

## Installation of the Robotiq gripper 2F-85 ROS control via USB port:

*Ubuntu 18, ROS melodic*

By following this website <http://wiki.ros.org/robotiq>

1. Git clone following repo into your catkin/src:

```
Unset  
git clone https://github.com/ros-industrial/robotiq.git
```

2. The connection is established via modbus thus we need to install it in my case I am using python 3.7:

```
Unset  
rosdep install robotiq_modbus_tcp
```

3. Use the following line to enable permission to use USB port:

```
Unset  
sudo usermod -a -G dialout $USER
```

4. If the step 2 rosdep installation was not successful try:

```
Unset  
rosdep update
```

5. Install the missing dependencies using following command, it only installs missing dependencies (change "melodic" to your ROS version):

```
Unset  
rosdep install --from-paths src/ --ignore-src --rosdistro melodic
```

6. Then you can do catkin make and source:

```
Unset  
catkin_make  
source devel/setup.bash
```

7. To check to which port gripper is connected:

```
Unset  
dmesg | grep tty
```

#### 8. Run demo:

```
Unset  
$roscore  
$roslaunch robotiq_2f_gripper_control Robotiq2FGripperRtuNode.py  
/dev/ttyUSB0  
  
$roslaunch robotiq_2f_gripper_control Robotiq2FGripperSimpleController.py
```

#### 9. Check the latency and lower it using the following commands:

```
Unset  
$sudo cat /sys/bus/usb-serial/devices/ttyUSB0/latency_timer  
16  
$setserial -a /dev/ttyUSB0 low_latency  
$sudo cat /sys/bus/usb-serial/devices/ttyUSB0/latency_timer  
1
```

In **step 2** I encountered numerous problems as the modbus wasn't installing into the system first I have read that it needs python 3.9+ version when I tried to update I encountered errors Thus I found the solution by:

```
Unset  
  
$mkdir ~/solution  
  
$cd ~/solution/  
  
$cat << EOF > ~/solution/sources.list deb  
http://archive.ubuntu.com/ubuntu/ focal main restricted universe  
multiverse deb-src http://archive.ubuntu.com/ubuntu/ focal main  
restricted universe multiverse deb http://archive.ubuntu.com/ubuntu/  
focal-updates main restricted universe multiverse deb-src  
http://archive.ubuntu.com/ubuntu/ focal-updates main restricted universe
```

```

multiverse deb http://archive.ubuntu.com/ubuntu/ focal-security main
restricted universe multiverse deb-src http://archive.ubuntu.com/ubuntu/
focal-security main restricted universe multiverse deb
http://archive.ubuntu.com/ubuntu/ focal-backports main restricted
universe multiverse deb-src http://archive.ubuntu.com/ubuntu/
focal-backports main restricted universe multiverse deb
http://archive.canonical.com/ubuntu focal partner deb-src
http://archive.canonical.com/ubuntu focal partner EOF

$sudo sed -i "s/focal/${lsb_release -c -s}/" ~/solution/sources.list

$sudo rm /etc/apt/sources.list sudo cp ~/solution/sources.list
/etc/apt/sources.list

```

After the following steps `sudo apt-get update` worked fine and the dependencies were installable

In **step 6** while doing `catkin_make` I encountered following errors:

```

Unset
CMake Error at /opt/ros/indigo/share/catkin/cmake/catkinConfig.cmake:83
(find_package):
  Could not find a package configuration file provided by
  "socketcan_interface" with any of the following names:

    socketcan_interfaceConfig.cmake
    socketcan_interface-config.cmake

```

Fixed using this line by installing the socketcan interface only

```

Unset
sudo apt install ros-melodic-socketcan-interface

```