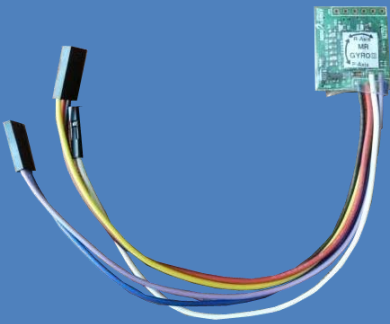# User's Guide Ver 1.1

Beyond Robot

Gyro Sensor
MR-GYRO III

MINI ROBOT
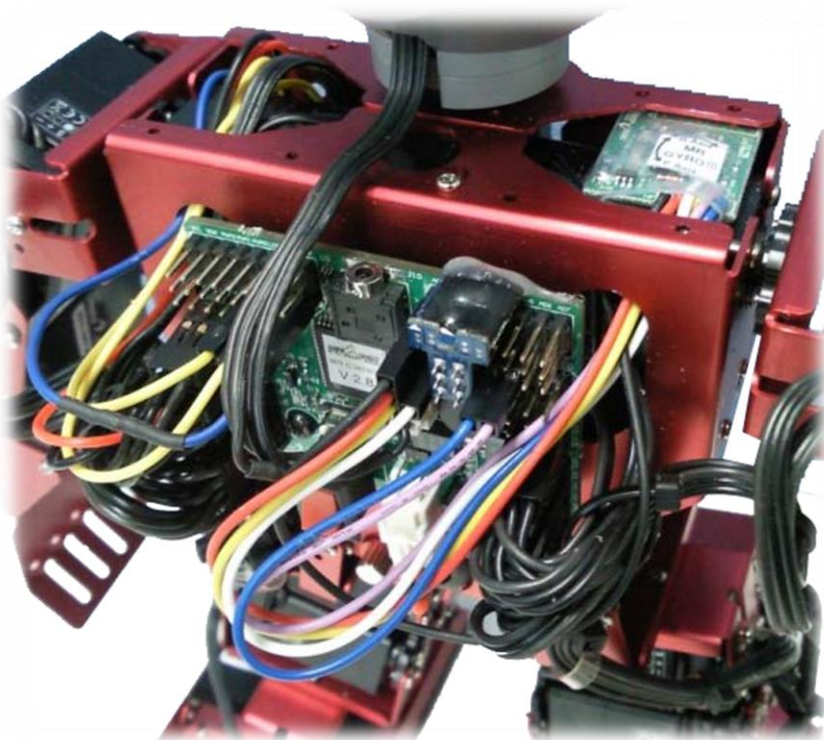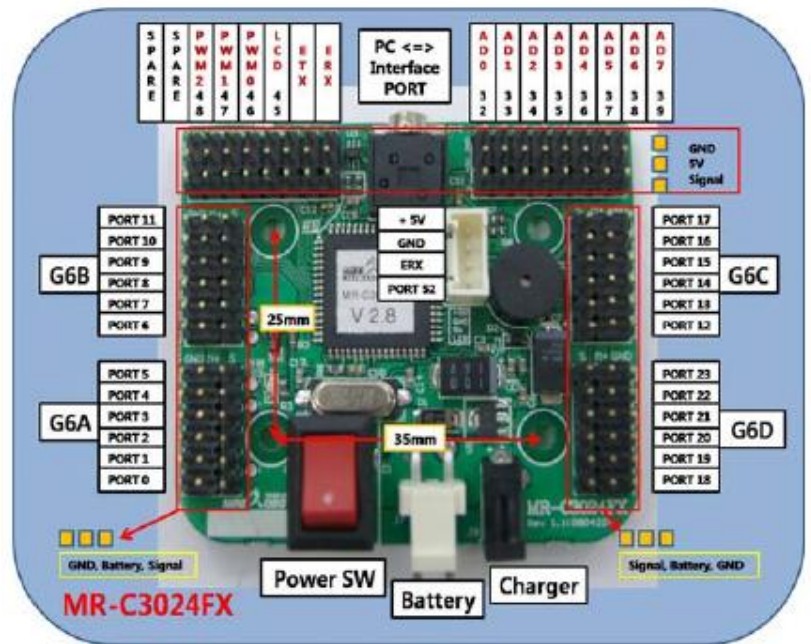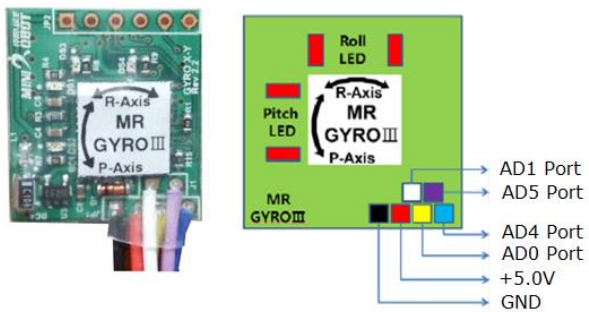**MINI ROBOT Corp.**

1. Introduction

Gyro sensor named MR-GYRO III is 2 axial, which can be installed into MR-C3024 board series
It is easy setup and high performance which can enhance the robot stability

MR-GYRO III

2. Wiring with MR-C3024FX

- AD1 Port
- AD5 Port
- AD4 Port
- AD0 Port
- +5.0V
- GND
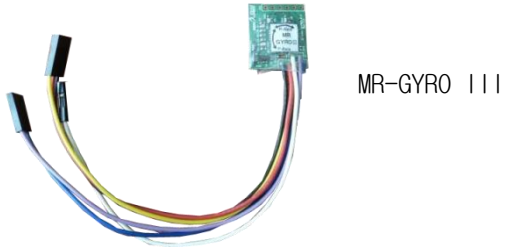
MR-GYRO III Cable connection

3. roboBasic Gyro sensor command

명령어	설명
GYRODIR	Gyro direction : Deciding the direction of motor travel
GYROSET	Gyro Setup : Deciding the channel of gyro sensor for each motor
GYROSENSE	Gyro sensitivity : Deciding the sensitivity of gyro sensor for each motor

4. Setup the program in roboBASIC

 1) Deciding the direction of motor travel, if you decide once, not need to reset.

```
GYRO_INIT:
GYRODIR G6A, 0, 0, 0, 0, 1
GYRODIR G6D, 1, 0, 0, 0, 0

RETURN
```

 2) Deciding the channel of gyro sensor for each motor, MR-GYRO III is 2 axial so that you may use 1,2

    It can be used as On/Off as well

```
GYRO_ON:
GYROSET G6A, 2, 1, 1, 1,
GYROSET G6D, 2, 1, 1, 1,
RETURN
GYRO_OFF:
GYROSET G6A, 0, 0, 0, 0, 0
GYROSET G6D, 0, 0, 0, 0, 0

RETURN
```

 3) Deciding the sensitivity of gyro sensor for each motor, you need to set the sensitivity for each

    motor with your choice within the range of 0 ~ 255

```
GYRO_MAX:
GYROSENSE G6A,255,255,255,255
GYROSENSE G6D,255,255,255,255
RETURN
GYRO_MID:
GYROSENSE G6A,255,100,100,100
GYROSENSE G6D,255,100,100,100
RETURN
```

```
GYRO_MIN:
GYROSENSE G6A,100,50,50,50,50
GYROSENSE G6D,100,50,50,50,50
RETURN
GYRO_ST:
GYROSENSE G6A,100,30,20,10,
GYROSENSE G6D,100,30,20,10 ,
RETURN
```

주의사항:

 ● We recommend to turn off Gyro function when the robot is sitting

 ● You need to find the better sensitivity according to each action of robot

- Reference : MR-GYROIII

Wire Color	Wire Function	AD Port	AD Port Pin	MR-C3024FX Port	Gyro Sensor # GYROSET command	Gyro Port Function
Black	GND	AD0	GND	32		
Red	+5V	AD0	+5V	32		
Yellow	Pitch Axis, Basic Signal X	AD0	Signal	32	1	Output port
White	Roll Axis, Basic Signal Y	AD1	Signal	33	2	Output port
		AD2	Signal	34	3	Output port
		AD3	Signal	35	4	Output port
Blue	Pitch Axis, Result X	AD4	Signal	36	1	Input port
Purple	Roll Axis, Result Y	AD5	Signal	37	2	Input port
		AD6	Signal	38	3	Input port
		AD7	Signal	39	4	Input port

When gyro installing direction and position is like left photo, the value is in the table