Show

ROBOTIS e-Manual v1.14.00

Dynamixel Monitor

You may be able to reset the MX-28 actuators should you encounter an error in motion, actuator(s) is(are) malfunctioning, or perceive that actuator(s) is(are) malfunctioning.

Go to the directory

/darwin/Linux/project/dxl_monitor

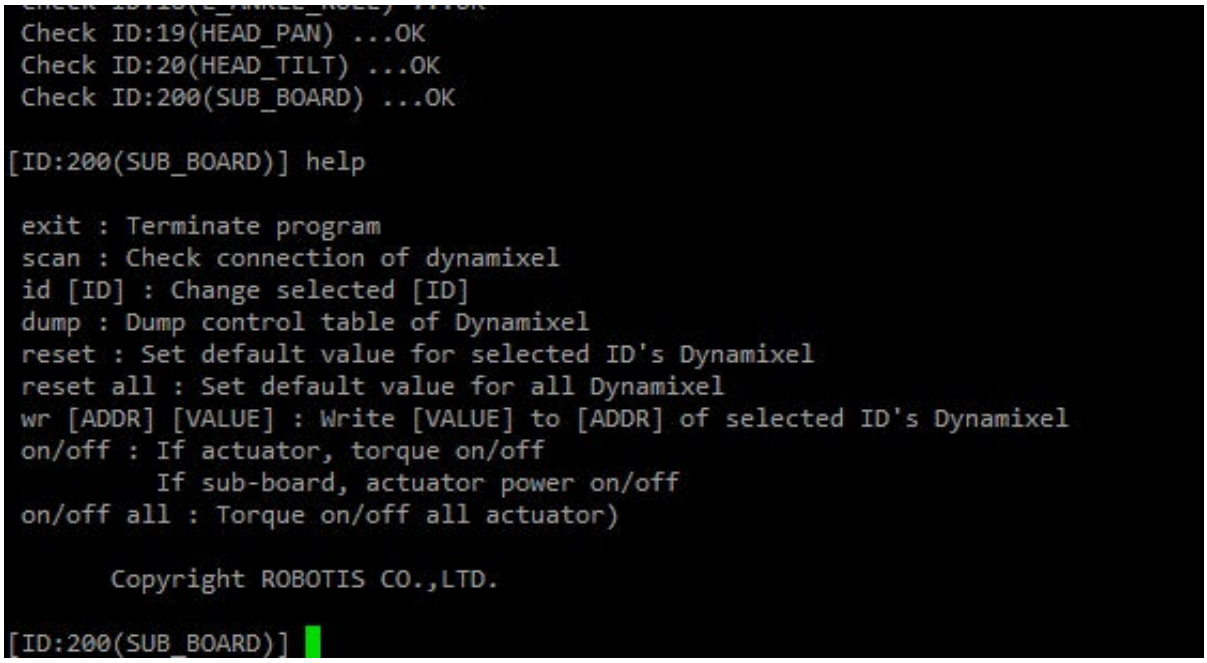
Make sure that there is an executable file named "**dxl_monitor**."

If there is no said file then create it by typing **make** the compiler will automatically generate the file.

Run the program by typing **./dxl_monitor**

Once in the program type **help** for information.

To exit the program type **exit**



After inputting help the screen outputs the offered option.

- **exit**: exits the program. After exiting the program press the "RESET" button on DArwIn-OP.
- **scan**: outputs the current status of all Dynamixels.
- **id [ID]**: go to Dynamixel ID:[ID]. The default ID is ID:200 (CM-730 controller). For example, if you wish to go to ID20 (head tilt) then type **id 20**.

Now the current working ID is ID20.

- **d**: displays the current control table of the CM-730 and all Dynamixels. Use this option if there is(are) any anomaly(anomalies) with DARwIn-OP.
- **reset**: defaults the value of current Dynamixel. Use this option if the current actuator has an operating error or is malfunctioning.

- **reset all**: defaults the value of all Dynamixels. Use this option if the current(s) or all Dymanixel(s) has(have) operating error(s) or is(are) malfunctioning.
- **wr [ADDR] [VALUE]**: writes value **[VALUE]** to address **[ADDR]** of current Dynamixel. For further information on Dynamixel addresses and values click here. For example, go to ID18 (left ankle roll) and type **wr 25 1**. This means that address 25 (LED) has been turned on (1). You will notice that the actuator on DARwIn-OP left foot LED is turned on. To turn the LED off type **wr 25 0**.

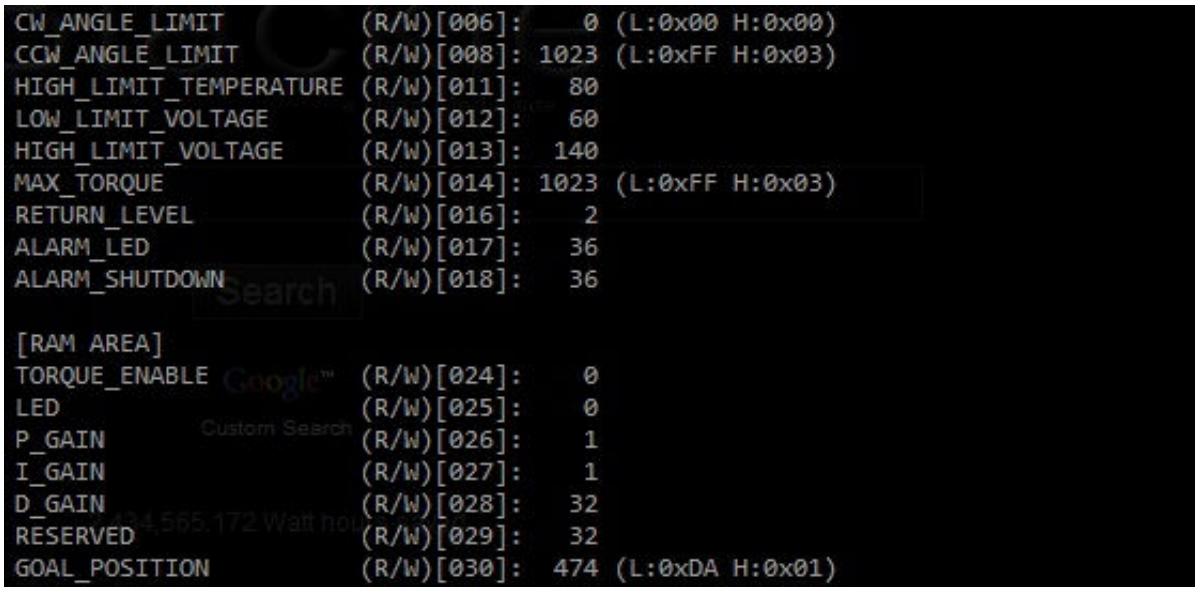
if all goes well you will see "Success to write!"

- **on/off**: turns torque on/off off current Dynamixel.
- **on/off all**: turns torque on/off of all Dynamixels.

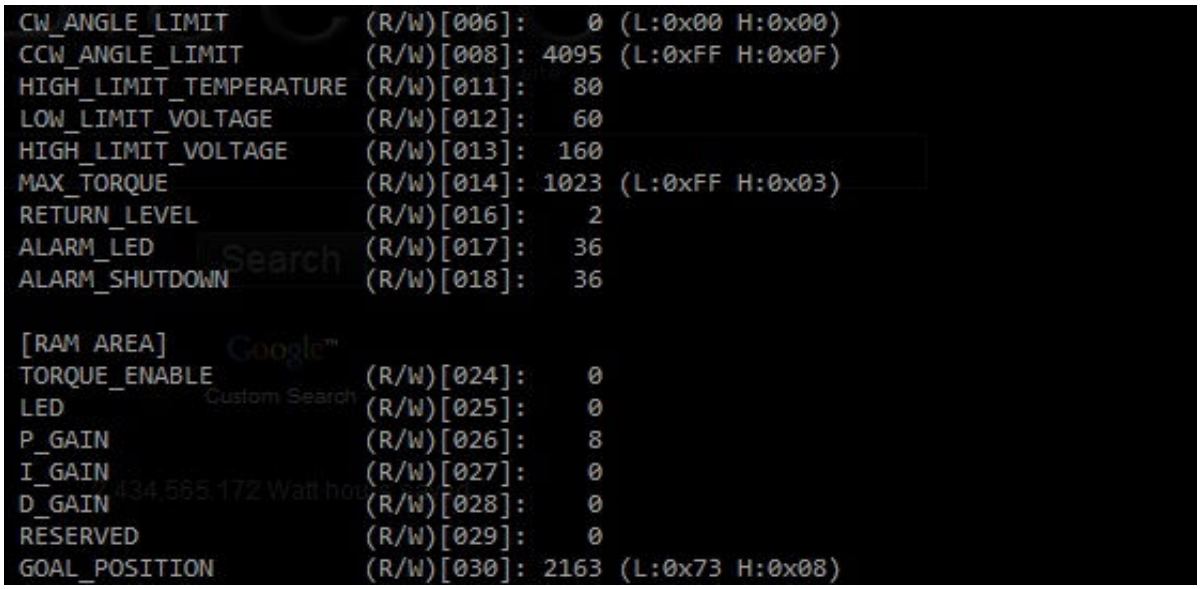
To check the currently operating angle resolution perform the following:

1. Select an eactuator by typeing id (ID number). For example id 3
2. Type **d** to display the control table
3. Look for CW_ANGLE_LIMIT, CCW_ANGLE_LIMIT, and GOAL_POSITON. if all of these values show 1023 or less, then resolution is 1024. if any of these values is between 0 and 4095 then the resolution is 4096.

   There may be an occasion that a given actuator may display values of 1023 or lower but you may not be sure whether the resolution is either 1024 or 4096. In such case make verifications on several actuators.
   If all the verified values are 1023 or lower, then the resolution is 1024.
   If any of the values display larger than 1023 then the resolution is 4096.
4. ALL Dynamixel actuators installed in DARwIn-OP are set to either 1024 or 4096 resolution. Some actuators being set at 1024 and others at 4096 is not allowed. in such case the demo program will not run.
5. To ensure all Dynamixel actuators installed in DARwIn-OP are at the same resolution please refer to the firmware installer procedure.



This illustration indicates a resolution of 1024.



This illustration indicates a resolution of 4096.
