

THANK YOU FOR CHOOSING ROBOTIQ

This step-by-step guide will allow you to **install** and **use** your **Robotiq SD-100 Screwdriver** on Universal Robots.



1. WHAT IS SUPPLIED?

Standard upon delivery of a Universal Robots kit:

SD-100 Screwdriver Basic Kit (SOL-SDS-SD100):

- Robotiq SD-100 Screwdriver
- Vacuum sleeve kit
- 8-meter pneumatic hose
- Robotiq device coupling
- RS-485 to USB signal converter
- 10-meter High-flex device cable
- 79-dB muffler
- Hardware and tools

One of the following **Screwdriving Bit Kits**:

- Phillips kit (PH1, PH2)
- Torx® kit (T8, T10, T15, T20)
- Metric Hex Socket kit (2, 2.5, 3 mm)
- Imperial Hex Socket kit (5/64, 7/64, 3/32 in.)

Robotiq Force Copilot license dongle (**e-Series** only)
FT 300-S Force Torque Sensor (**CB-series** only)
(in separate package)



2. TOOLS YOU NEED



4 mm hex key



1/2 inch wrenches



2.5 mm slotted screwdriver (not included)



PLEASE ENFORCE WORKPLACE, LOCAL STATE OR FEDERAL REGULATIONS IN TERMS OF HEARING PERSONAL PROTECTION EQUIPMENT.



PLEASE READ THE INSTRUCTION MANUAL BEFORE OPERATING THE ROBOTIQ SCREWDRIVER.



3. GET THE LATEST

1. Get the up-to-date instruction manual (PDF).
2. Get the corresponding **Robotiq_Screwdriving-X.X.X.urcap** and **Robotiq_Copilot-X.X.X.urcap**.
3. Download the .urcap files on a USB stick.

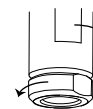


4. MOUNTING



INSTALLATION ON CB-SERIES ROBOTS REQUIRES THE FT 300-S FORCE TORQUE SENSOR. PLEASE REFER TO THE QUICKSTART GUIDE OF THE FT 300-S FORCE TORQUE SENSOR PROVIDED WITH THE KIT.

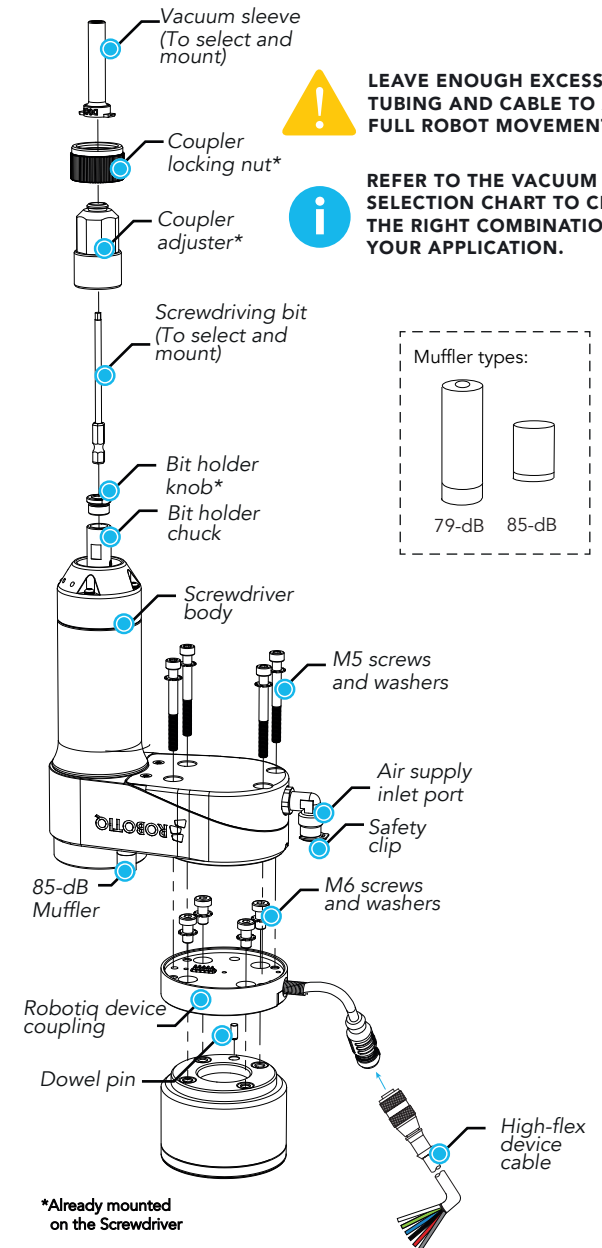
1. Mount the coupling onto the robot arm. Align with the provided dowel pin.
2. Secure using the provided M6 screws and tooth lock washers.
3. Mount the Screwdriver onto the coupling. Align with the screwdriver's dowel pin.
4. Secure using the provided M5 screws and tooth lock washers.
5. Connect the coupling cable to the provided High-flex cable.
6. Connect the pneumatic hose to the air supply inlet port.
7. Make sure the safety clip is present to secure the connection.
8. Route the High-flex cable and the tubing along the robot arm using a cable management method.
9. Unscrew the coupler locking nut and the coupler adjuster.
10. Unscrew the bit holder knob from the bit holder chuck using the provided 1/2 inch wrenches on the flats.
11. Insert the bit corresponding to your application into the bit holder chuck.



MAKE SURE THE BIT REACHES THE BOTTOM OF THE CHUCK. HEX SHANK MISALIGNMENT AND O-RING FRICTION CAN LEAD TO MECHANICAL INSERTION RESISTANCE.



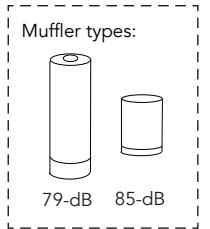
Tip : In absence of a torque wrench or torque meter, tighten the assembly until it no longer turns, then unscrew it half a turn.



LEAVE ENOUGH EXCESS TUBING AND CABLE TO ALLOW FULL ROBOT MOVEMENT.

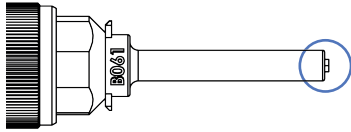


REFER TO THE VACUUM SLEEVE SELECTION CHART TO CHOOSE THE RIGHT COMBINATION FOR YOUR APPLICATION.



- **RECOMMENDED AIR PRESSURE : 5.5 BAR (80 PSI) TO 7 BAR (101.5 PSI)**
- **OPTIMAL AIR PRESSURE : 7 BAR (101.5 PSI)**
- **DRY AND FILTERED AIR ONLY; FOLLOW ISO 8573-1, CLASS 3.4.3 STANDARD.**
- **USE OF A LOCAL PRESSURE REGULATOR WITH A FILTER AND AIR DRYER IS RECOMMENDED.**

13. Install the vacuum sleeve collar onto the coupler lip.
14. Screw the coupler adjuster back in place, letting the bit protrude slightly past the lower end of the vacuum sleeve.



15. Secure the adjustment by hand using the coupler locking nut.



FOR ENVIRONMENTS REQUIRING THE LIMITATION OF NOISE LEVELS, CONSIDER INSTALLING THE 79-dB MUFFLER.

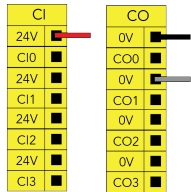
Muffler replacement (optional):

1. Unscrew the 85-dB muffler to remove it.
2. Screw the 79-dB muffler in place of the former.

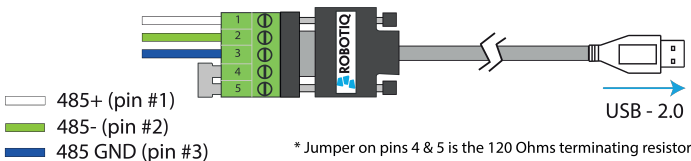


5. WIRING

1. Connect the red wire to a 24 V Configurable Input.
2. Connect the black and the gray wires to a 0 V Configurable output into the robot controller.



3. Connect the white (1), green (2) and blue (3) wires to the USB converter as shown.



4. Connect the USB converter to a USB port of the robot controller.



6. SOFTWARE INSTALLATION

Insert a **USB stick** that contains the **.urcap** files (from section 3) in the robot's teach pendant.

For e-Series:

1. Tap the **triple bar icon** in the upper right corner, then tap on **Settings**.
2. Select the **System** menu on the left.
3. In the **URCaps** submenu, tap the + sign at the bottom of the screen.
4. Open **Robotiq_Screwdriving-X.X.X.urcap**.
5. Repeat step 3, open **Robotiq_Copilot-X.X.X.urcap**.
6. Tap the **Restart** button to activate the URCaps.
7. After the restart, remove the USB stick and insert the Robotiq Force Copilot license dongle in an available port of the robot controller.

For CB-Series:

1. Tap **Setup Robot** and then **URCaps**.
2. Tap the + sign.
3. Open **Robotiq_Screwdriving-X.X.X.urcap**.
4. Repeat step 2, open **Robotiq_Copilot-X.X.X.urcap**.
5. Tap the **Restart** button to activate the URCaps.



THE VACUUM SLEEVE MAY NEED FURTHER ADJUSTMENT FOR PROPER SCREW PICKING. REFER TO THE VACUUM SLEEVE SELECTION CHART OR THE INSTRUCTION MANUAL FOR THE ADJUSTMENT PROCEDURE.



REFER TO THE INSTRUCTION MANUAL FOR THE PROGRAMMING PROCEDURE.



ROBOTIQ
eLearning

elearning.robotiq.com



This product is under a 1-year warranty.
Refer to your product instruction manual for details.



SD-100 Screwdriver

QUICK START GUIDE

**For installation on
Universal Robots**



Sold & Serviced By:

ELECTROMATE

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sales@electromate.com

