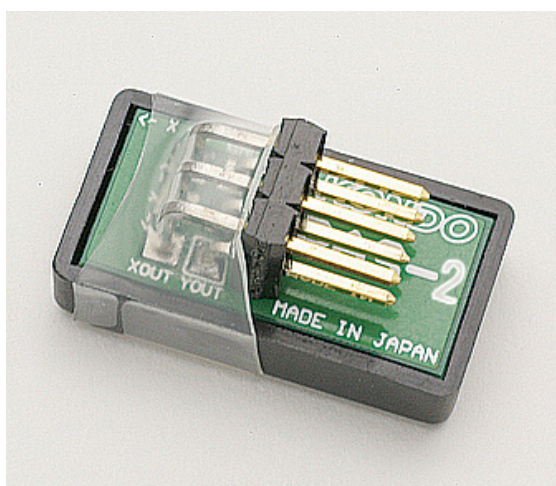


Acceleration sensor

RAS-1 / RAS-2

for KHR-1HV



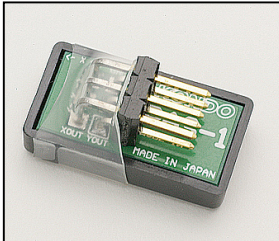
©2005 KONDO KAGAKU CO.,LTD

Acceleration sensor

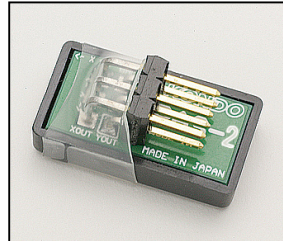
Automatic judgment of direction to get up with acceleration sensor input

You can use it in order to judge the divergence by setting the variation of the sensor input as limit values. For example, the acceleration sensor will determine the direction to get up after the robot falls down.

Two axis acceleration sensor
RAS-1

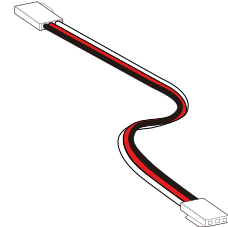


Two axis acceleration sensor
RAS-2



or

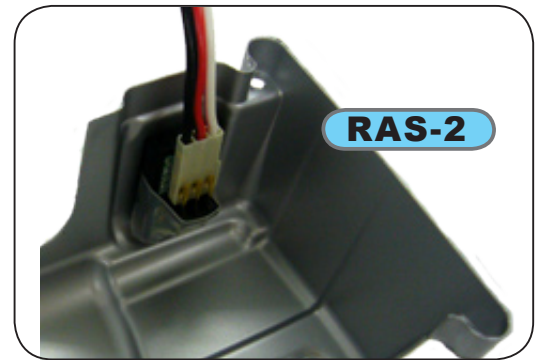
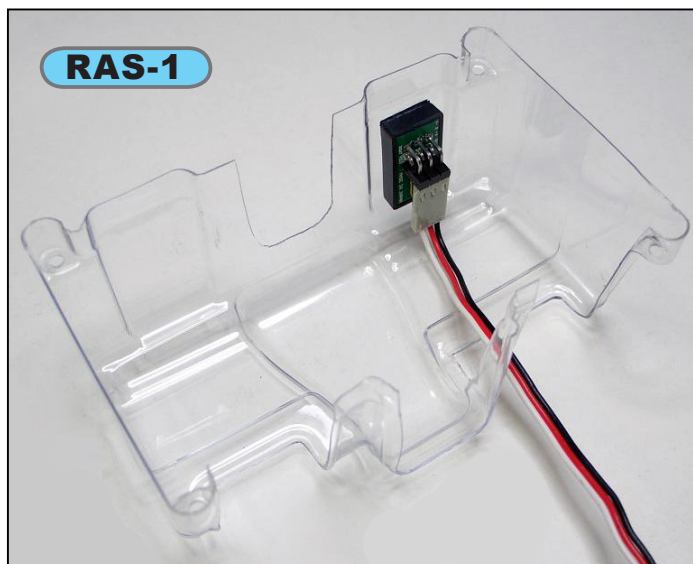
Cable 100mm (option)



This product ends production in
December, 2006.

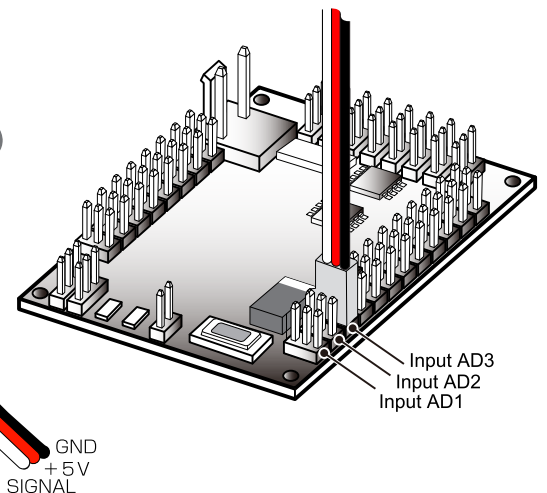
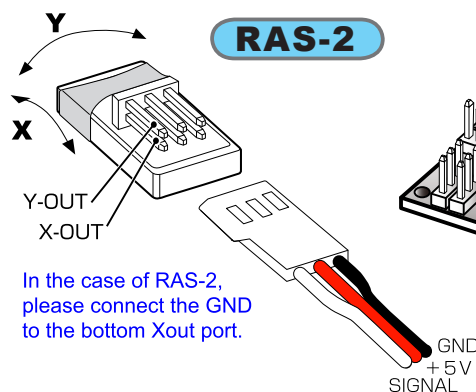
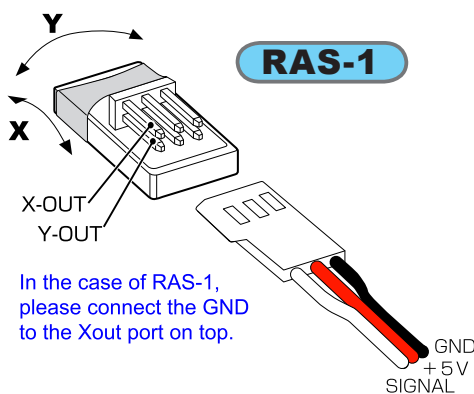
Installation method

1



The sensor is fixed to the board cover with
the double-faced tape as shown in the photograph.

2 The connection between the sensor Xout port to the Analog (AD3) port on
RCB-3.



Setting procedure

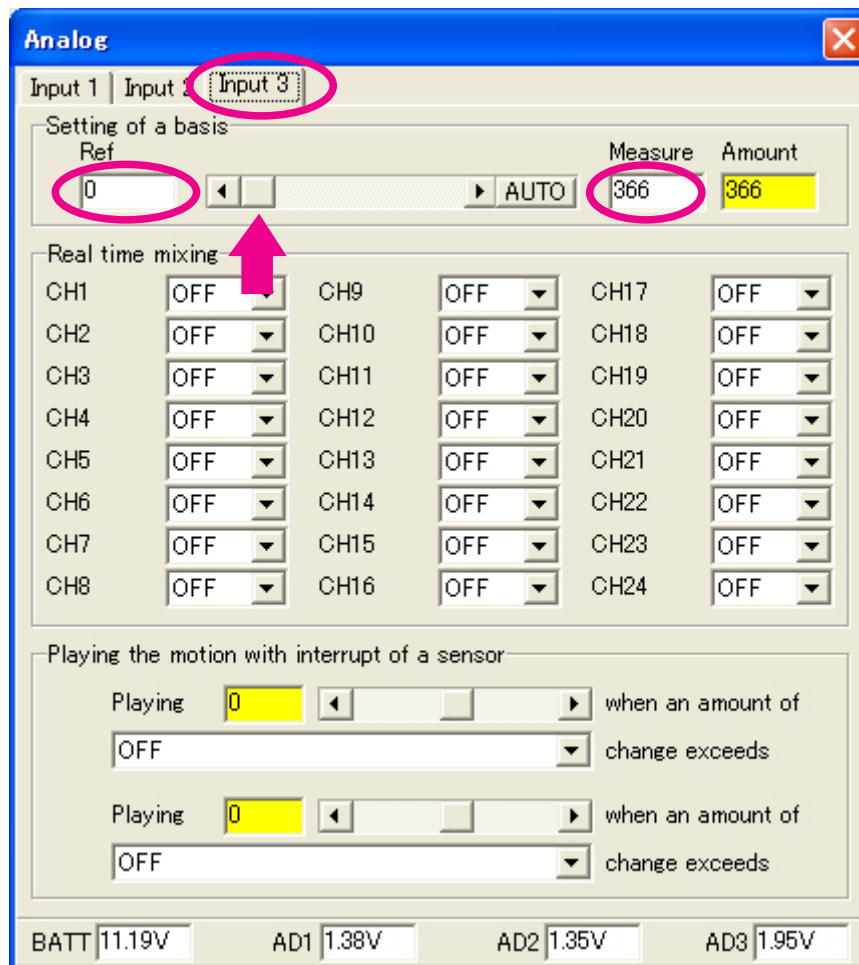
1 Connection between RCB-3 and the PC

Click on the analog icon , the analog window opens.

Click on AD3 Tab.

If you connect correctly the sensor, the AD3 tab will appear as in the figure below.

To continue, click on the slide bar to set the standard value to 0.



Check

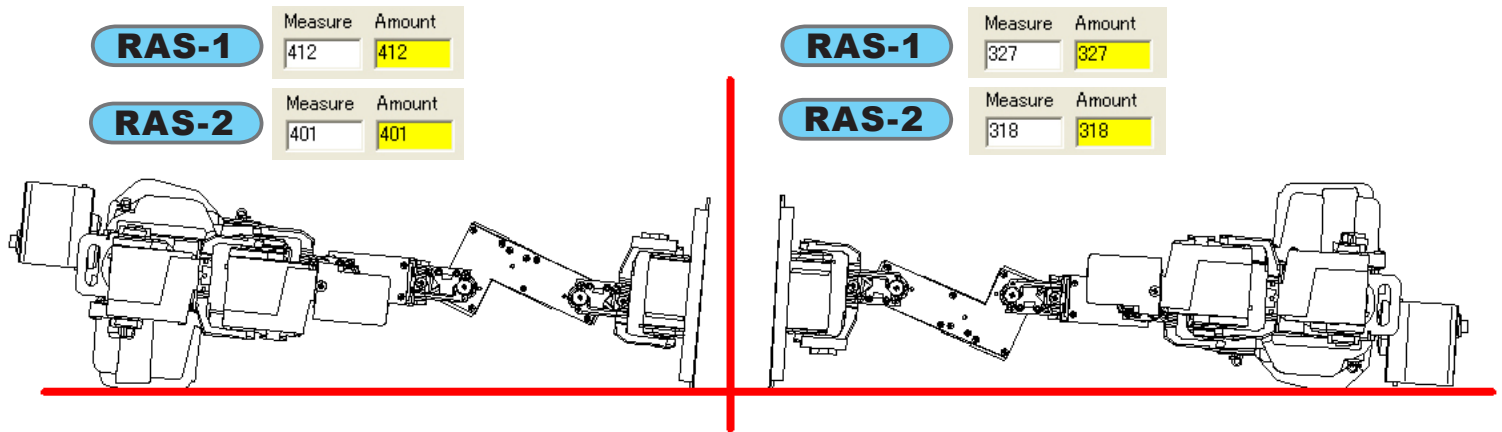


If the RCB-3 is not correctly connected to the PC, the analog window won't open.

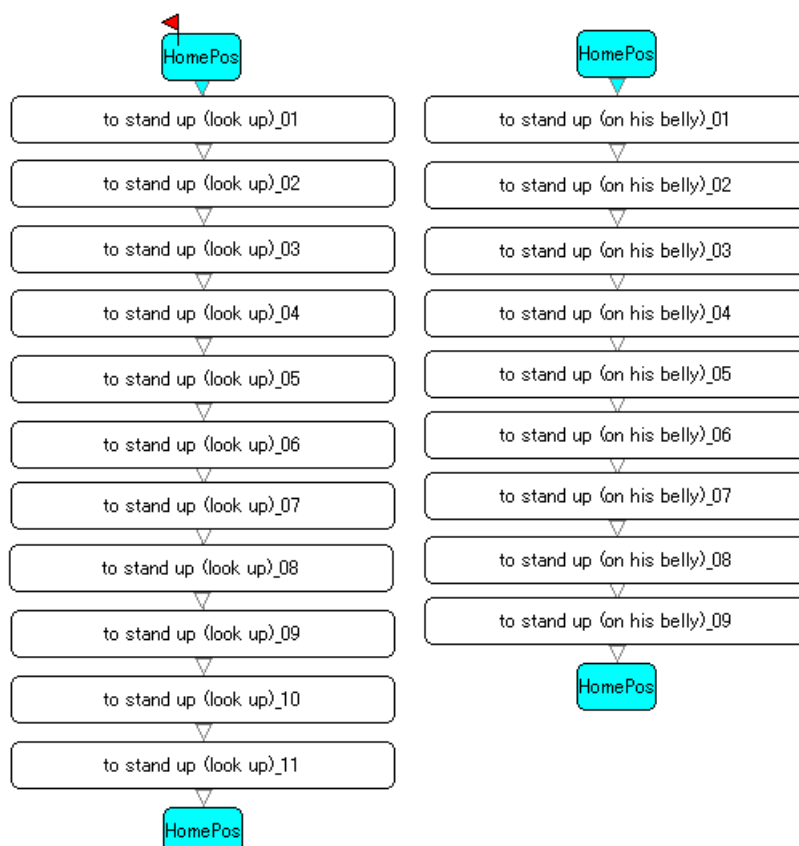
Acceleration sensor

2 As in the figure below, confirm each “measure” values and each “amount” values, when the robot face up and when he is on his belly.

Please close the window when you finish to register the data.



3 For example, for KHR-1HV use, load the Sample motion “1HV009_ to stand up (look up). RCB” and “1HV010_ to stand up (on his belly) .RCB” , and arrange them on the data sheet as in the figure below.



Acceleration sensor

- 4** Arrange a SET1 object on top of the data sheet, double-click on it and the window will open. There, on the Comparison Register enter **400** (if you use RAS-1) or **390** (if you use RAS-2). (The border value is the previous measured value from which you subtract 10.)

The diagram shows a data sheet with two columns of actions. The left column contains 11 actions labeled 'to stand up (look up)_01' through 'to stand up (look up)_11'. The right column contains 9 actions labeled 'to stand up (on his belly)_01' through 'to stand up (on his belly)_09'. A 'HomePos' button is at the top of each column and at the bottom of the right column. A 'SET1' button is at the top left. A screenshot of the 'SET1' window is shown on the right, with the 'Comparison Register' value set to 400.

SET1

Other | Mixing |

- Set the value measured by teaching in the parameter
- Set the number of loops in the loop counter
- Set the number in the comparing resistor
- Amend the reference value of analog input

Turn the playing from r
Turn the playing from r
Switching of the senso
AD1 OFF
AD1 OFF
AD2 OFF
AD2 OFF
AD3 OFF
AD3 OFF

- 5** Arrange SET 2 object on top of the data sheet, double-click on it and the window will open. There, on the Comparison Register enter **335** (if you use RAS-1) or **130** (if you use RAS-2). (The border value is the previous measured value from which you add 10.)

The diagram shows a data sheet with two columns of actions. The left column contains 11 actions labeled 'to stand up (look up)_01' through 'to stand up (look up)_11'. The right column contains 9 actions labeled 'to stand up (on his belly)_01' through 'to stand up (on his belly)_09'. A 'HomePos' button is at the top of each column and at the bottom of the right column. A 'SET1' button is at the top left and a 'SET2' button is at the top right. A screenshot of the 'SET2' window is shown on the right, with the 'Comparison Register' value set to 335.

SET2

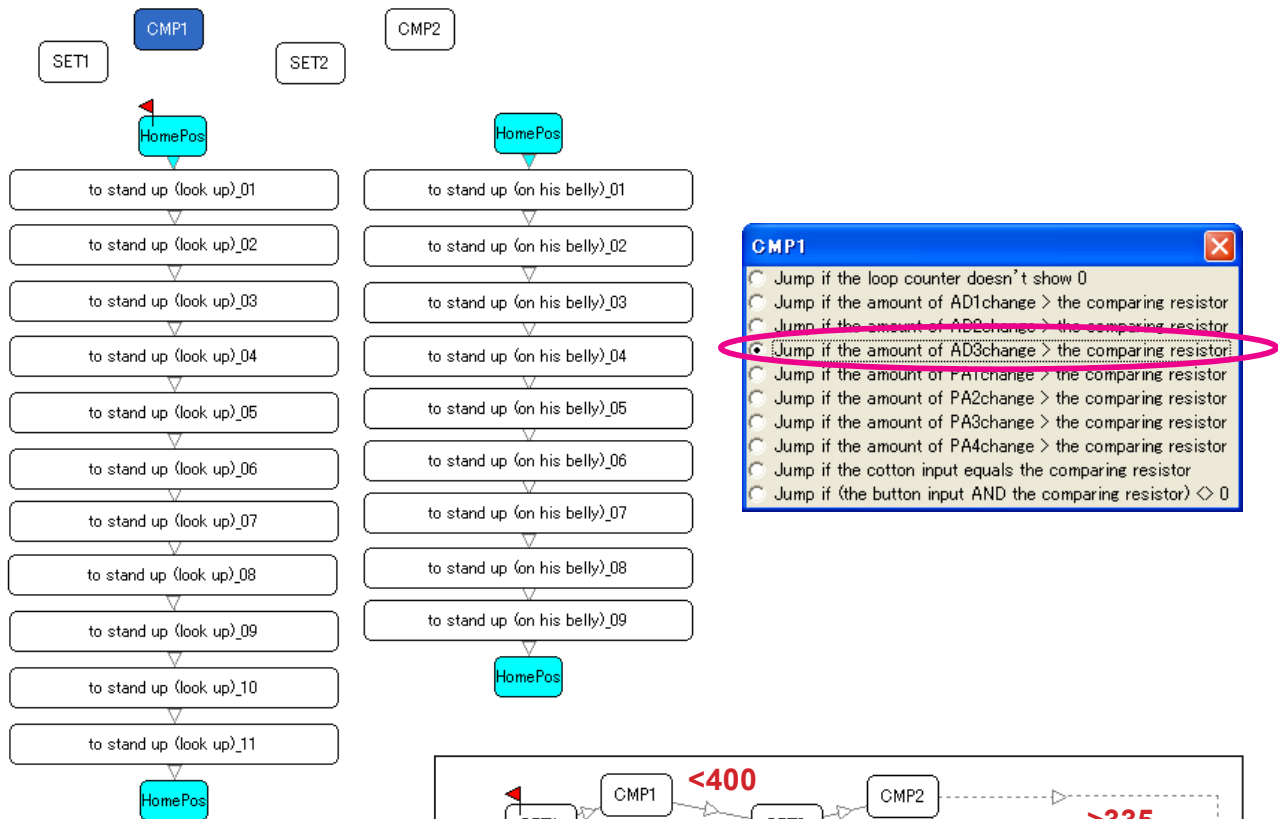
Other | Mixing |

- Set the value measured by teaching in the parameter
- Set the number of loops in the loop counter
- Set the number in the comparing resistor
- Amend the reference value of analog input

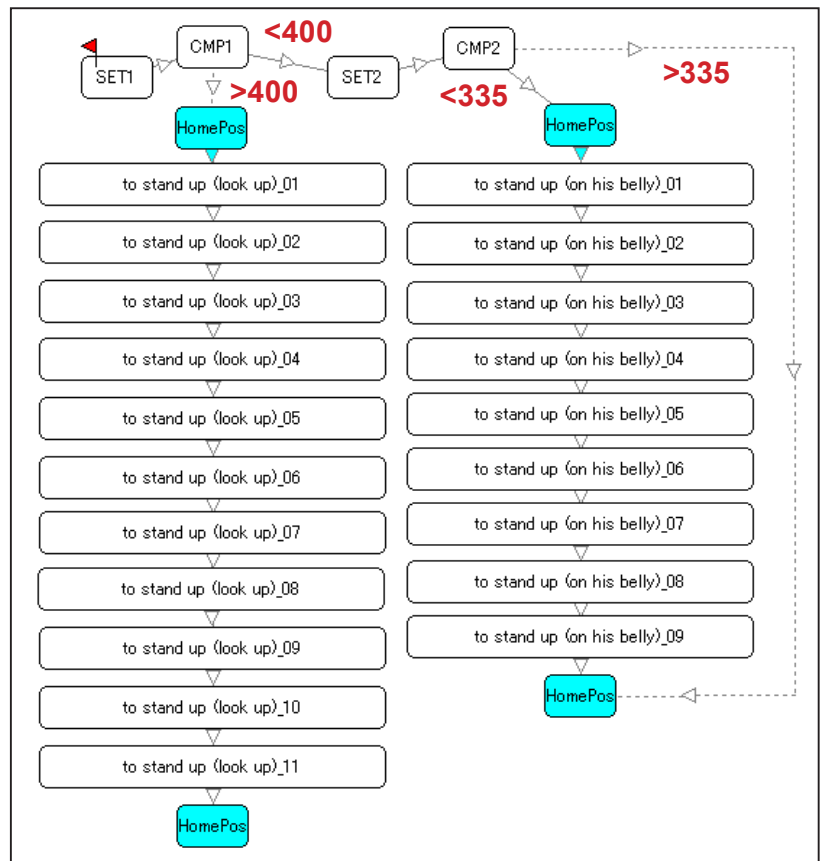
Turn the playing from rec
Turn the playing from rec
Switching of the sensor
AD1 OFF
AD1 OFF
AD2 OFF
AD2 OFF
AD3 OFF
AD3 OFF

Acceleration sensor

- 6** Arrange CMP1 object and CMP2 object on the top of the data sheet, double-click on both of them. There, in each window choose “Jump if the amount of AD3change > the comparing resistor”.



- 7** As in the right figure, wire the motions. SET1 is the start object.



- 8** RCB-3 will register the complete motions, and will reproduce the motions according to the direction on the data sheet.

If you have created the motions correctly, the position look up and on the belly will be performed.

So, please confirm if nothing wrong happens.



The value that you have set for the last Comparison register is a reference value. Actually, you can change the value depending on the situation you use the robot.

