FRANKA ROBOTICS

Quick Guide for Installation

FRANKA GELLO DUO

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Product Reference:

Franka article number	Revision	Model number	Description
313686	00-05	10074107	Franka GELLO Duo
313684	00-05	10074108	Franka GELLO Arm (part of the Franka GELLO Duo)

Get your manual and additional supporting material in English and other languages at www.franka.de/documents

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1 PURPOSE AND SCOPE

This Quick Installation Guide provides step-by-step instructions for assembling and connecting the Franka GELLO Duo system. It is intended to help users quickly set up the hardware and prepare it for initial operation with the Franka Research 3 Duo robot.

The guide covers:

- Components included in the package
- Correct assembly procedures
- Initial connection
- Reference to further resources for teleoperation and programming

Intended Audience

This guide is designed for:

- **Researchers** working with robotic systems
- **Technicians** responsible for hardware setup
- **Developers** integrating GELLO Duo into custom applications

Basic familiarity with robotic hardware and safe handling of electronic components is recommended.

2 LEGAL DISCLAIMER

The Gello-Arms are experimental development tools that are provided solely for testing and evaluation purposes. They are not part of the certified product portfolio of Franka Robotics GmbH and are supplied 'as-is' without any express or implied warranties, including but not limited to warranties of merchantability, fitness for a particular purpose, or conformity. The Supplier does not provide any support, maintenance, or updates for these tools. Any liability for material or legal defects (Sach- und Rechtsmängel) is excluded, except in cases of willful misconduct or gross negligence. This clause shall not affect mandatory liability under applicable product liability laws or for injury to life, body, or health.

3 ABOUT FRANKA GELLO DUO

Franka GELLO Duo is an upgraded version of the original GELLO device. It's designed to work like the Franka Research 3 Duo robot, allowing users to control it directly at the joint level. This means you can move the robot arms in real time using GELLO Duo as a dual input device.

It is especially useful for researchers who want to explore:

- Bimanual teleoperation (controlling two arms at once),
- Imitation learning (teaching robots by showing them how to do tasks),
- Advanced dual-arm interaction (coordinated movements between two arms).

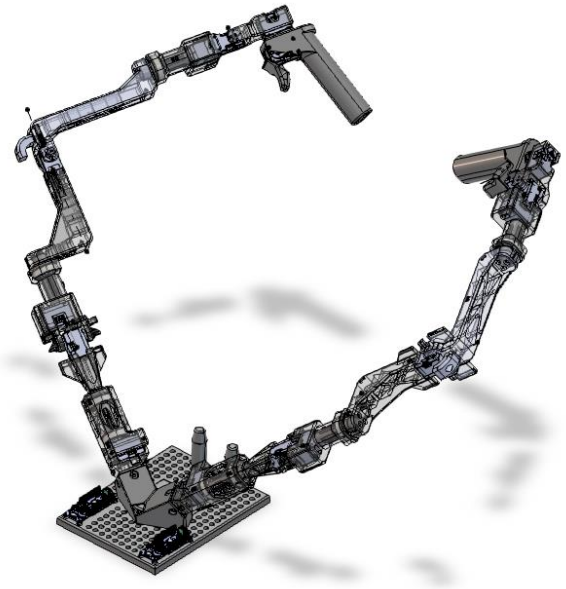

Figure 1: Franka GELLO DUO

The hardware and software of GELLO Duo are open source, so anyone in the community can access and use them freely.

Get the Code at www.franka.de/develop, under the section "Official Demos & Integrations".

NOTICE

Franka Gello Duo is compatible with Franka Robot Arm V2.0 and later versions.

4 SCOPE OF DELIVERY / INCLUDED IN THE BOX

Item No.	Components	Quantity
1	Franka GELLO Arm	2 pcs.
2	Table Base Mount Duo	1 pc.
3	Screws M4x12	6 pcs.
4	Controller OpenRB-150	2 pcs.
5	Screws C2,2x9,5 TX6	8 pcs.
6	Cable USB-A to USB-C 2m	2 pcs.
7	Reference to Assembly Guide	1 Document

See Figure 2 below for a visual reference

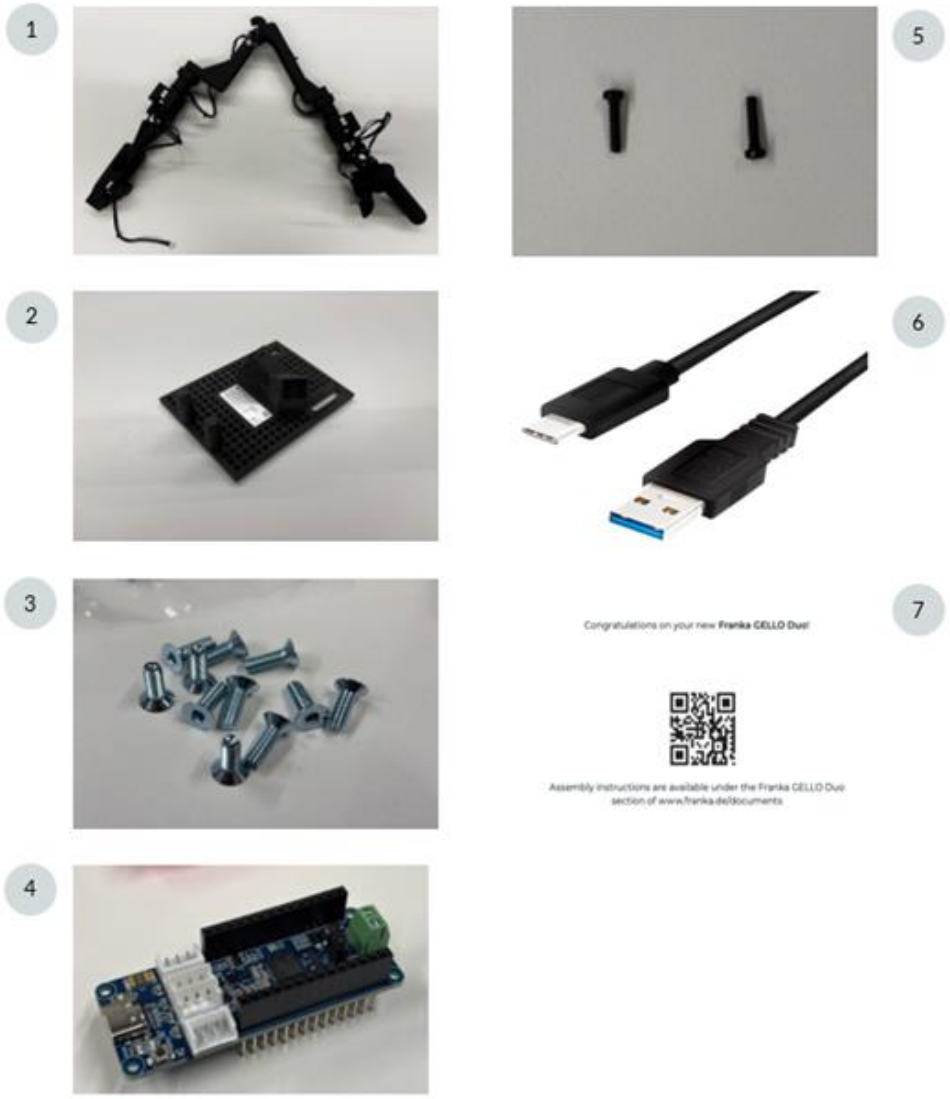

Figure 2: Visualization of included items

5 ASSEMBLY INSTRUCTIONS

Step 1 – Mount the GELLO Arms

1. Place the **Table Base Mount Duo** (2) on a stable surface.
2. Attach each **Franka GELLO Arm** (1) to the side brackets of the base.
3. Use **three M4×12 screws** (3) per Arm to secure them firmly.
4. Make sure both Arms are symmetrically aligned and stable.

Step 2 – Install the Controllers

1. Position one **OpenRB-150 Controller** (4) on each side of the base (top corners).
2. Fix each controller using **four C2.2×9.5 TX6 screws** (5).
3. Check that the USB-C port faces outward for easy access.

Step 3 – Connect the System

1. Plug the **Franka GELLO Arm** (1) cable connector into **any of the four white connectors** on the controller (4).
2. Repeat the same for the other **Franka GELLO Arm** (1).
3. Ensure all connections are secure before continuing.
4. Connect each **OpenRB-150** (4) to your **PC** using the **USB-A to USB-C cable** (6).

See Figure 3 below for a visual reference

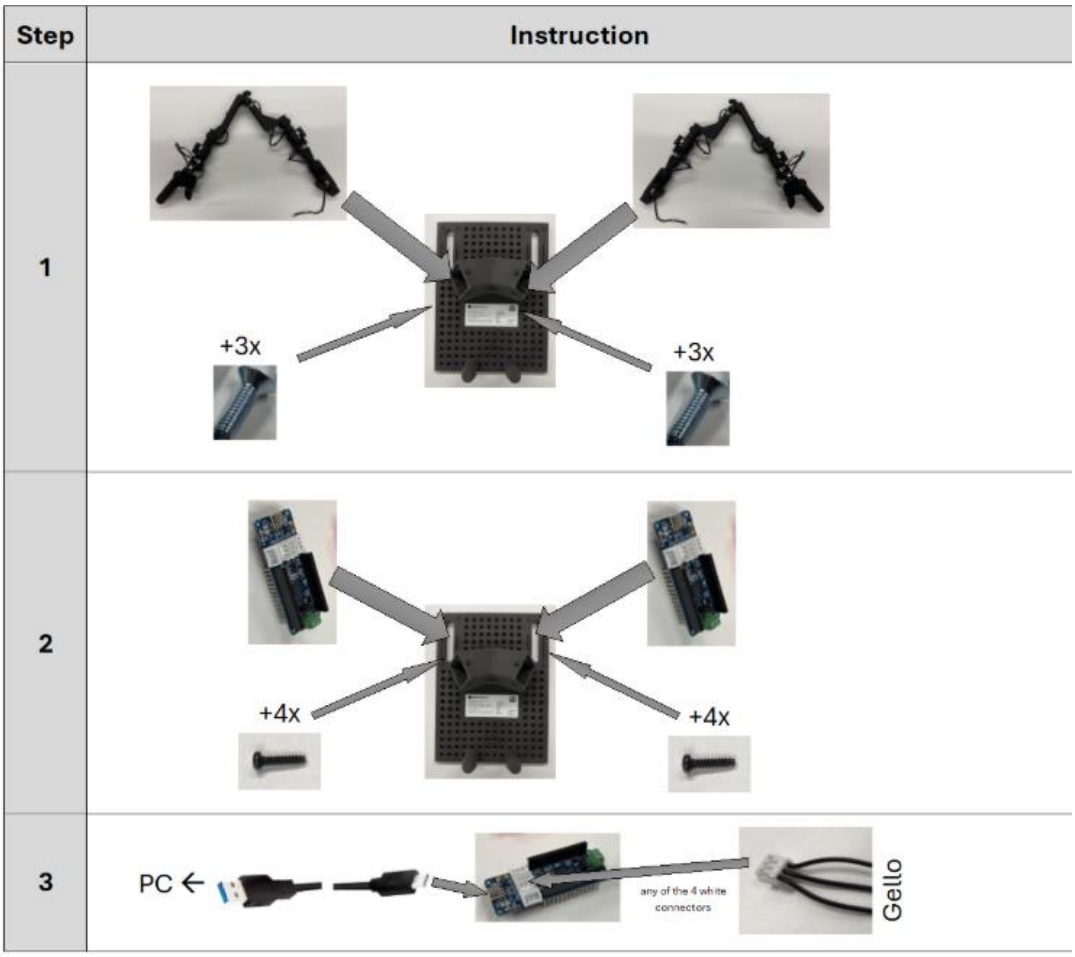

Figure 3: Assembly

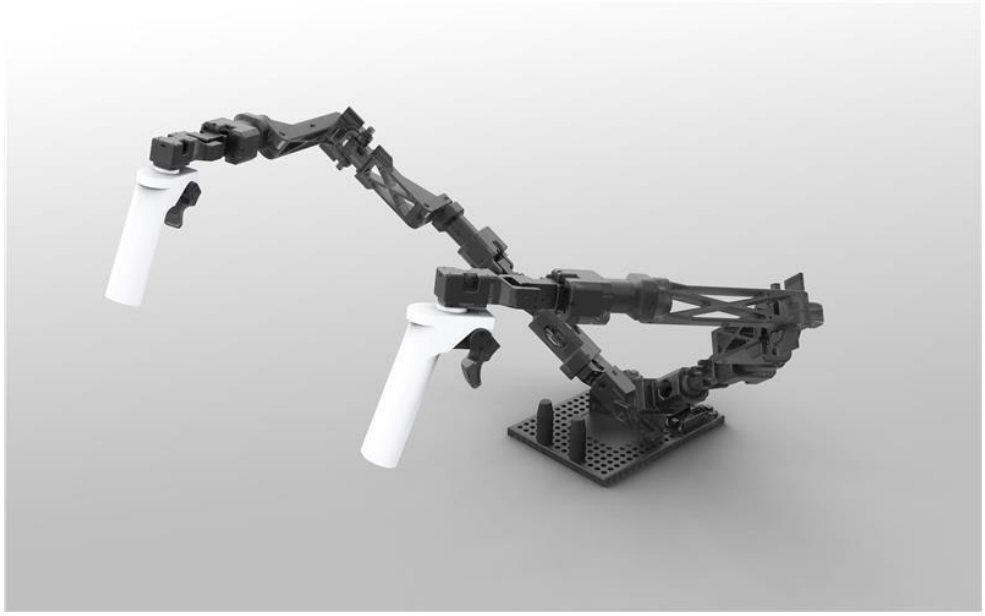

Figure 4: Installed Franka GELLO Duo

6 INITIALIZATION ROUTINE

Every time the Franka GELLO Duo is powered on (by connecting the USB cables), you must perform an initialization routine. This step is essential to ensure accurate joint angle readings.

NOTICE

The initialization routine is required every time the system is powered on.

Skipping this step may result in incorrect readings.

Step 1 – Position the GELLO arms in the "initialization pose":

- Place the handles of both GELLO arms on the base pins.
- Ensure the white marker dots on the second joints point upward.
- Verify that the cables of each arm are not twisted.

Step 2 – Push the reboot buttons twice:

- Locate the reboot button on each controller board (left of the USB port).
- Press each button two times.

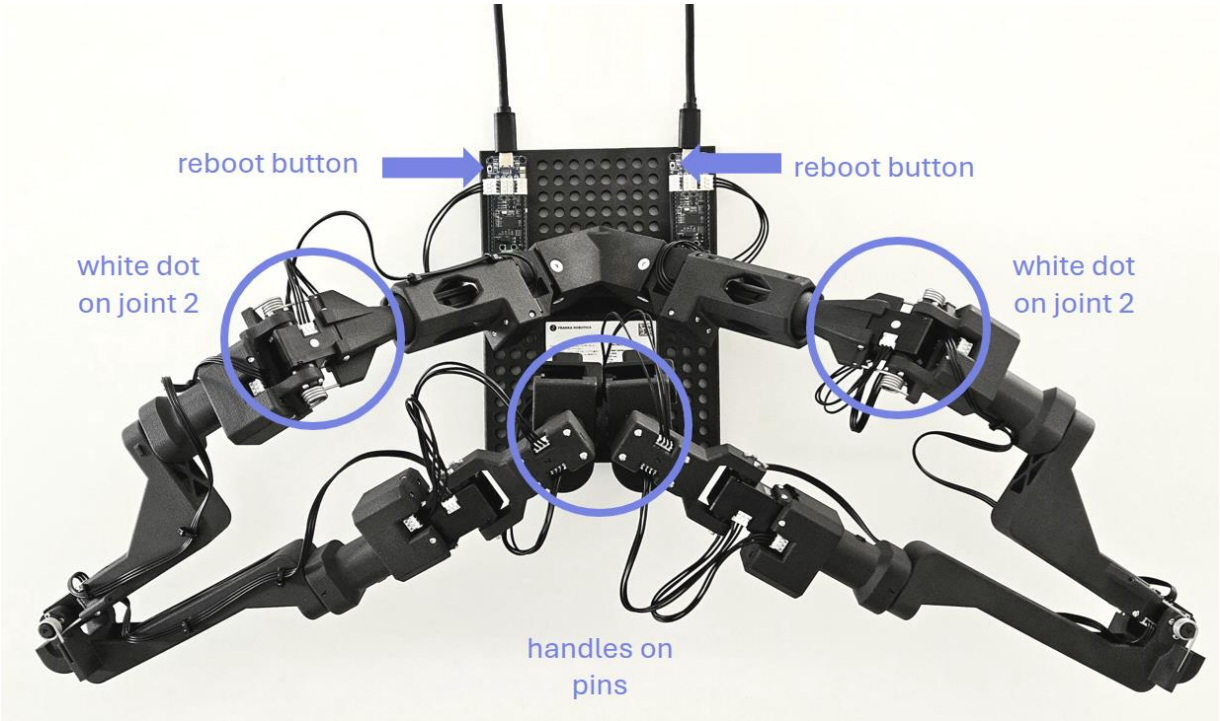

Figure 5: Initialization pose

7 SOFTWARE

The ROS 2 integration to control a Franka FR3 Duo robot system using the Franka GELLO Duo s available in the “ros2” subfolder of the “gello_software” repository: https://github.com/wuphilipp/gello_software/tree/main/ros2.

Rrefer to the README of the “ros2” folder for instructions on launching ROS 2 nodes.

NOTICE

The ROS 2 package “franka_gello_state_publisher” requires a configuration file for each individual GELLO system which defines its hardware properties and settings.

For the Franka GELLO Duo a suitable configuration file is provided:

ros2/src/franka_gello_state_publisher/config/franka_gello_duo.yaml

To use it:

- Update the **com_port** entries so they match the IDs of your controllers.
- Refer to the **README** for detailed instructions on how to identify these IDs.

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