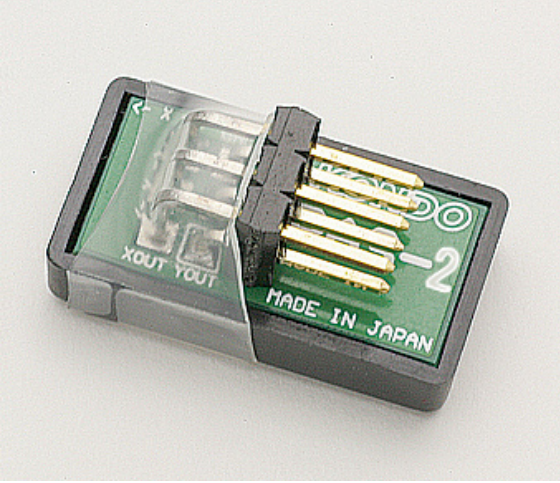
Acceleration sensor

RAS-1 / RAS-2

for KHR-1HV



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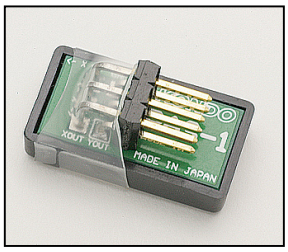
2008.01 Ver1.0

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.

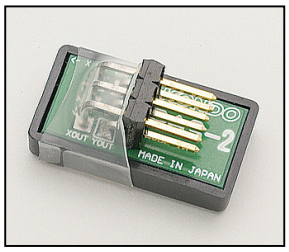
Two axis acceleration sensor
RAS-1



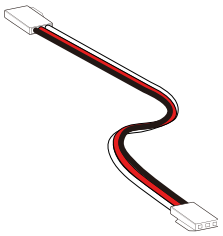
This product ends production in December, 2006.

or

Two axis acceleration sensor
RAS-2

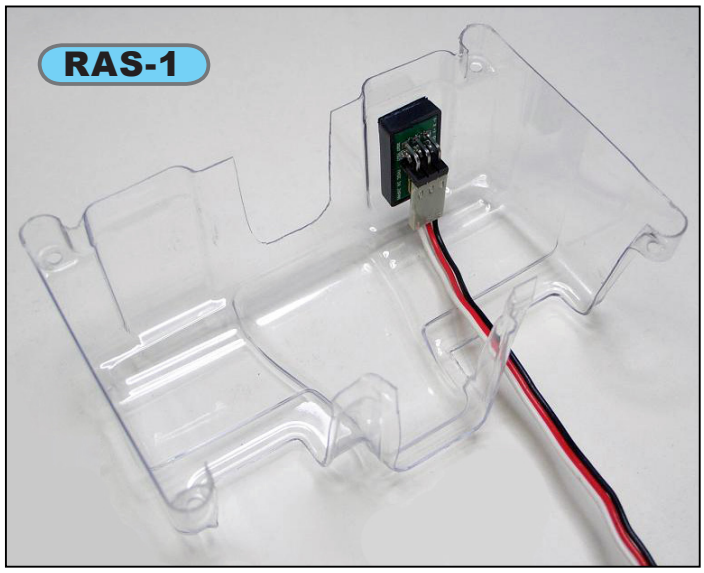


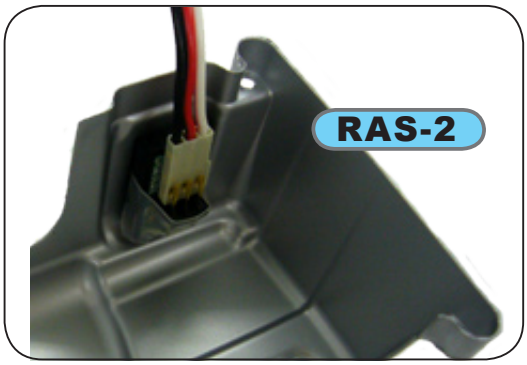
Cable 100mm (option)



Installation method

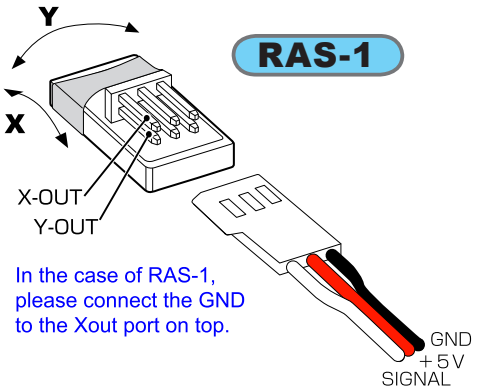
1



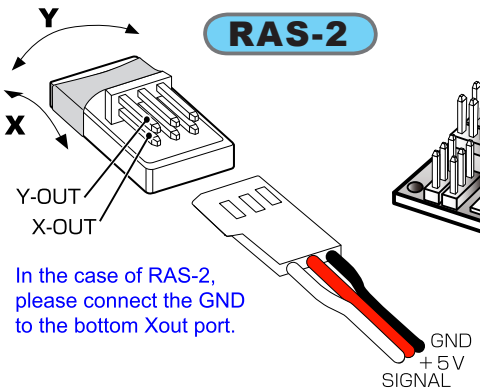


The sensor is fixed to the board cover with the double-faced tape as shown in the photograph.

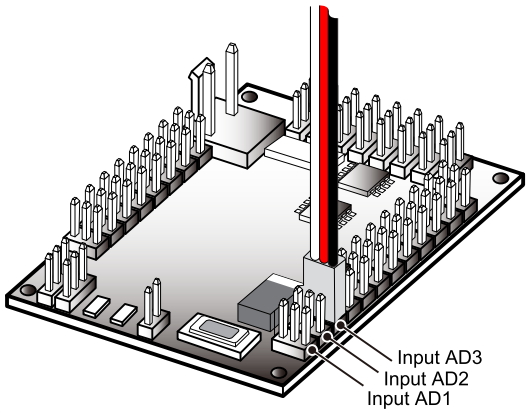
2 The connection between the sensor Xout port to the Analog (AD3) port on RCB-3.



In the case of RAS-1, please connect the GND to the Xout port on top.



In the case of RAS-2, please connect the GND to the bottom Xout port.



Setting procedure

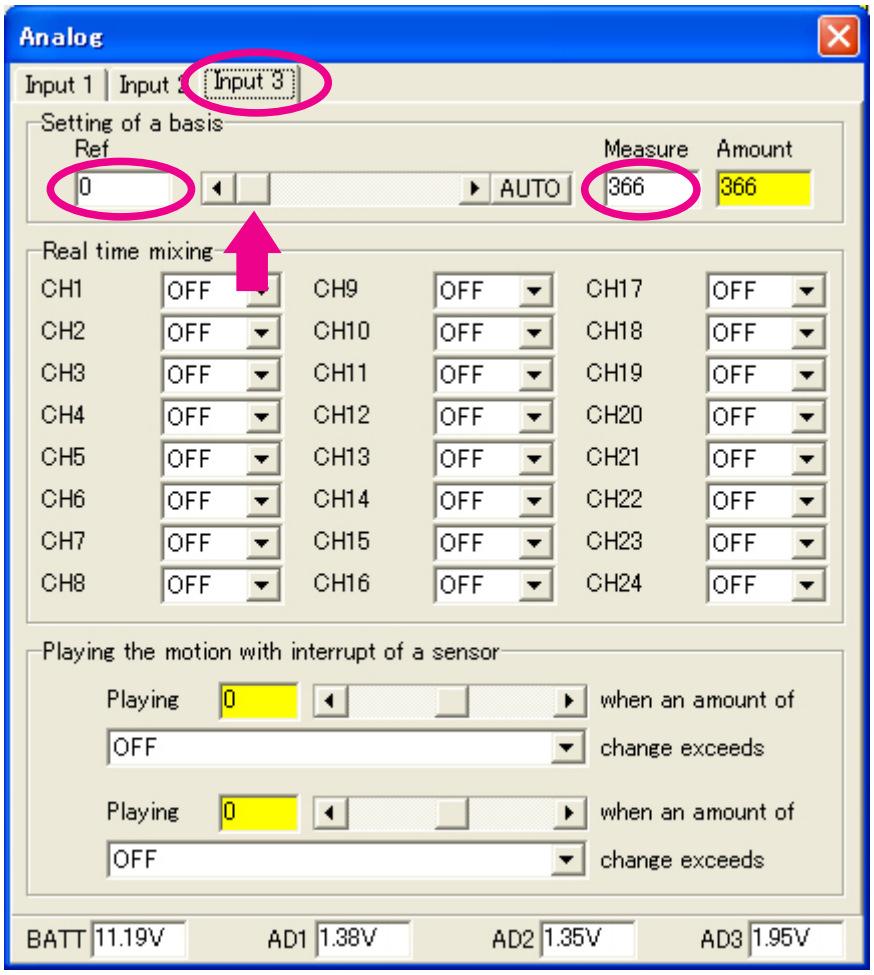
1 Connection between RCB-3 and the PC

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.



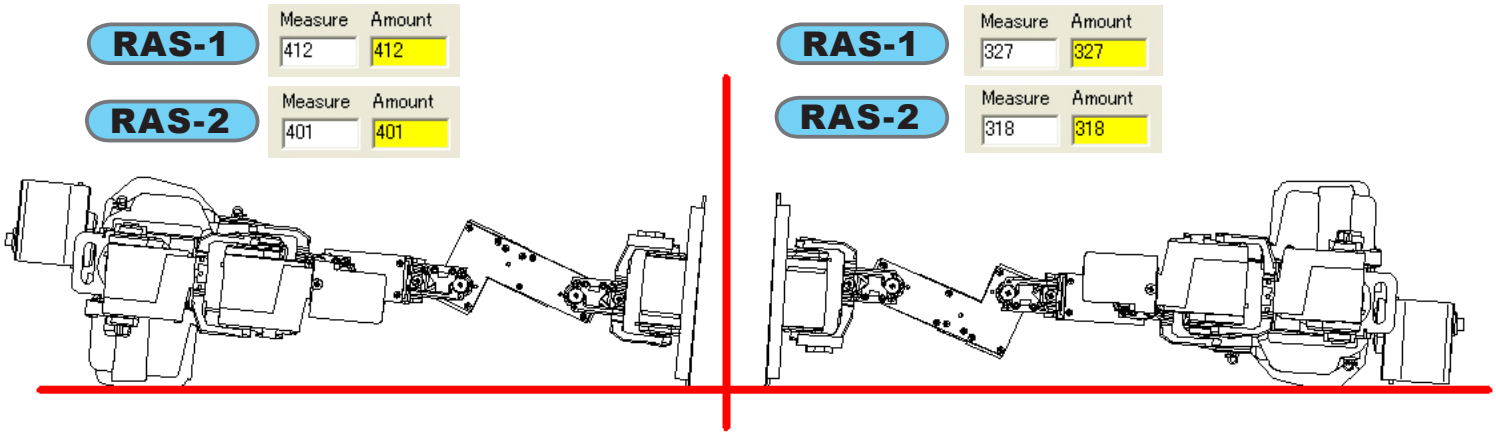
Check

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

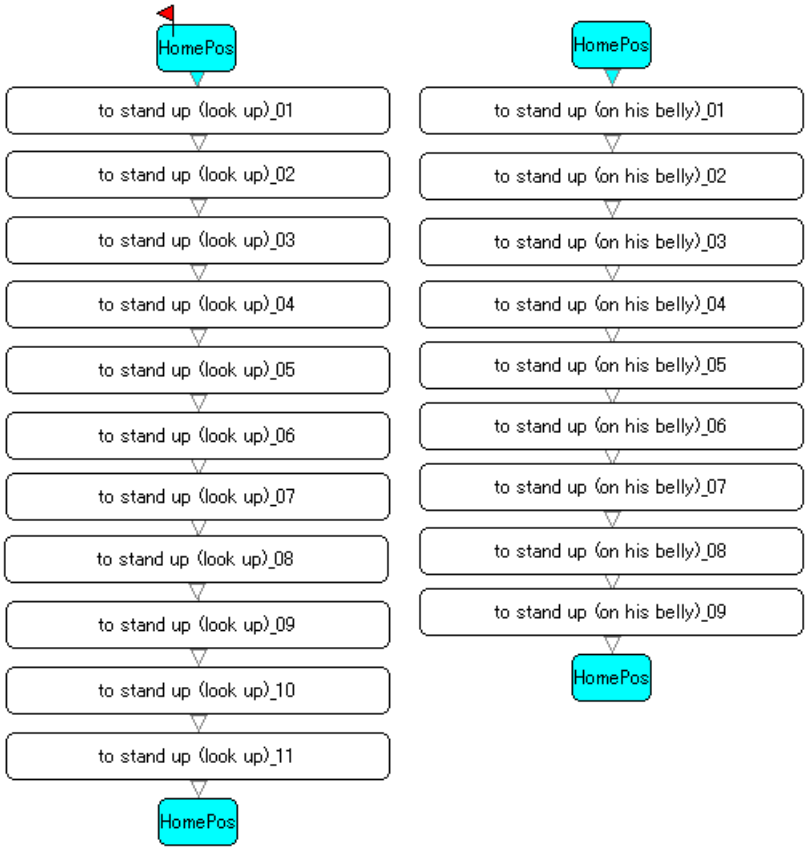
Acceleration sensor

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.

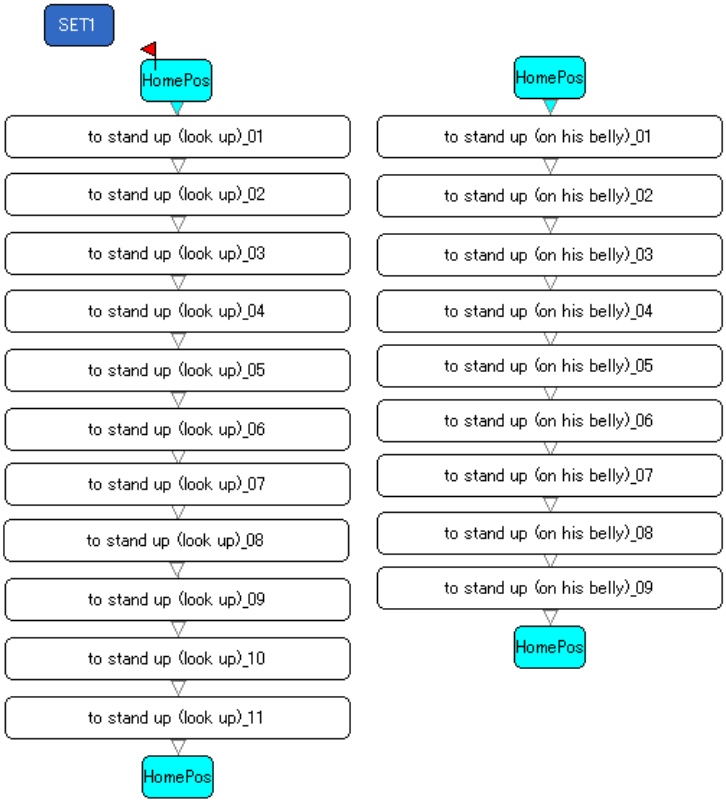
Please close the window when you finish to register the data.

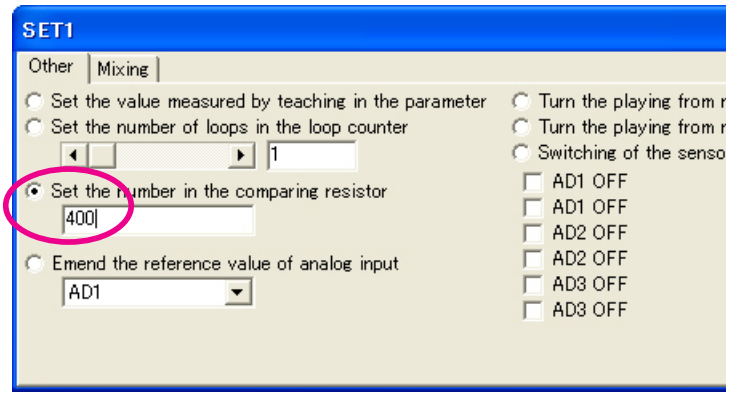


3 For example, for KHR-1HV use, load the Sample motion “1HV009_ to stand up (look up). RCB” and “1HV010_to stand up (on his belly) .RCB” , and arrange them on the data sheet as in the figure below.

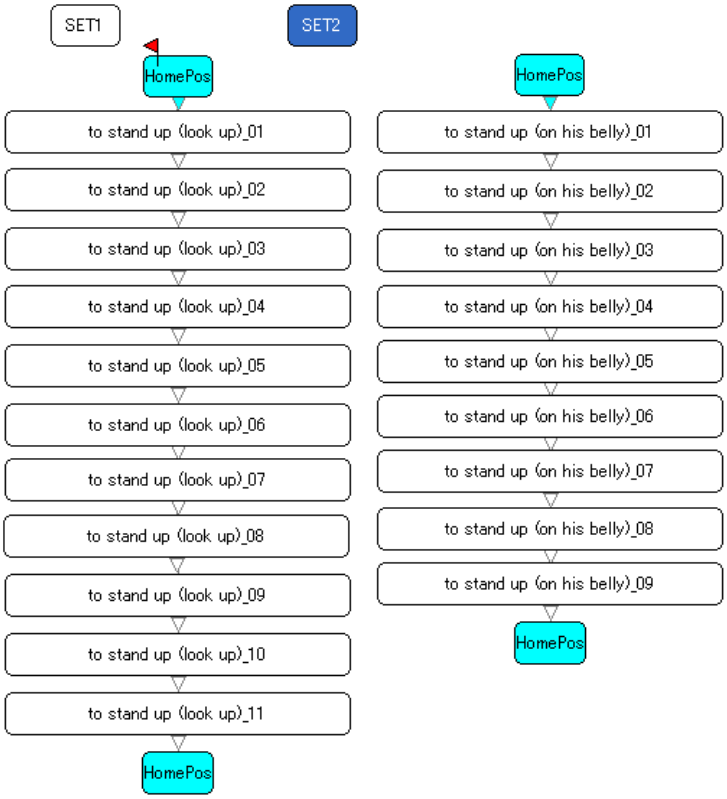


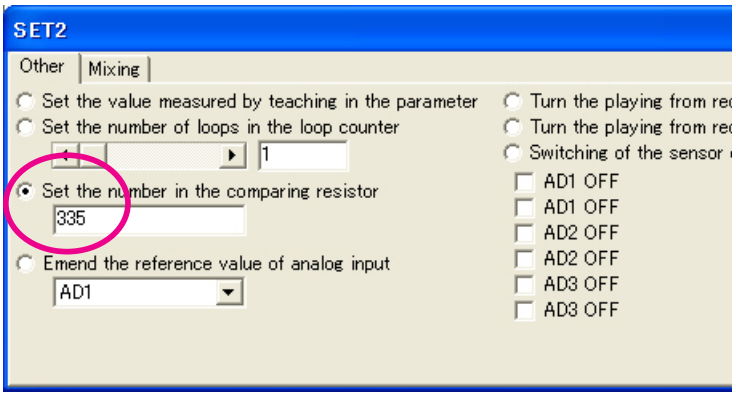
4 Arrange a SET1 object on top of the data sheet, double-click on it and the window will open. There, on the Comparison Register enter 400 (if you use RAS-1) or 390 (if you use RAS-2). (The border value is the previous measured value from which you subtract 10.)





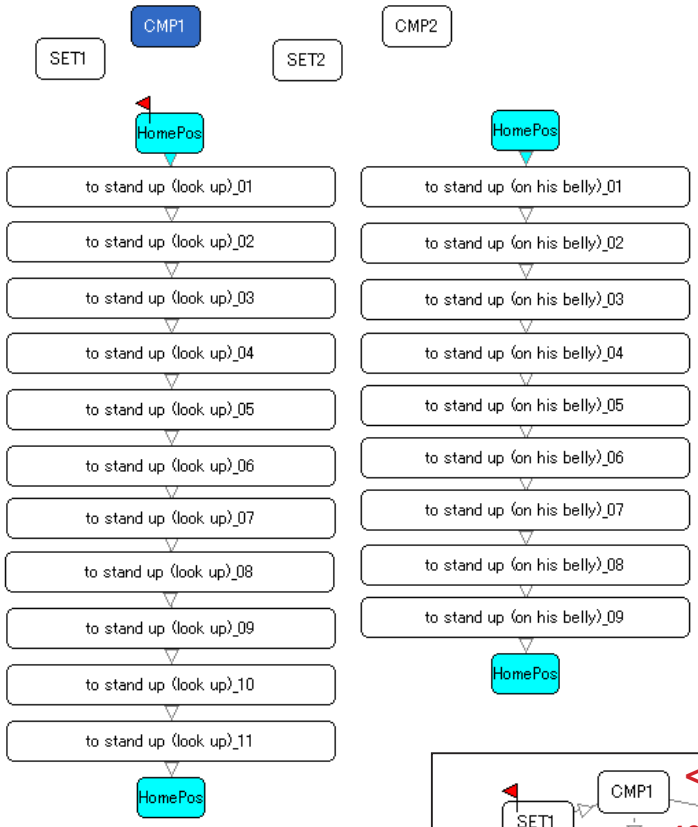
5 Arrange SET 2 object on top of the data sheet, double-click on it and the window will open. There, on the Comparison Register enter 335 (if you use RAS-1) or 130 (if you use RAS-2). (The border value is the previous measured value from which you add 10).

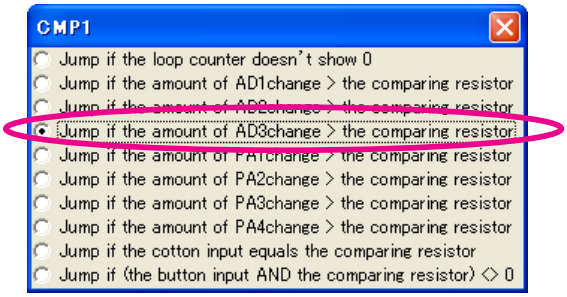




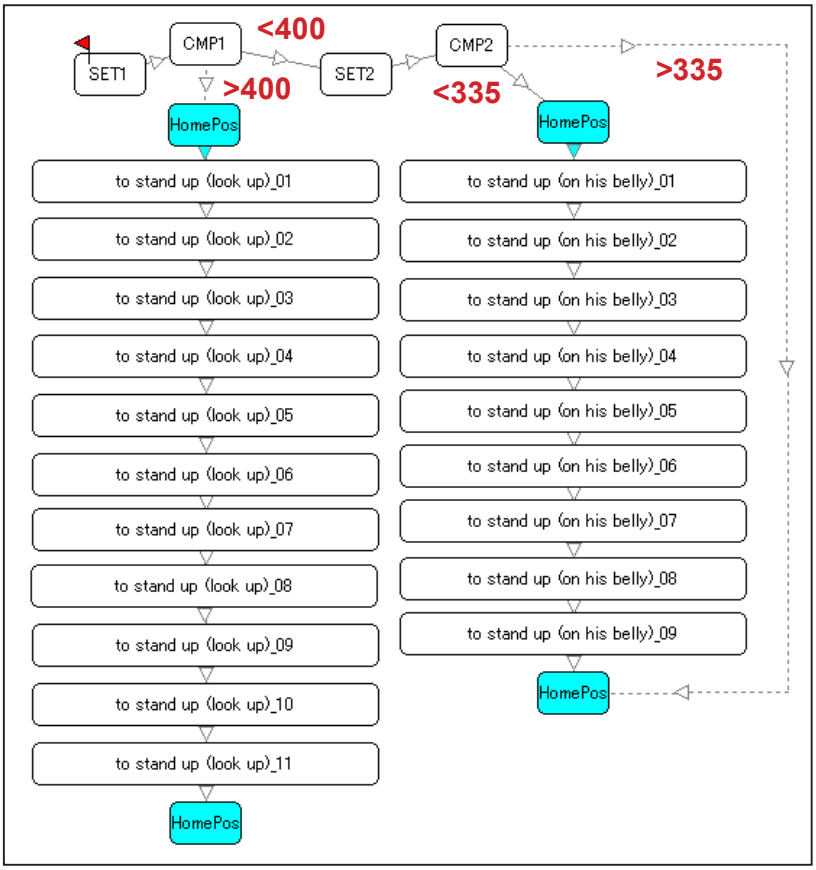
Acceleration sensor

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 resisitor”.





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.

POINT

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.


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