

THANK YOU FOR CHOOSING ROBOTIQ

This step-by-step guide will allow you to **install** and **use** your **FT 300 Force Torque Sensor** on Universal Robots with a CB3.1 controller.



1. WHAT IS SUPPLIED?

| Standard upon delivery of a Universal Robots kit | |
|--|------------------------------------|
| FT 300 Force Torque Sensor | FTS-300-SEN-001 |
| Mechanical Coupling | FTS-300-CPL-062 |
| Device cable | CBL-COM-2065-10-HF |
| USB to RS485 Adapter | ACC-ADT-USB-RS485 |
| 16 GIG USB Stick | ACC-USB-16G |
| Required hardware | |



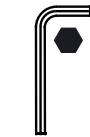
2. TOOLS NEEDED



2 mm slotted screwdriver



T20 Torx Key



4mm hex key



3. GET THE LATEST

Visit: robotiq.com/support

DOWNLOADING THE URCAP

1. **Browse by product > Select product > FT 300 Force Torque Sensor > Universal Robots > Software > Force Copilot software > URCap (UCS-X.X.X.)**
2. Select **DOWNLOAD ZIP**.
3. **Decompress** the zip file on a USB stick.



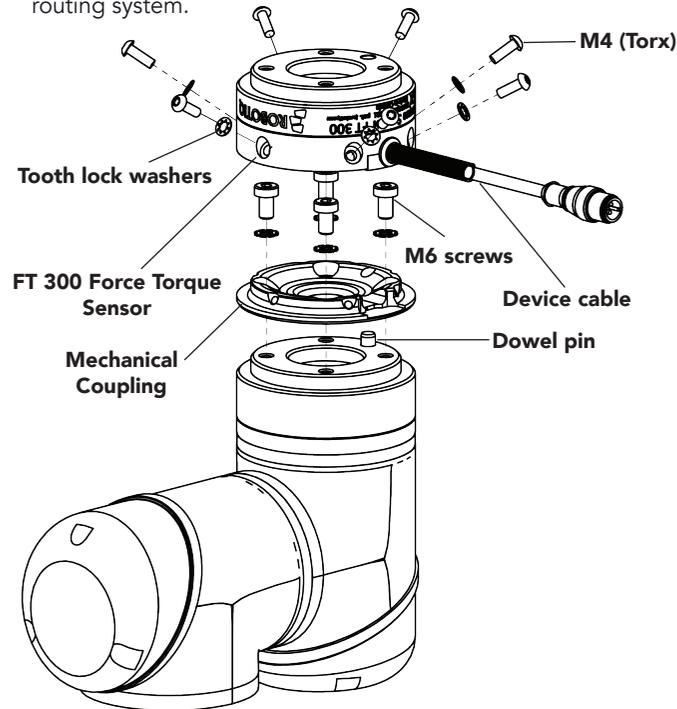
BEFORE OPERATING THE FORCE SENSOR, PLEASE READ INSTRUCTION MANUAL.



4. MOUNTING

For easier mounting, move the robot tool flange to make it point upwards.

1. **Align** the provided dowel pin and **mount** the coupling (FTS-300-CPL-062) on your robot arm.
2. **Secure** by using the provided M6 screws and tooth lock washers.
3. **Mount** the Force Torque Sensor (FTS-300-SEN-001) on the coupling.
4. **Secure** by using the provided M4 Torx screws and tooth lock washers.
5. **Plug** the device cable (CBL-COM-2065-10) into the sensor's pigtail and attach the cable along the robot arm using a cable routing system.



The Force Torque Sensor must be aligned with the robot arm using the dowel pin. This ensures that the feature will work correctly.



The IP rating of the FT 300 Force Torque Sensor is **IP40**. It is strongly recommend to cover the sensor and the robot when it is used with an application that requires a higher rating.



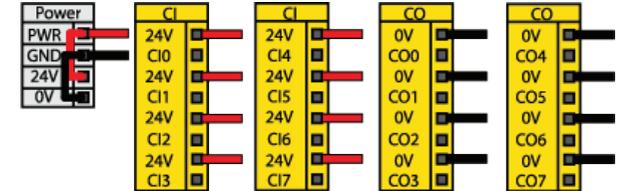
LEAVE ENOUGH EXCESS CABLE TO ALLOW FULL ROBOT MOVEMENT.



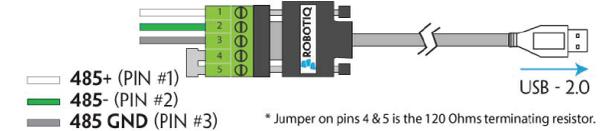
5. WIRING

The red (24V) and black (0V) wire of the device cable (CBL-COM-2065-10) provide power to the sensor.

1. **Connect** the red wire to a 24V pin.
2. **Connect** the black wire to a 0V pin.



3. **Connect** the white (1), green (2) and bare (3) wires to the USB converter (ACC-ADT-USB-RS485) as shown.



4. **Connect** the USB converter to the UR controller.



6. SOFTWARE INSTALLATION

1. Have a USB stick that contains the **.urcap** file (see step 3).
2. Insert the USB stick in the robot's teach pendant.
3. Tap Setup Robot.
4. Tap URCaps.
5. Tap the + sign.
6. Open **Robotiq Copilot-X.X.X.urcap**.
7. Tap the Restart button to restart PolyScope and activate the URCap.



7. CALIBRATION

1. In PolyScope, go to Program Robot.
2. Go to the Installation tab and select Copilot.
3. Tap the Calibration tab.
4. Tap the Start calibration wizard button.
5. Follow the calibration steps.
6. Save the installation file.



MAKE SURE THERE ARE NO EXTERNAL FORCES APPLIED TO THE SENSOR DURING THE CALIBRATION PROCESS.



8. DASHBOARD

Once the calibration has been performed, force and moment values are streamed directly in the Dashboard of the Sensor URCap interface.

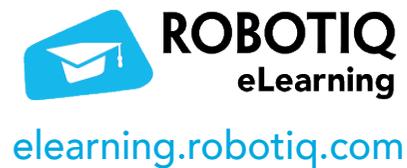
1. Go to Program Robot.
2. Go to the Installation tab.
3. Tap Copilot.
4. Tap the Dashboard button.
5. Force and moment values will be displayed in real time.



FT 300 FORCE TORQUE SENSOR

QUICK START GUIDE

For installation on
CB-Series
Universal Robots



New product has a one (1) year warranty.
Refer to your product instruction manual for details.

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