Installation Guide: NexBot Vision 222-011 Teach Pendant with 10.1-inch Display

SKU: NXB-GEN-222-011 | Revision: 1.0 | Category: Controllers & Software > Teach Pendants & HMI > HMI Panels

> **DANGER:** Disconnect all power sources before beginning installation. Follow lockout/tagout (LOTO) procedures per OSHA 1910.147.

1. Required Tools & Materials

- M4 Hex Driver
- Phillips #2 Screwdriver
- Adjustable Wrench (for cable gland)
- Wire Stripper/Cutter
- Digital Multimeter
- Anti-static Wrist Strap
- Isopropyl Alcohol
- Lint-free Cloths

2. Pre-Installation Checks

1. Verify the main robot controller is powered down and locked out according to site safety procedures (LOTO).
2. Inspect the NexBot Vision 222-011 Teach Pendant and its cable for any signs of shipping damage.
3. Confirm the pendant cable connector type matches the HMI port on the robot controller cabinet.
4. Ensure the chosen mounting location for the pendant holder allows for safe, unobstructed operation and a clear view of the robot.
5. Check that the 24VDC power supply at the controller's HMI port is deactivated before connection.
6. Unpack and verify all mounting hardware for the pendant holder is present.

3. Installation Procedure

Step 1: Mount the Pendant Holder

Securely fasten the provided teach pendant holder to a stable, designated surface near the robot controller. Use the appropriate hardware for the mounting surface to ensure it can support the pendant's weight of 1.2 kg.

Step 2: Connect the Pendant Cable to Controller

Align the keyway on the pendant cable's main connector with the corresponding slot on the robot controller's HMI port. Push the connector in firmly until the locking mechanism clicks into place to ensure a secure connection.

> **Warning:** Never force the connector. If it does not seat easily, re-check alignment to avoid damaging pins.

Step 3: Secure the Cable Gland

If applicable, gently tighten the cable gland nut at the controller connection point. This provides strain relief and helps maintain the IP65 rating of the connection.

> **Warning:** Do not overtighten the gland, as this can crush the cable and compromise signal integrity.

Step 4: Establish Grounding Connection

Connect the grounding wire from the pendant cable harness to the designated chassis ground stud on the robot controller cabinet. A proper ground connection is critical for electrical safety and noise immunity.

Step 5: Power On the Robot Controller

After verifying all connections are secure, remove the LOTO device and restore power to the main robot controller. Observe the controller's status indicators for a normal power-up sequence.

Step 6: Verify Pendant Boot-Up Sequence

The NexBot Vision 222-011 Teach Pendant will power on automatically with the controller. Confirm that the boot screen appears, followed by the main NexBot operating system interface within approximately 60 seconds.

> **Warning:** Do not disconnect the pendant cable or power down the controller during the initial boot-up and firmware handshake process.

Step 7: Test Emergency Stop (E-Stop) Circuit

Before enabling any robot motion, press the red E-Stop button on the teach pendant. Verify that the robot controller immediately enters a safety-stopped state and reports an E-Stop condition on its status display.

> **Warning:** Failure of the E-Stop circuit to engage indicates a critical safety fault. Do not proceed until the issue is resolved.

Step 8: Confirm Deadman Switch Functionality

In T1 (Teach) mode, test the 3-position deadman switch on the rear of the pendant. Confirm that servo power can only be enabled when the switch is held in its center position and is disabled when released or fully squeezed.

4. Post-Installation Verification

1. Confirm the 10.1-inch display is bright, clear, and free of any dead pixels or visual artifacts.
2. Verify that all physical buttons, the joystick, and the touchscreen respond correctly to input.
3. Check that the HMI accurately reflects the robot controller's status, mode, and any active alarms.
4. In T1 mode at low speed, jog each robot axis to confirm proper communication and control.
5. Load a simple, non-production program and step through it to verify program execution controls are functional.
6. Ensure the pendant cable is routed safely, free from pinch points or trip hazards.

Note: For technical support, contact your authorized service provider or visit *https://robotics.barca.group/support*.