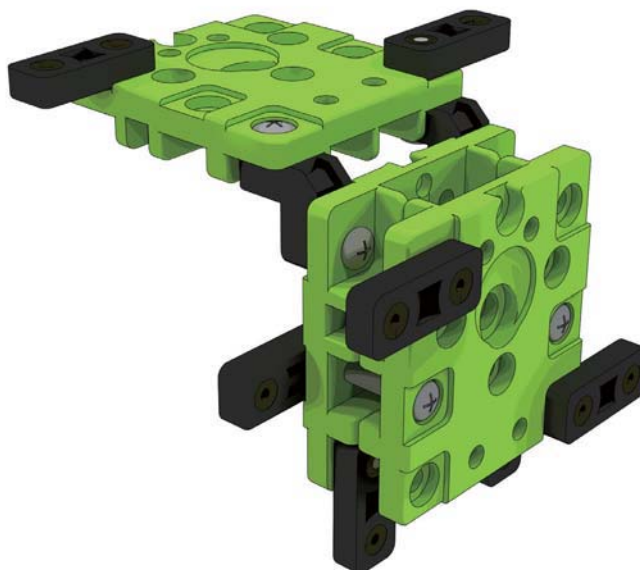
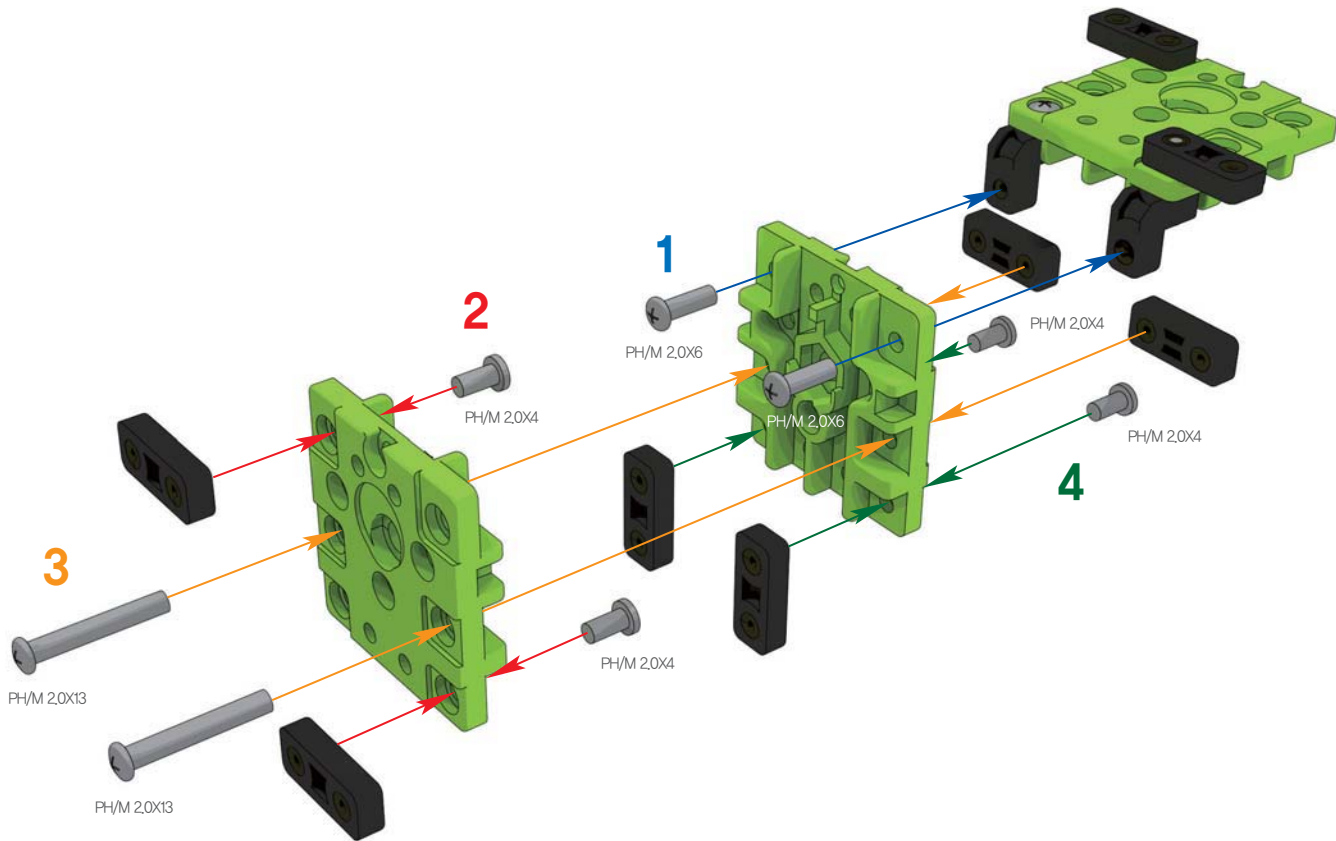
PH/M 2.0x4



PH/M 2.0x6



PH/M 2.0x13



※ 조립 순서에 주의하여 조립합니다.



※ 조립 순서에 주의하여 조립합니다.

### 사용부품



DRS-0101  
HerkuleX Servo 1개



DRA-0051  
Nut (M2) 2개



DRA-0054  
Bolt (PH/M 2.0X13) 2개



DRA-0056  
Bolt (PH/M 2.0X4) 2개



DRA-0062  
Bolt (PH/M 3.0X8) 1개



DRA-0064  
Bolt (PH/T 2.0X5) 3개



DRJ-0011  
Bushing Set 1개



DRB-0004  
Universal Plate 2개

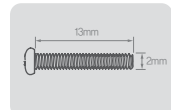


DRB-0009  
U2-type Bracket 1개

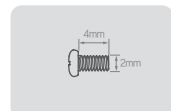
### 1:1 SCALE



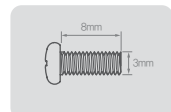
M2



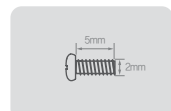
PH/M 2.0X13



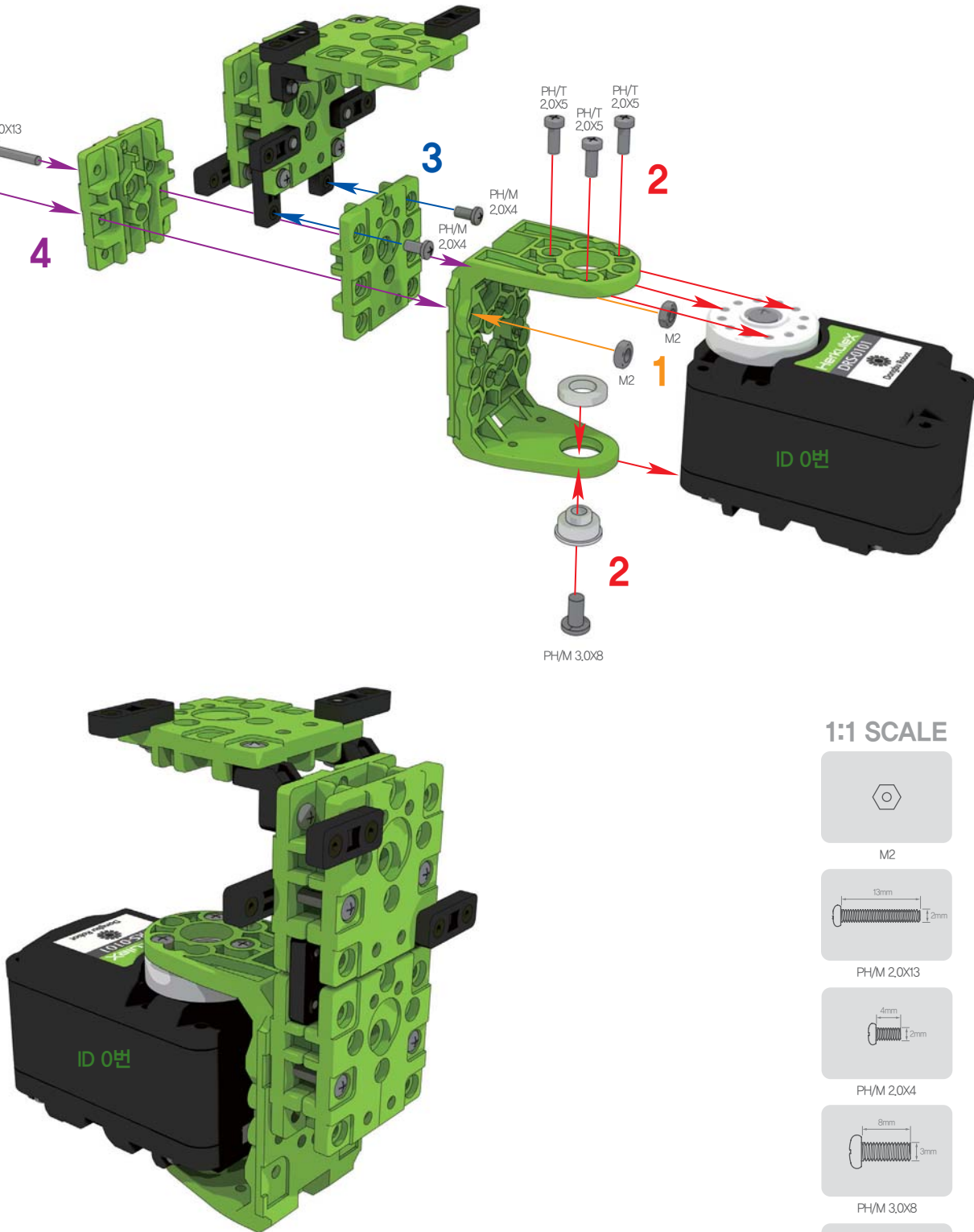
PH/M 2.0X4



PH/M 3.0X8



PH/T 2.0X5



사용부품



DRA-0056  
Bolt (PH/M 2.0X4)

4개



DRJ-0006  
I-type Joint  
(12.5mm, Double Nut)

2개



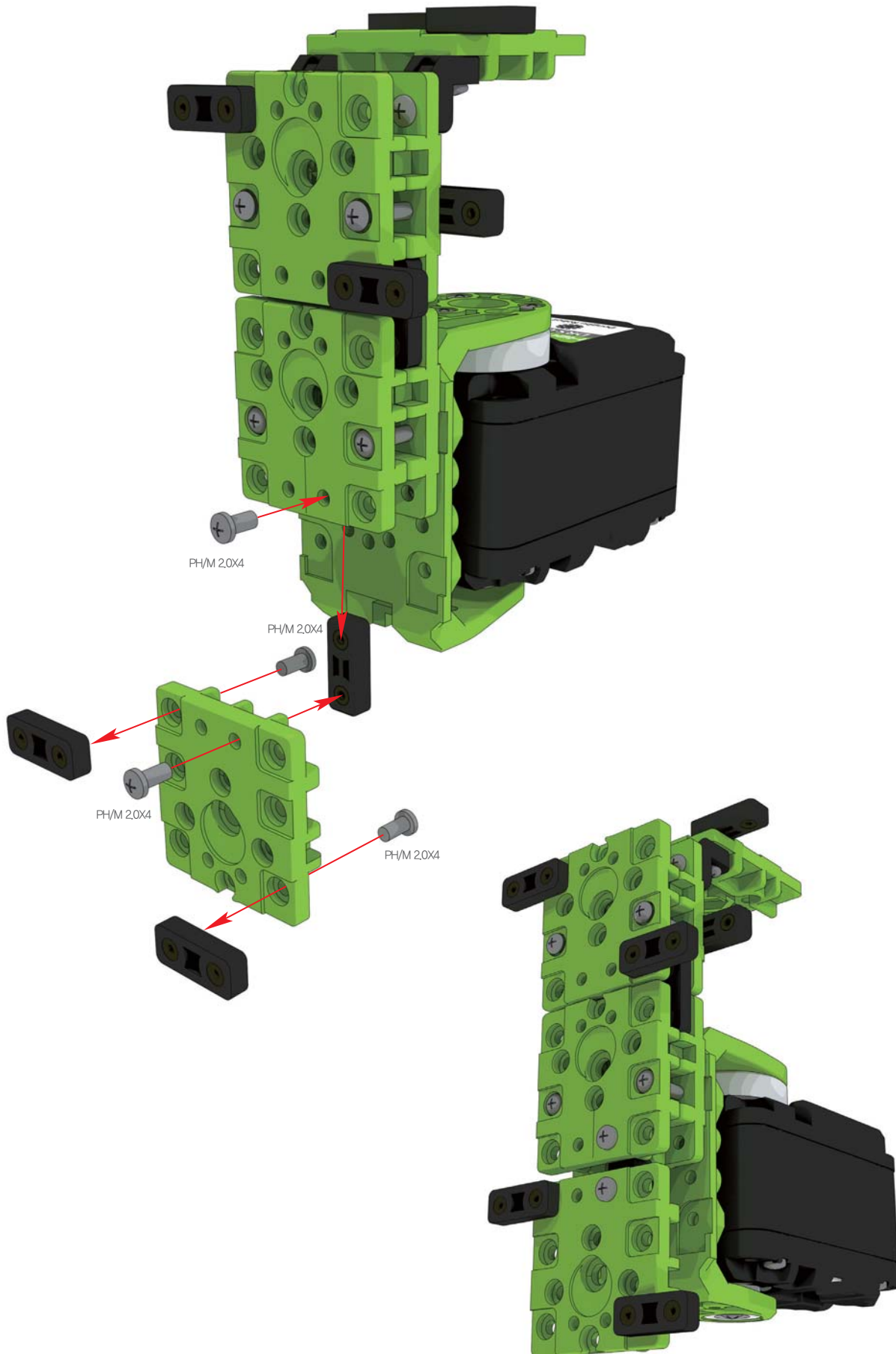
DRB-0004  
Universal Plate

1개

1:1 SCALE



PH/M 2.0X4



사용부품



DRA-0056 8개  
Bolt (PH/M 2.0x4)



DRA-0059 8개  
Bolt (PH/M 2.0x8)



DRJ-0001 8개  
L-type Joint (Single Nut)



DRJ-0002 8개  
L-type Joint (Double Nut)

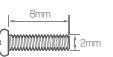


DRB-0004 4개  
Universal Plate

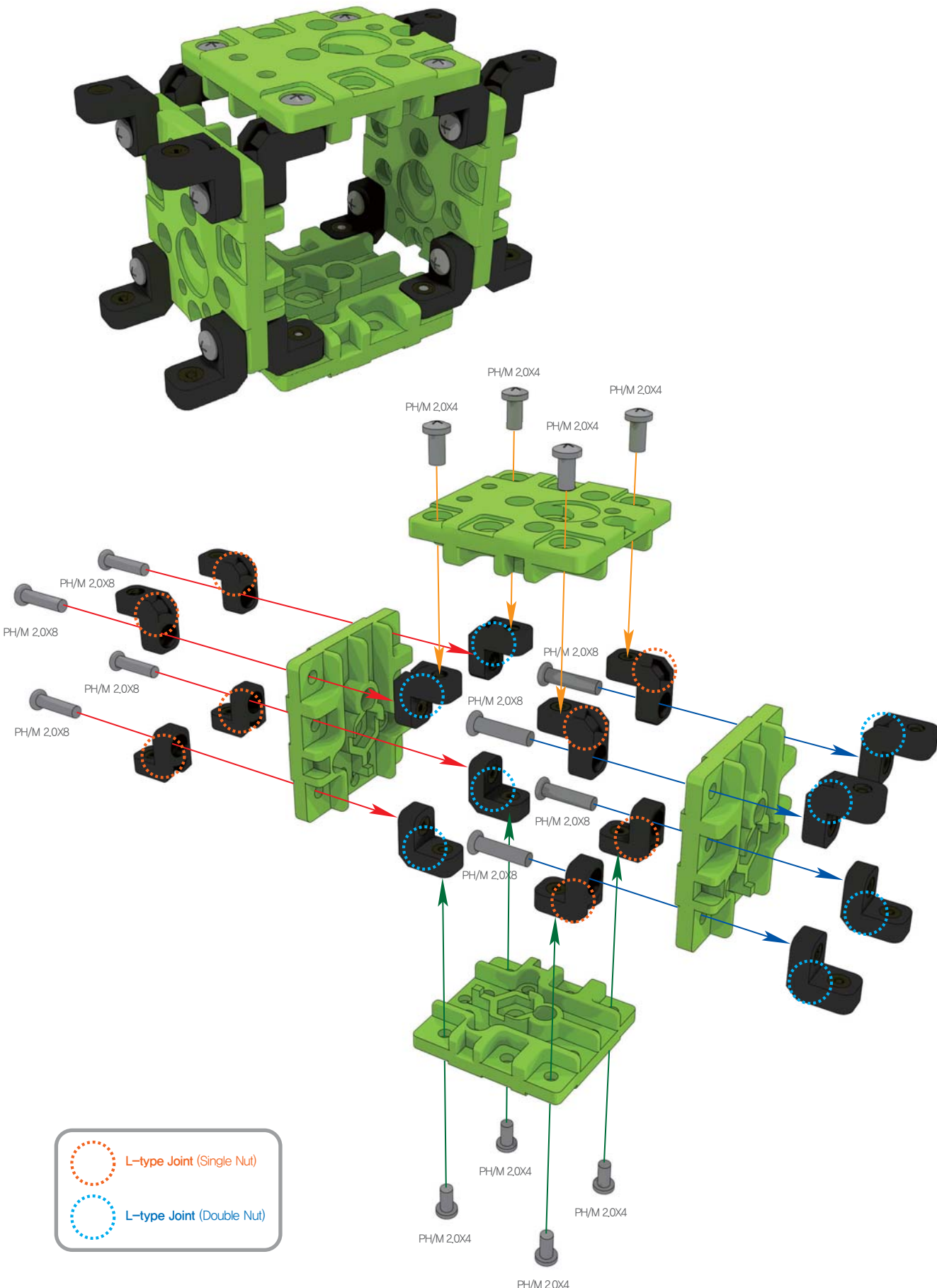
1:1 SCALE



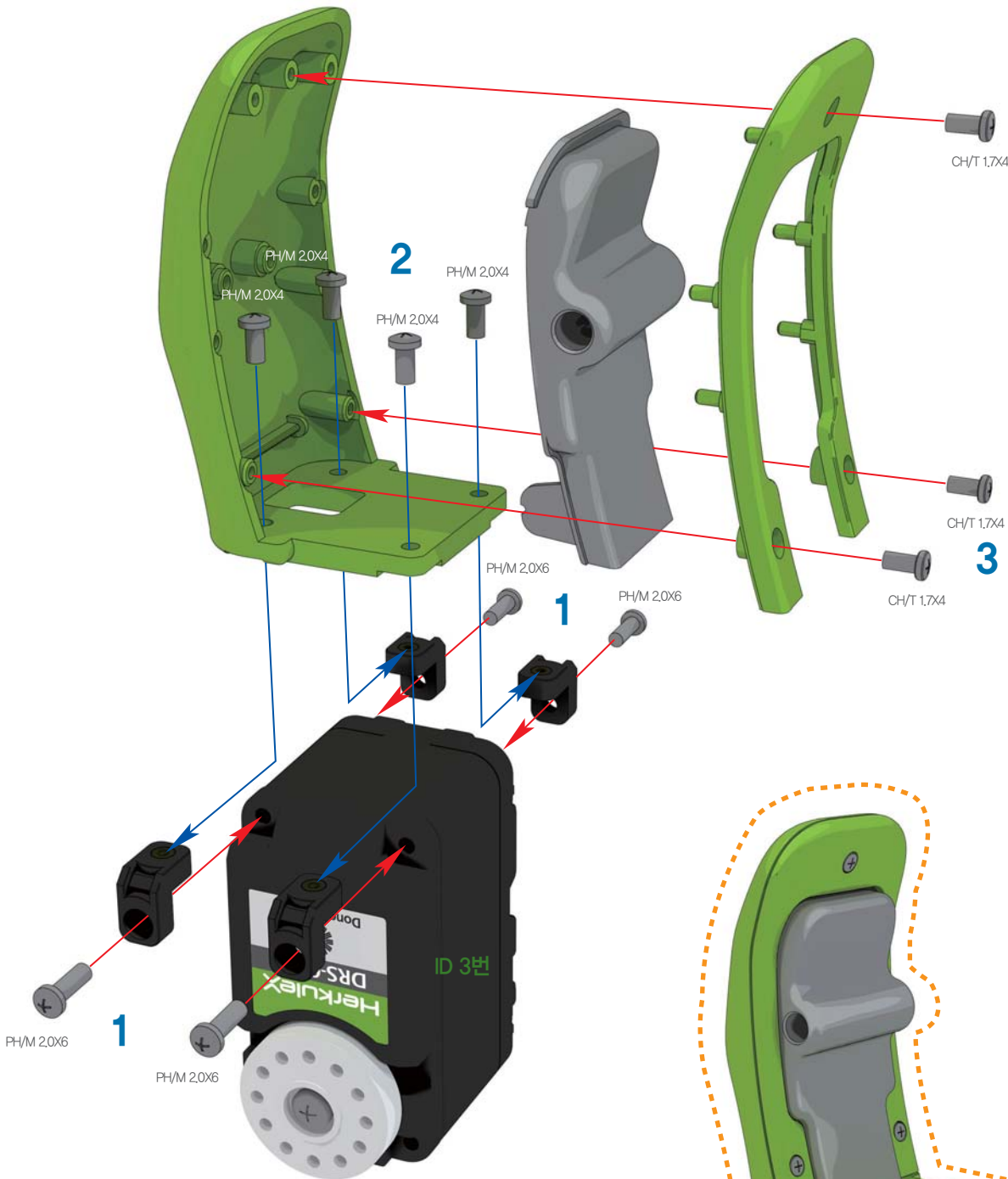
PH/M 2.0x4



PH/M 2.0x8







- ※ 나머지 1세트(ID 11번)도 동일한 방법으로 조립합니다.
- ※ 나머지 2세트(ID 10번), (ID 14번)도 동일한 방법으로 조립하되, 그림에서 점선으로 표기한 발 부분은 대칭방향으로 조립합니다.
- ※ 조립 순서에 주의하여 조립합니다.

### 사용부품



DRS-0101 HerkuleX Servo 1개



DRB-0002 Hand 1개



DRA-0069 Bolt (CH/T 1.7X4) 3개



DRA-0056 Bolt (PH/M 2.0X4) 4개

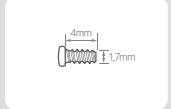


DRA-0058 Bolt (PH/M 2.0X6) 4개

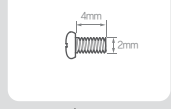


DRJ-0001 L-type Joint (Single Nut) 4개

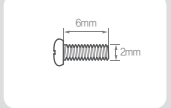
### 1:1 SCALE



CH/T 1.7X4



PH/M 2.0X4



PH/M 2.0X6



사용부품



DRA-0051  
Nut (M2) 47개



DRA-0058  
Bolt (PH/M 2.0x6) 47개



DRB-0009  
U2-type Bracket 17개

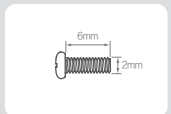


DRB-0011  
U4-type Bracket 17개

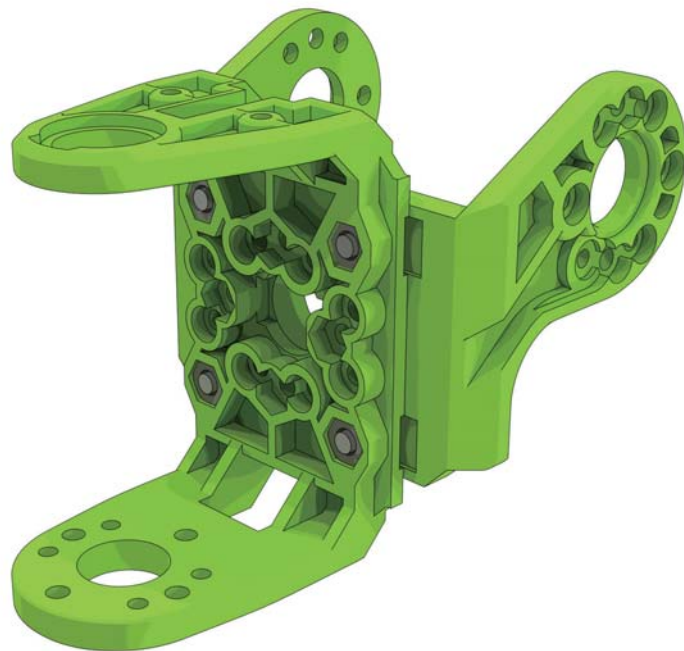
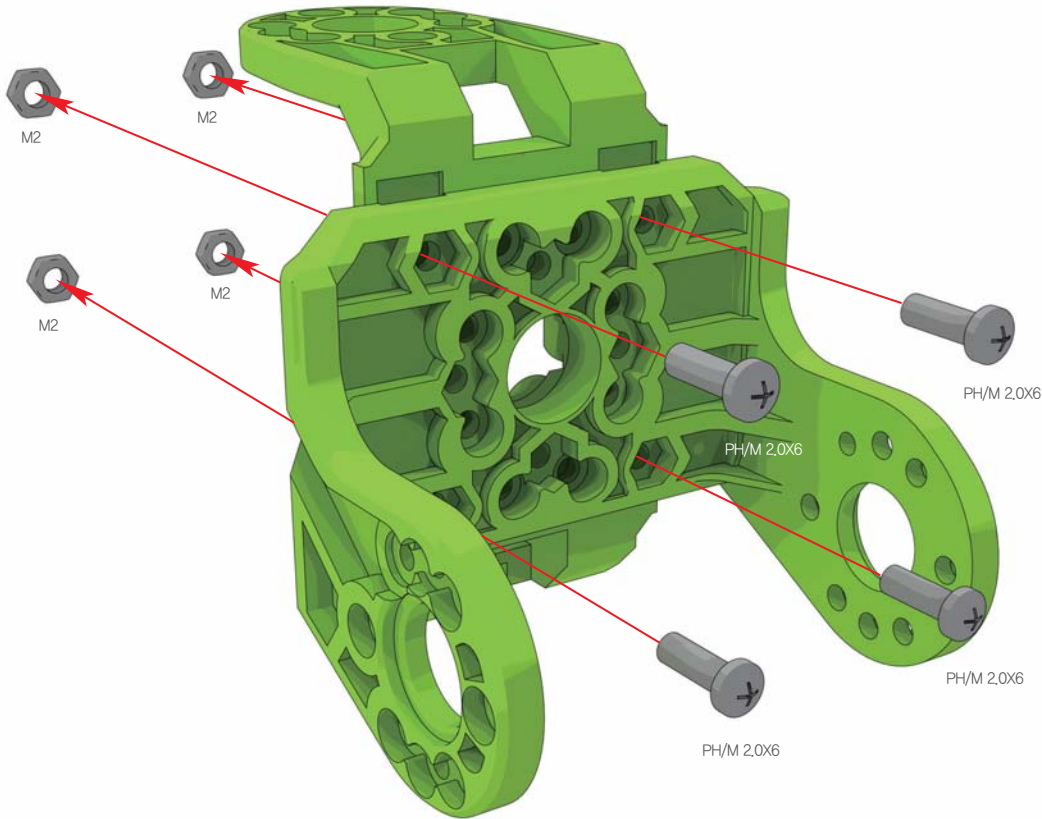
1:1 SCALE



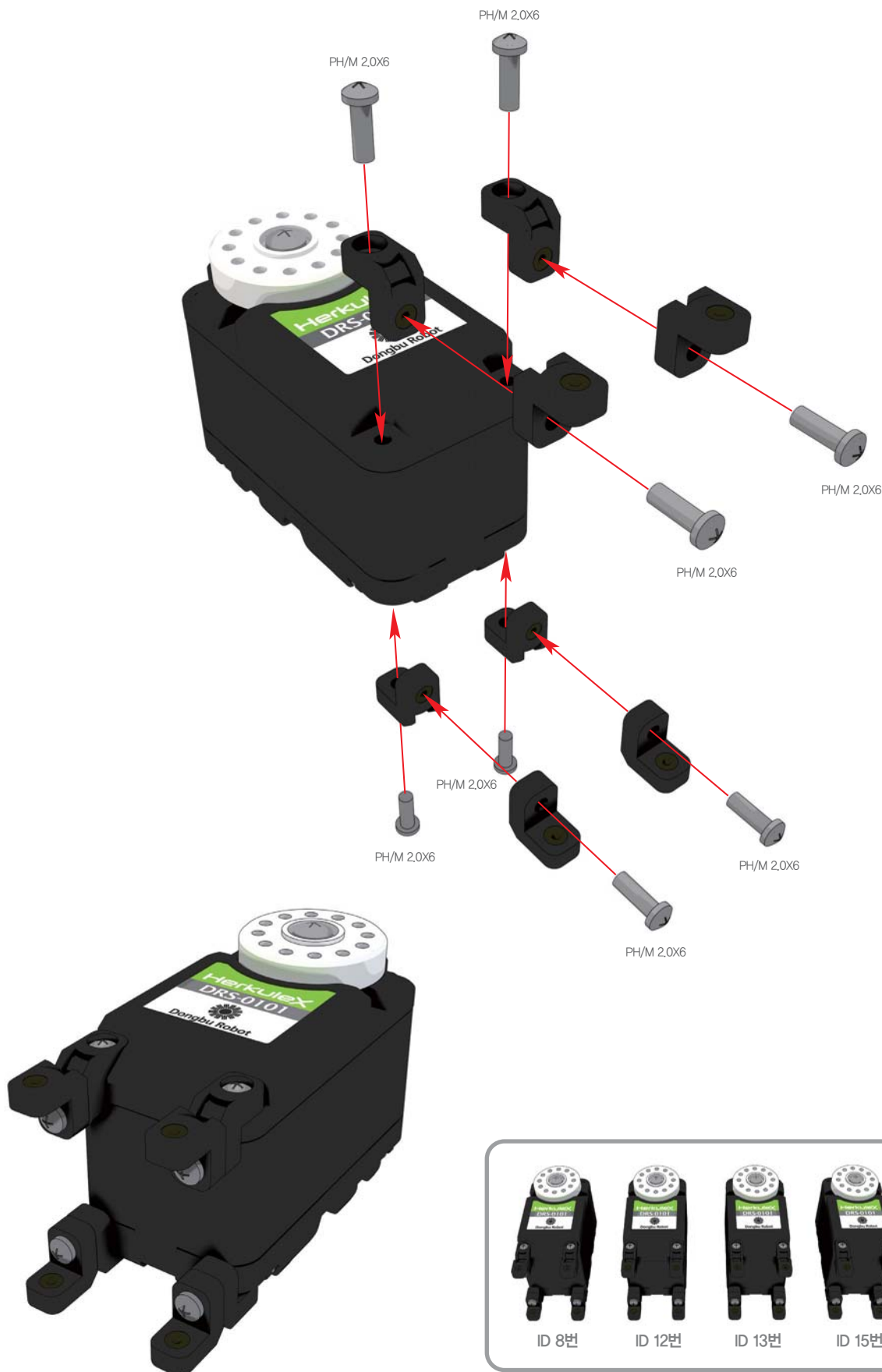
M2



PH/M 2.0x6



※ 나머지 3세트도 동일한 방법으로 조립합니다. (총 4세트 조립)



## 사용부품



DRS-0101  
HerkuleX Servo

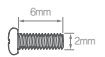


**DRA-0058** 87H  
Bolt (PH/M 2.0X6)



**DRJ-0001**  
L-type Joint  
(Single Nut)

1:1 SCALE



PH/M 2.0X6

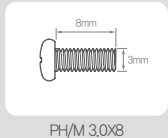
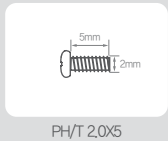


※ 나머지 **3세트**도 동일한 방법으로 조립합니다.  
(총 4세트[ID 8번, 12번, 13번, 15번] 조립)

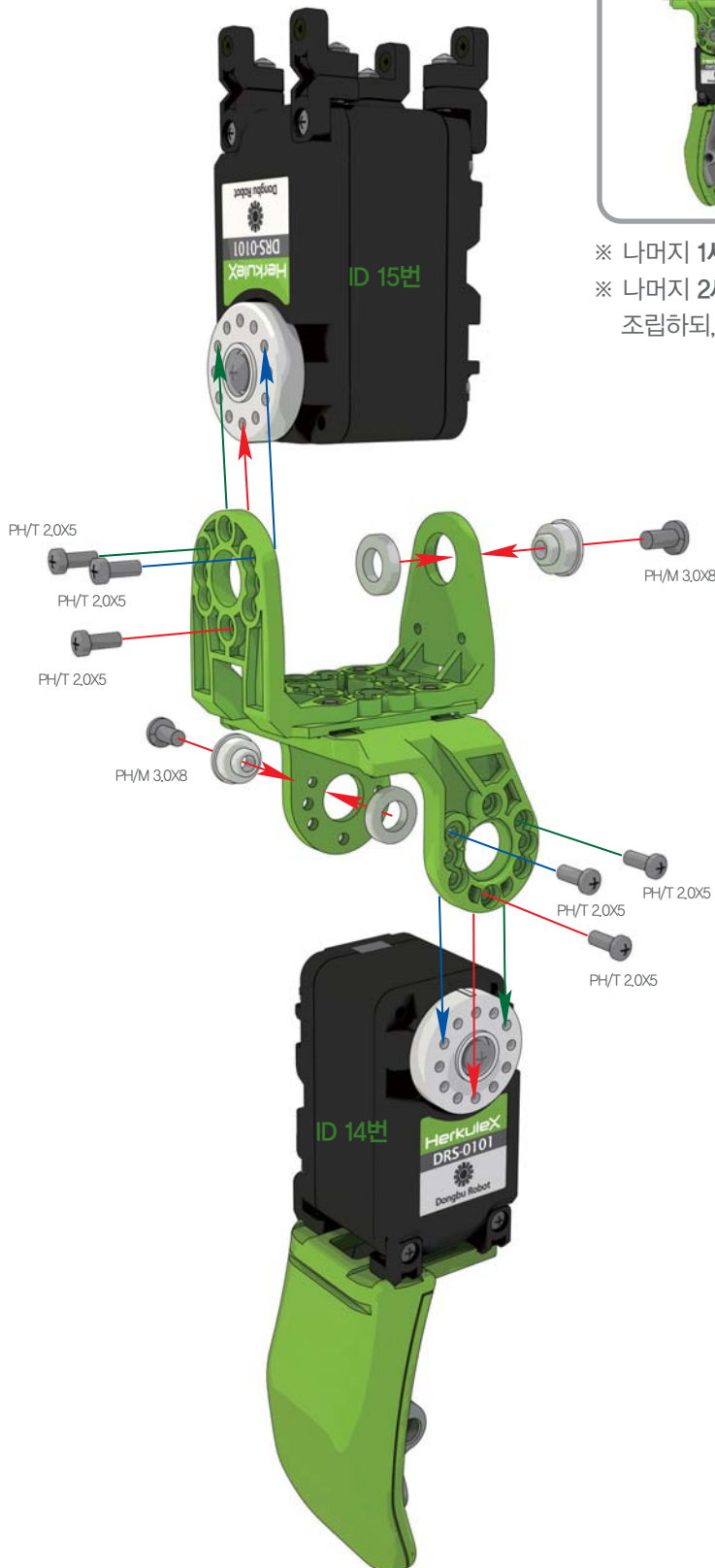
사용부품



1:1 SCALE



※ 나머지 1세트(ID 10번, 12번)도 동일한 방법으로 조립합니다.  
※ 나머지 2세트(ID 3번, 8번), (ID 11번, 13번)도 동일한 방법으로 조립하되, 조립체가 대칭방향이 되도록 조립합니다.





# 호비스 라이트 응용모델 조립 매뉴얼

## 9자유도 4족 인체감지 보행로봇

(인체감지센서, 거리센서, LED센서 활용)

# HOVIS Lite

### 사용부품

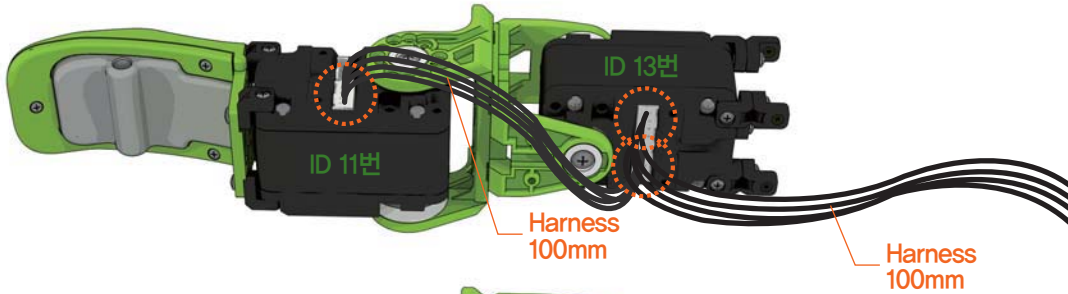


DRA-0003  
Harness (100mm) 6개

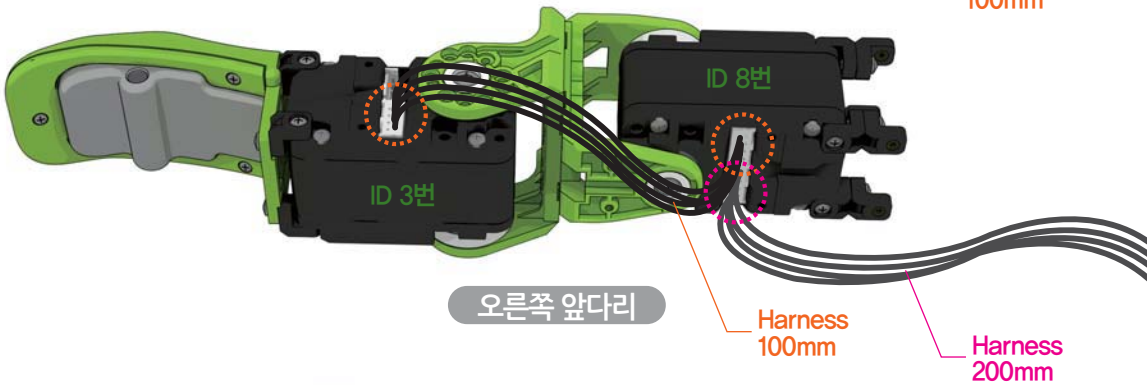


DRA-0006  
Harness (200mm) 2개

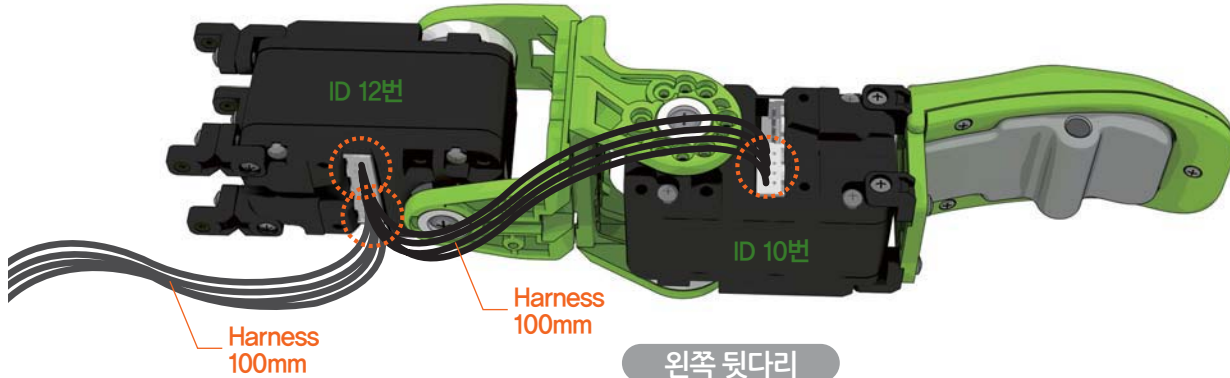
### 오른쪽 뒷다리



### 오른쪽 앞다리



### 왼쪽 뒷다리



### 왼쪽 앞다리



# 호비스 라이트 응용모델 조립 매뉴얼

## 9자유도 4족 인체감지 보행로봇

(인체감지센서, 거리센서, LED센서 활용)

# HOVIS Lite

### 사용부품



**DRA-0056**  
Bolt (PH/M 2.0X4)

8개



**DRA-0058**  
Bolt (PH/M 2.0X6)

2개



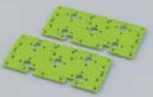
**DRJ-0001**  
L-type Joint  
(Single Nut)

2개



**DRJ-0002**  
L-type Joint  
(Double Nut)

2개



**DRB-0001**  
Front / Back

2개

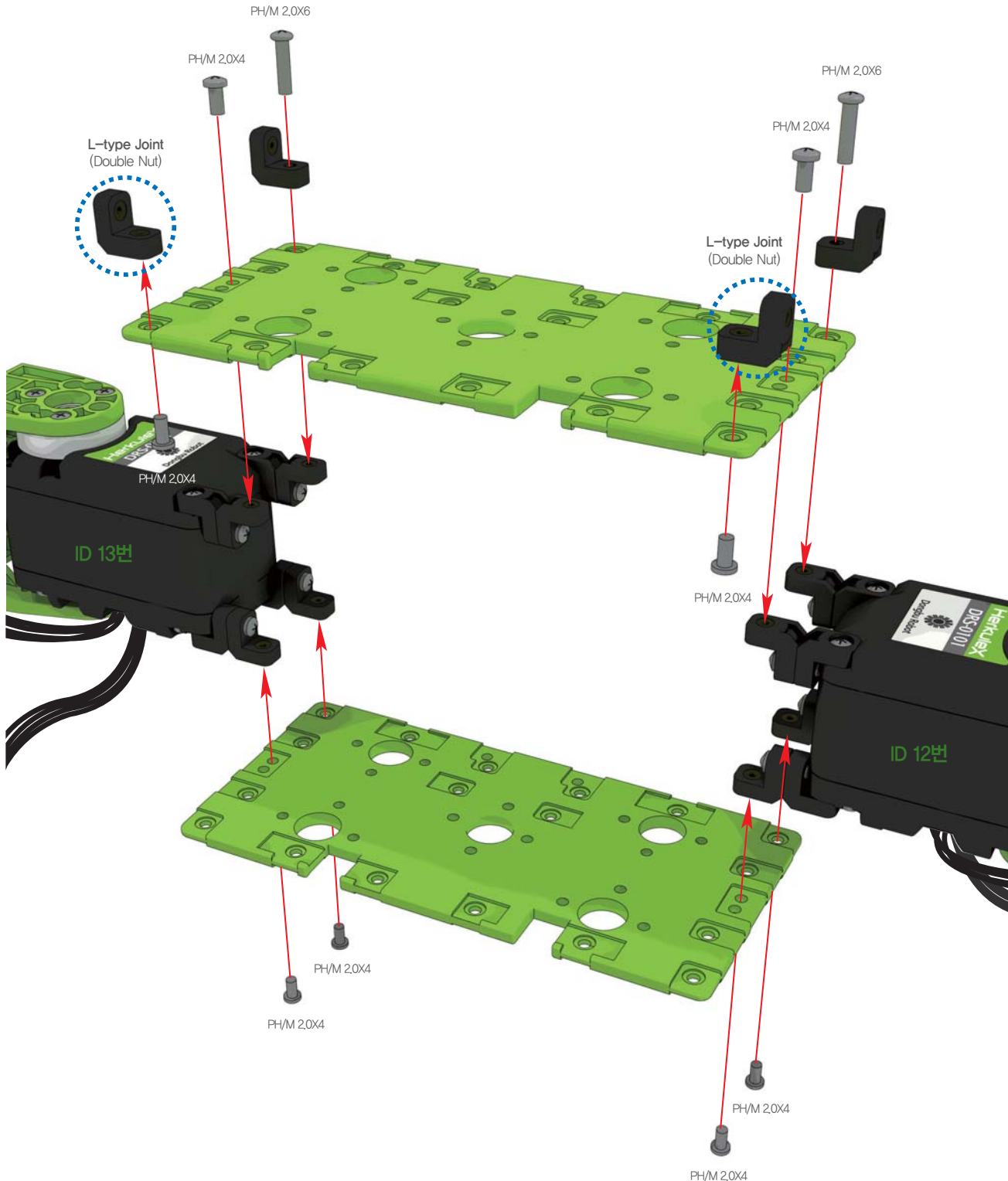
### 1:1 SCALE



PH/M 2.0X4



PH/M 2.0X6



사용부품



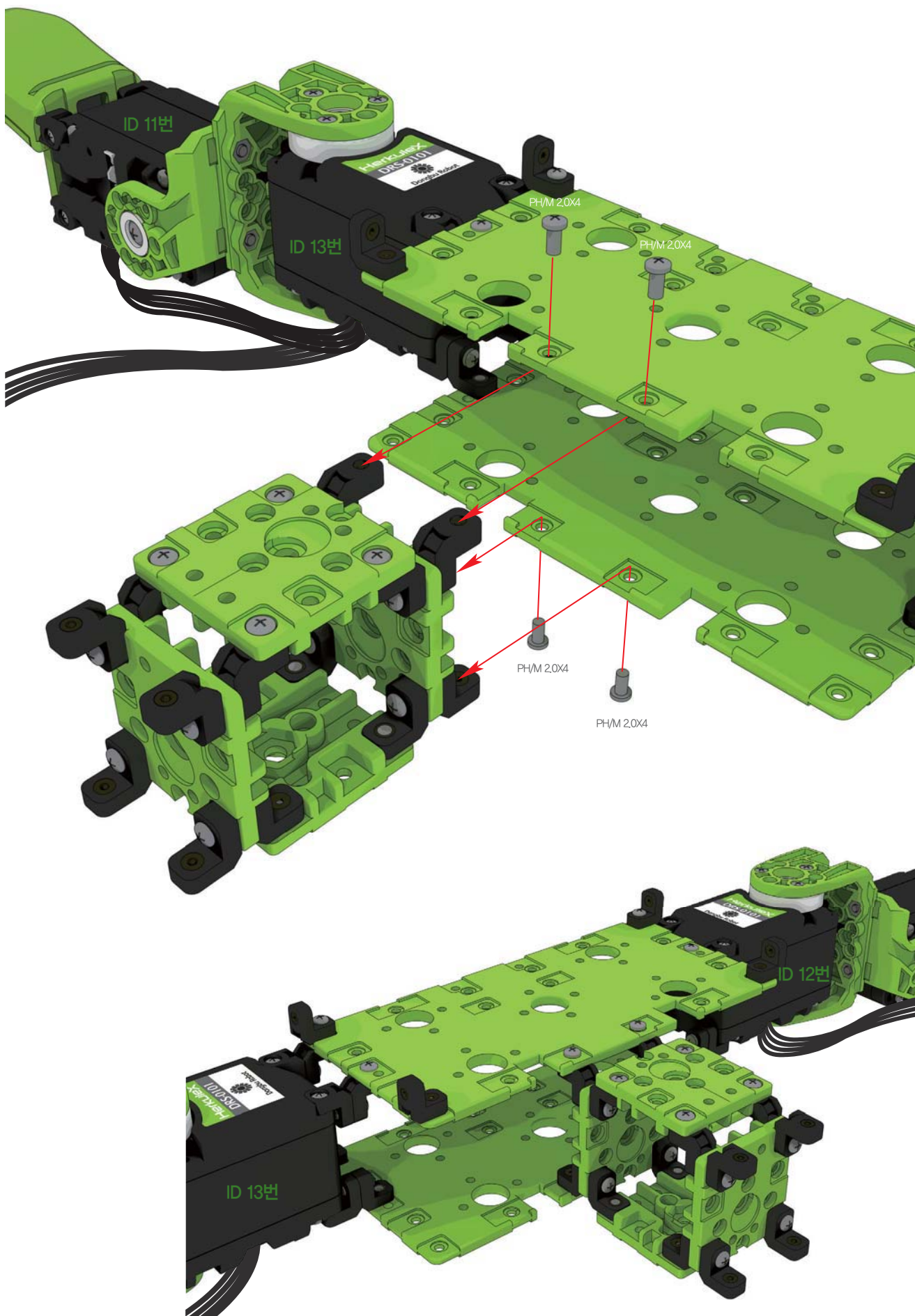
DRA-0056  
Bolt (PH/M 2.0x4)

4개

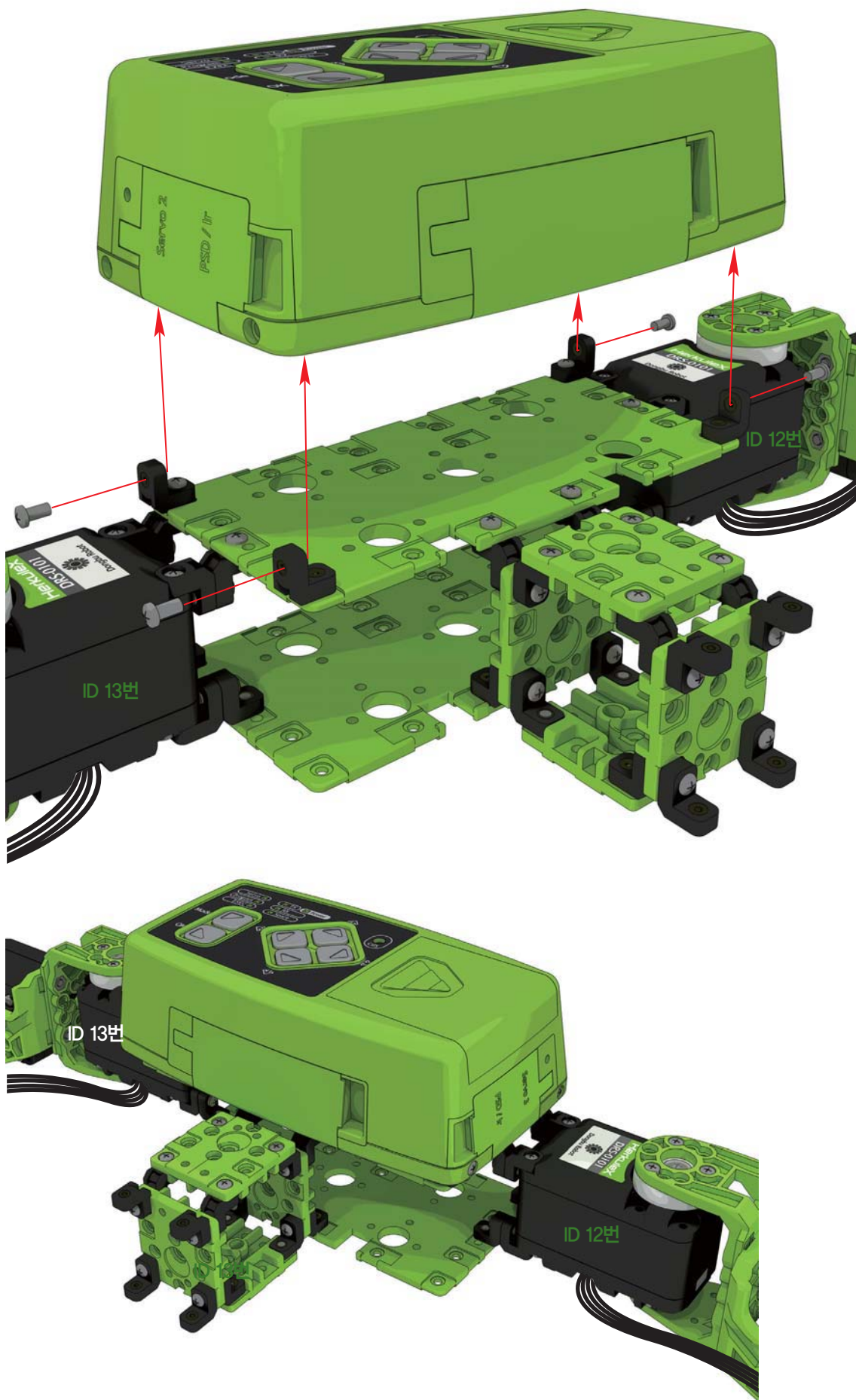
1:1 SCALE



PH/M 2.0x4







사용부품



DRA-0056  
Bolt (PH/M 2.0X4)

4개



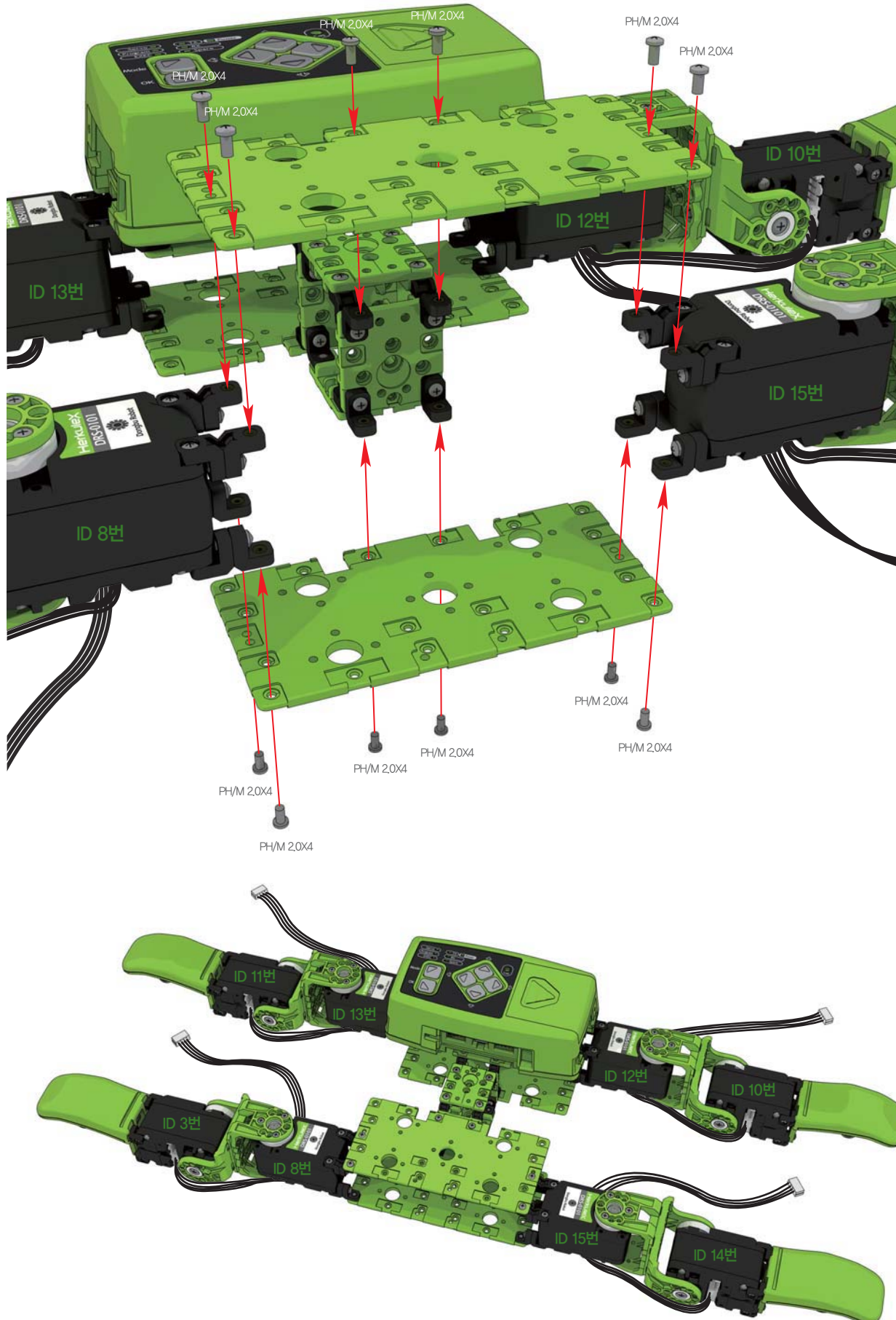
DRC-005T  
Controller

1개

1:1 SCALE



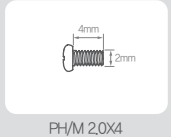
PH/M 2.0X4

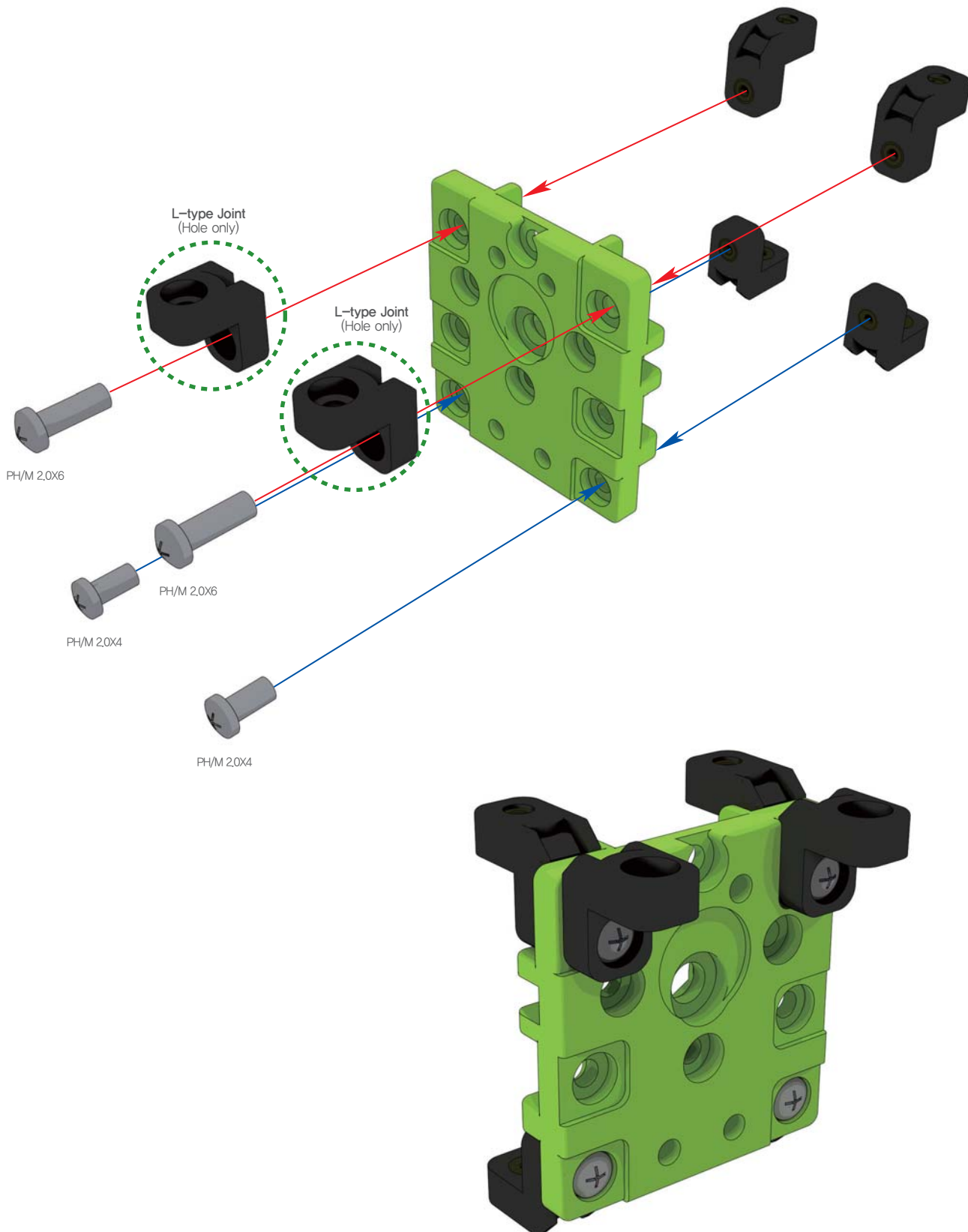


사용부품



1:1 SCALE





사용부품



DRA-0056  
Bolt (PH/M 2.0x4)

27개



DRA-0058  
Bolt (PH/M 2.0x6)

27개



DRJ-0002  
L-type Joint (Double Nut)

4개



DRJ-0003  
L-type Joint (Hole only)

2개



DRB-0004  
Universal Plate

1개

1:1 SCALE



PH/M 2.0x4



PH/M 2.0x6



사용부품



DRA-0056  
Bolt (PH/M 2.0x4)

4개



DRA-0058  
Bolt (PH/M 2.0x6)

4개



DRJ-0006  
I-type Joint  
(12.5mm, Double Nut)

4개



DRB-0007  
Battery Holder

1개

1:1 SCALE

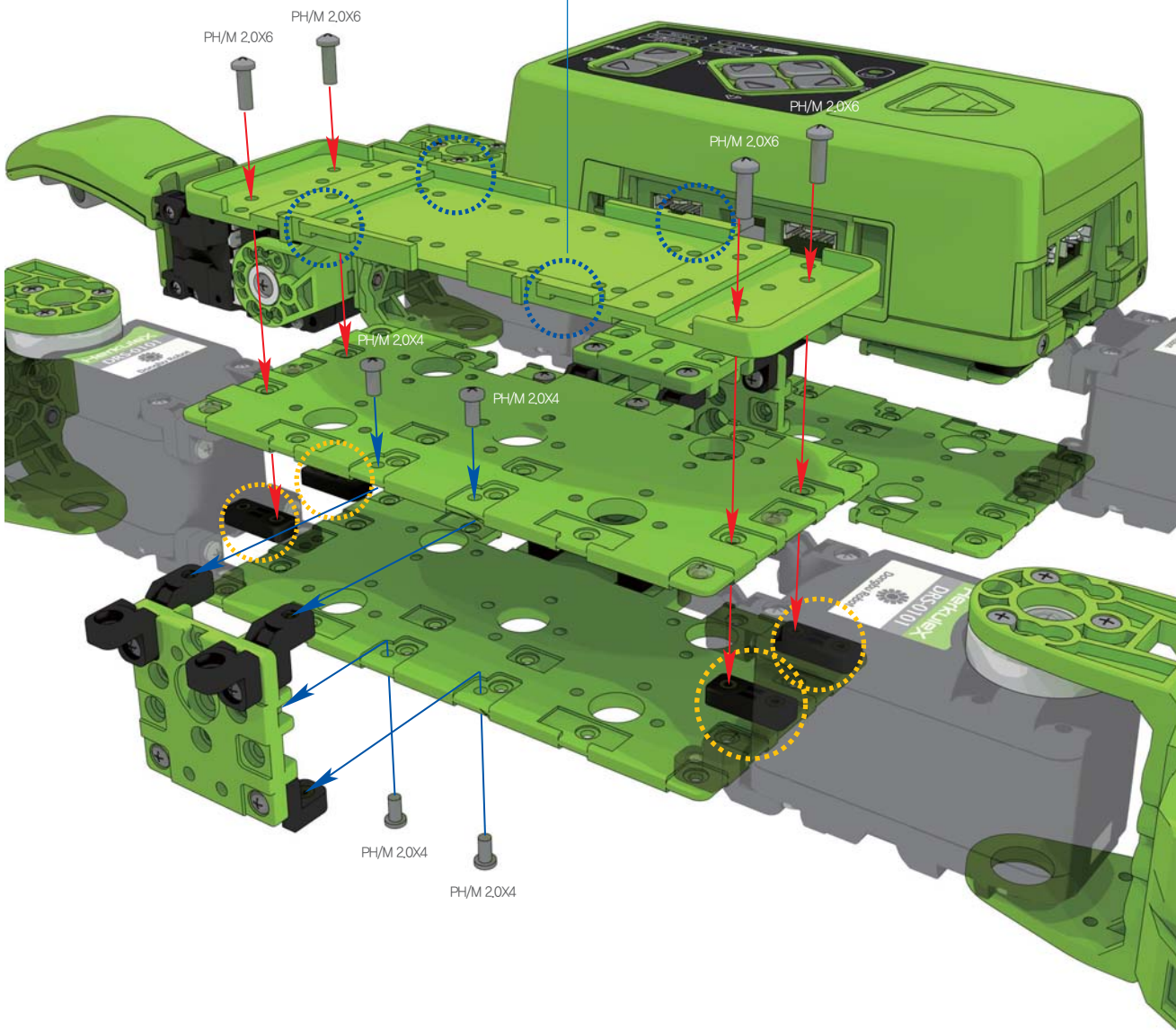


PH/M 2.0x4



PH/M 2.0x6

※ 배터리 홀더 설치 시 방향에 유의하여 주십시오. 그림에 표시된 부분의 형상을 잘 보고 조립을 해야만 적절한 배터리 장착이 가능합니다. 방향이 뒤바뀔 경우 배터리가 장착이 제대로 안되어, 배터리가 빠질 수 있습니다.



# 호비스 라이트 응용모델 조립 매뉴얼

## 9자유도 4족 인체감지 보행로봇

(인체감지센서, 거리센서, LED센서 활용)

# HOVIS Lite

### 사용부품



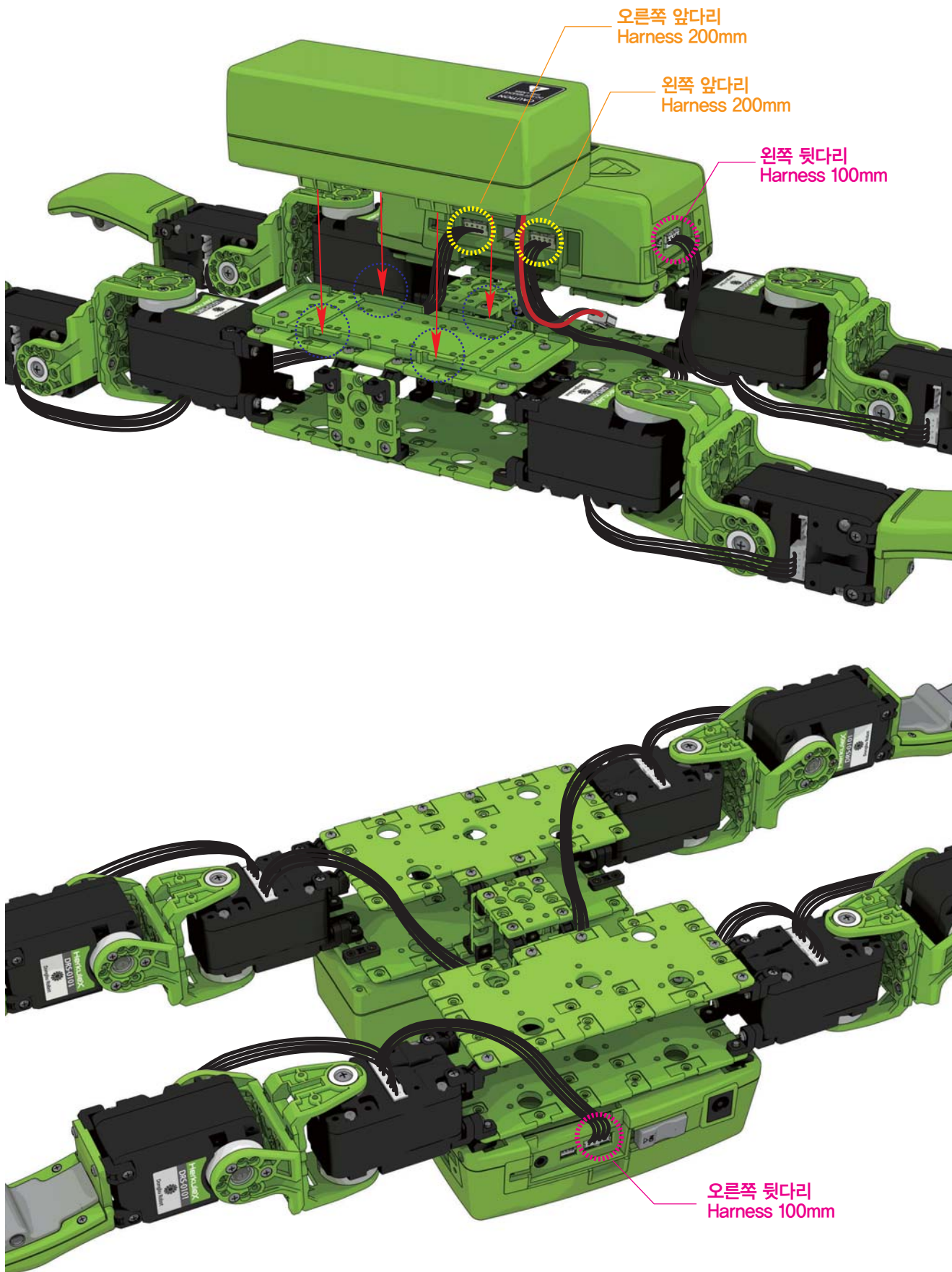
DRB-0007  
Battery Case

1개



DRL-0728  
7.4V Li-Po Battery  
(3,000mAh)

1개





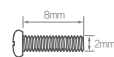
사용부품



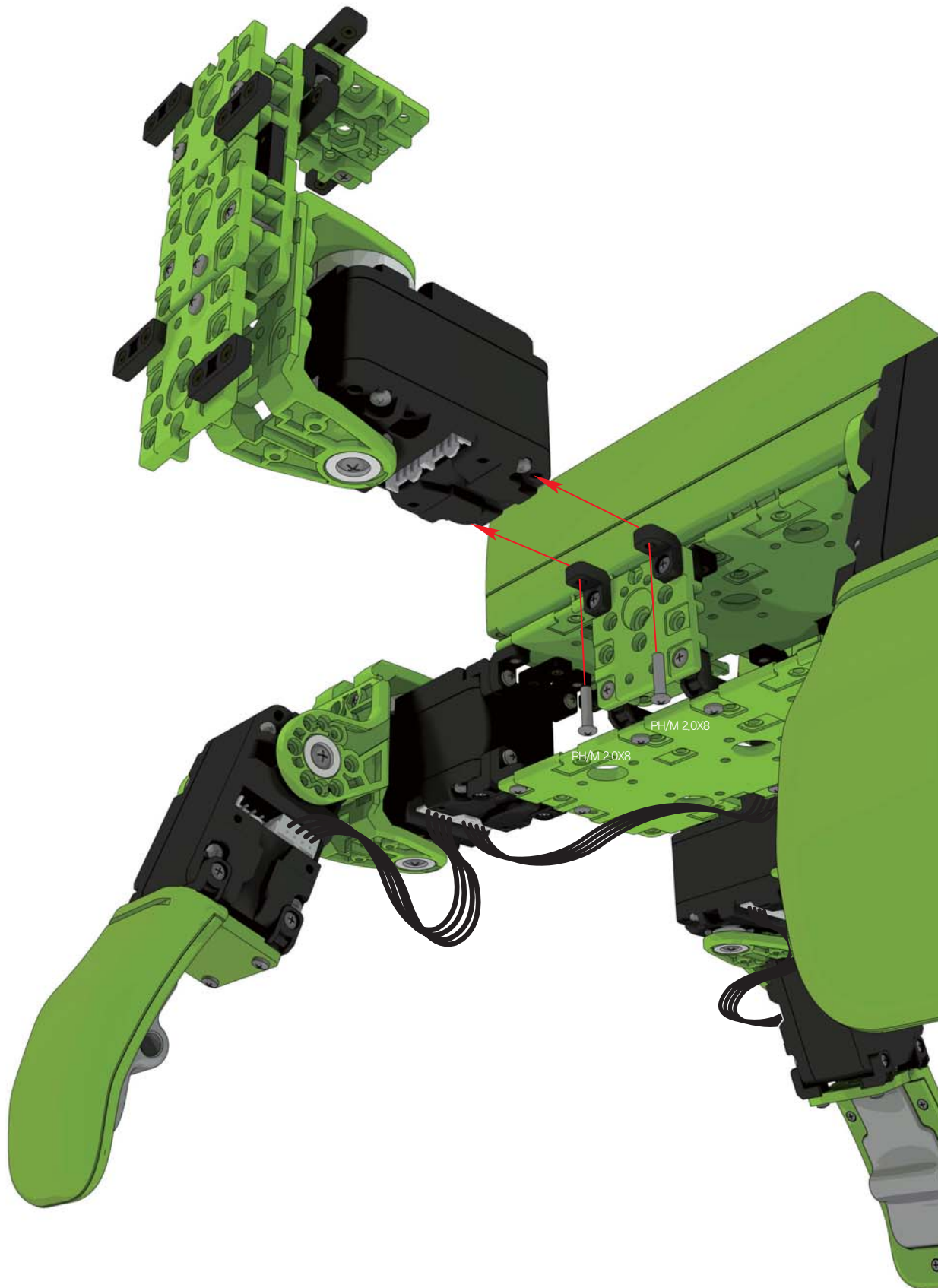
DRA-0059  
Bolt (PH/M 2.0x8)

2개

1:1 SCALE



PH/M 2.0x8



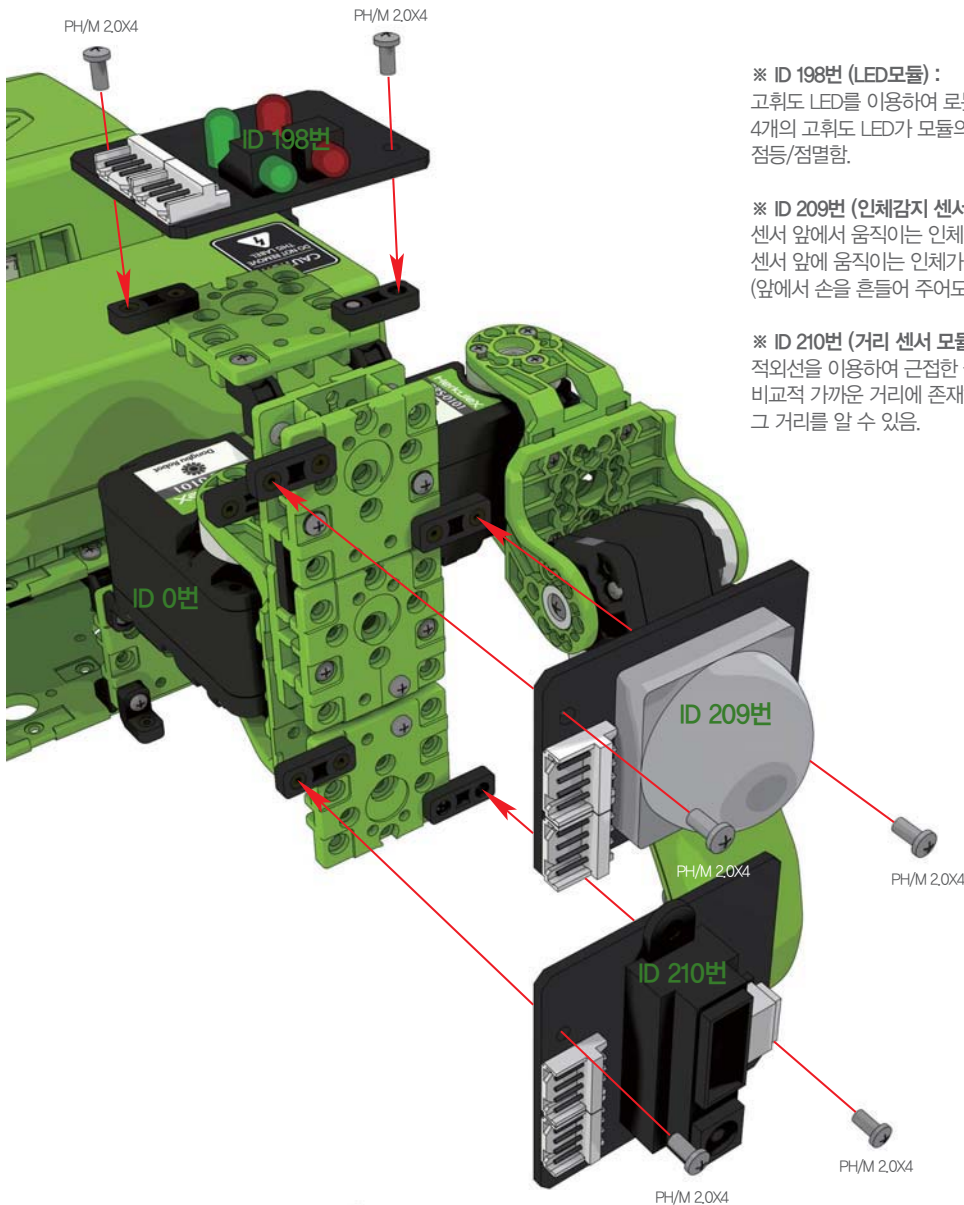


# 호비스 라이트 응용모델 조립 매뉴얼

## 9자유도 4족 인체감지 보행로봇

(인체감지센서, 거리센서, LED센서 활용)

# HOVIS Lite



### ※ ID 198번 (LED모듈) :

고휘도 LED를 이용하여 로봇의 상황을 알려주는 액츄에이터. 4개의 고휘도 LED가 모듈의 전면과 측면에 위치하여 개별적으로 점등/점멸함.

### ※ ID 209번 (인체감지 센서 모듈) :

센서 앞에서 움직이는 인체 감지가 가능한 센서. 센서 앞에 움직이는 인체가 나타나면 검출되어 알려줌. (앞에서 손을 흔들어 주어도 반응.)

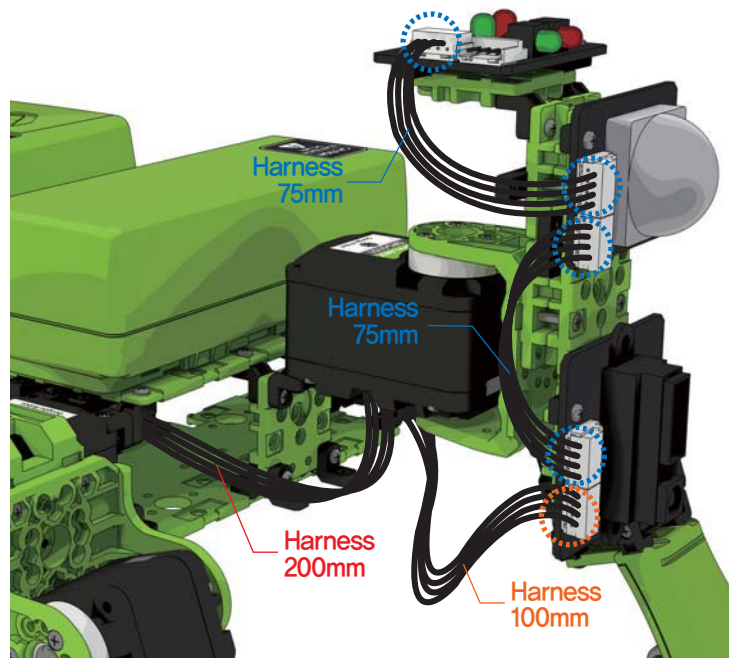
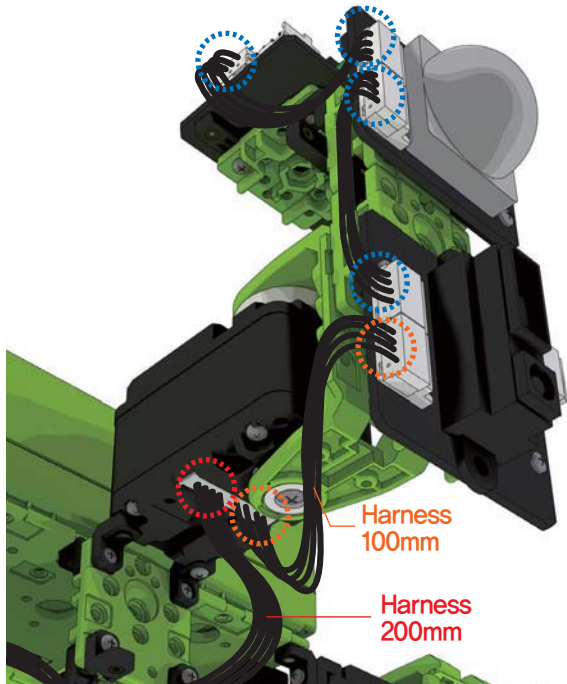
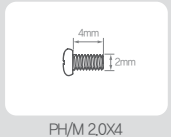
### ※ ID 210번 (거리 센서 모듈) :

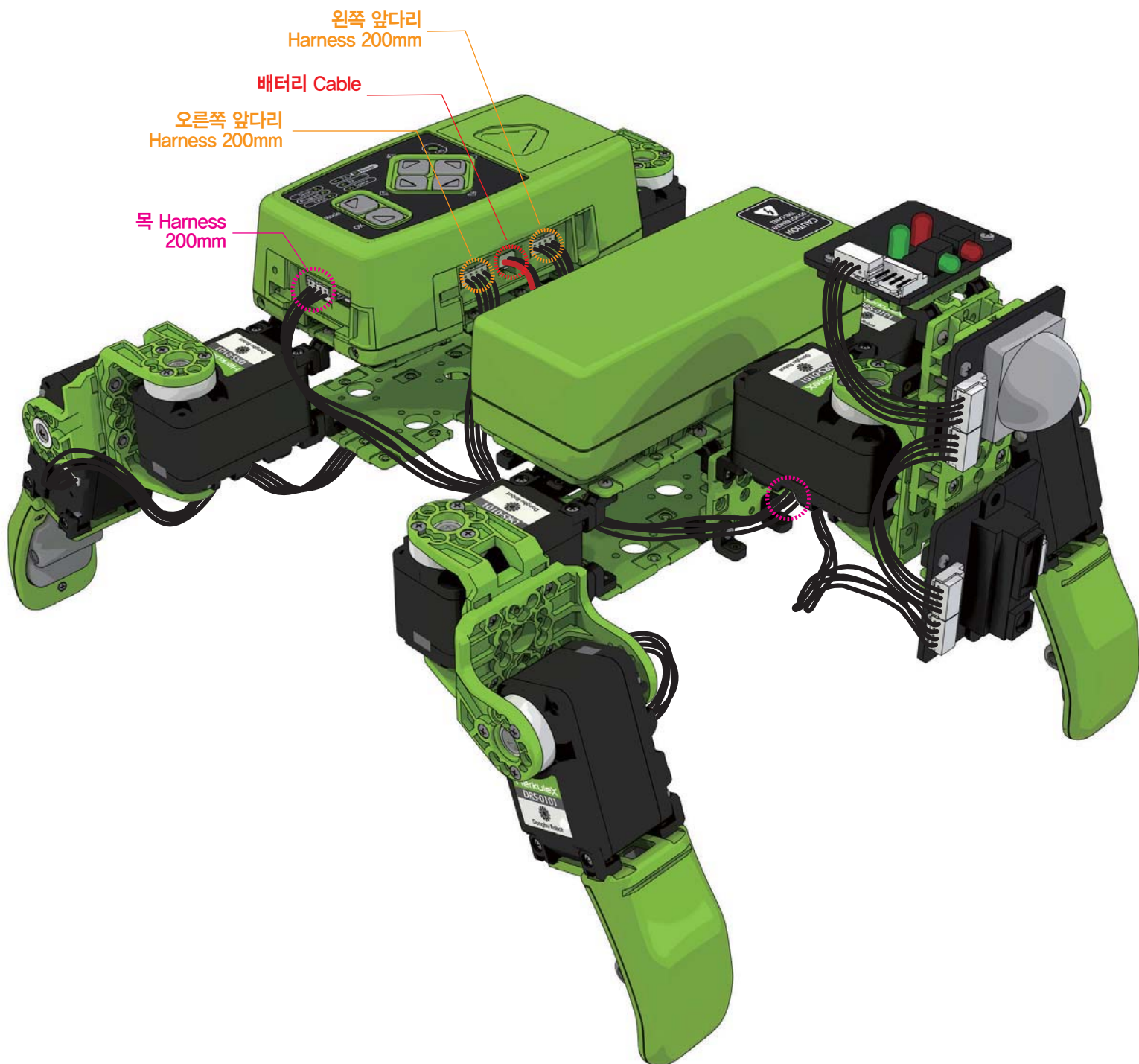
적외선을 이용하여 근접한 물체나 벽과 같은 장애물을 감지하는 센서. 비교적 가까운 거리에 존재하는 장애물(물체, 벽)들을 찾아 내고, 그 거리를 알 수 있음.

### 사용부품



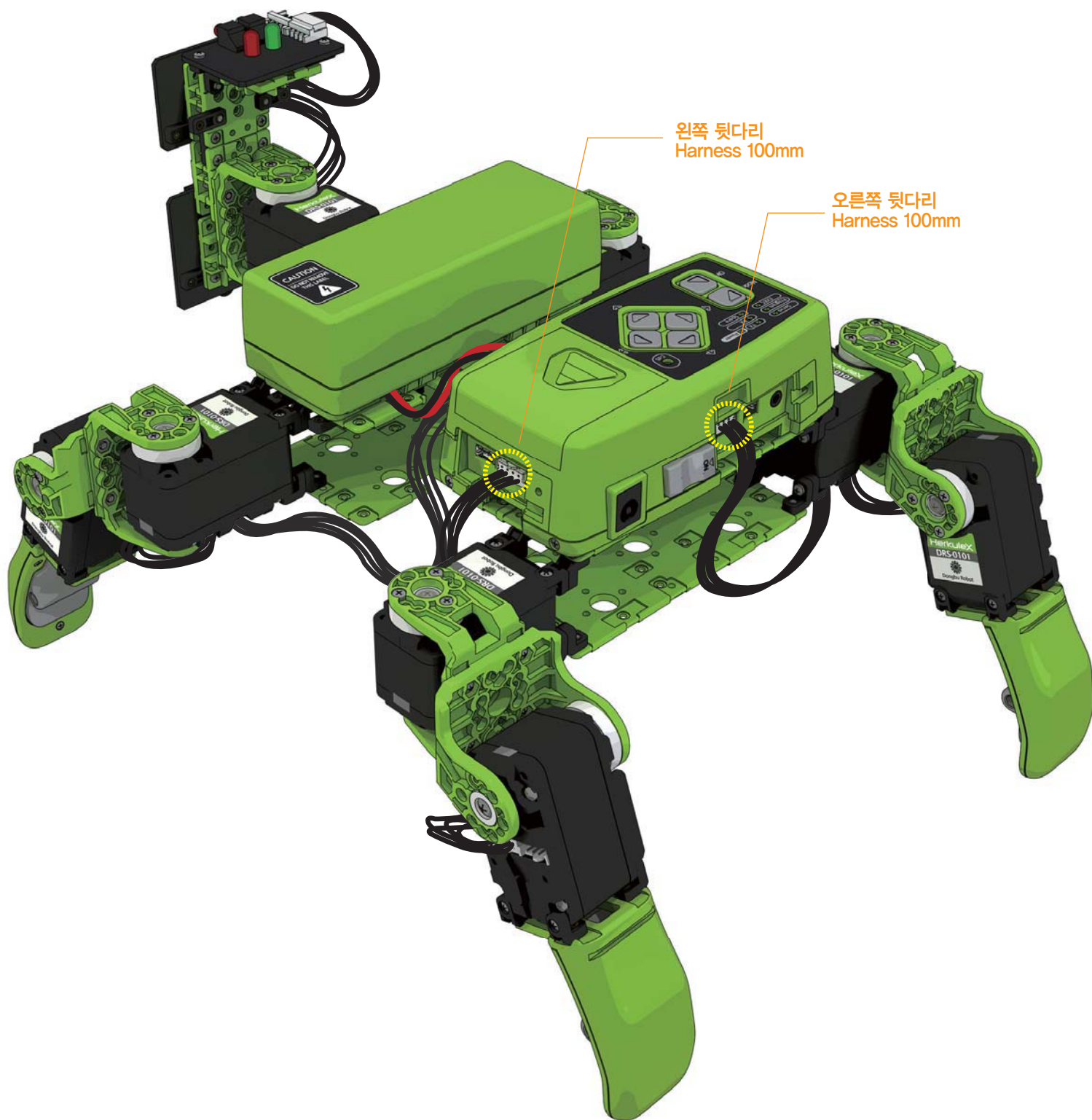
### 1:1 SCALE





최종완성





최종완성