Installation Guide: NexBot Vision AC811-003 Servo Mounting Bracket

SKU: NXB-SRV-AC811-003 | Revision: 1.0 | Category: Accessories & Mounting > Brackets & Adapters > Servo Mounting Brackets

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

1. Required Tools & Materials

- Calibrated Torque Wrench (range including 3 Nm)
- Hex Key / Allen Wrench Set (Metric)
- Lint-Free Industrial Wipes
- Isopropyl Alcohol or approved degreasing agent
- Medium-Strength Thread-Locking Compound (e.g., Loctite 243)
- Safety Glasses with Side Shields
- Nitrile Gloves
- Soft-Faced Mallet

2. Pre-Installation Checks

1. Verify the robot is powered down and placed in a locked-out/tagged-out (LOTO) state.
2. Confirm the part number on the bracket matches 'NXB-SRV-AC811-003' on the work order.
3. Inspect the NexBot Vision AC811-003 bracket for any shipping damage, burrs, or defects on the mounting surfaces.
4. Ensure the robot arm and servo motor mounting surfaces are clean, dry, and free of oil, grease, or debris.
5. Verify you have the correct NexBot-specified fasteners for both the bracket-to-arm and servo-to-bracket connections.
6. Confirm the servo model is compatible with the AC811-003 bracket as per the robot's integration manual.

3. Installation Procedure

Step 1: Step 1: Prepare Mounting Surfaces

Wipe down the mating surface on the robot arm and the corresponding surface on the servo motor body using a lint-free cloth and an approved degreasing agent. Allow the surfaces to dry completely before proceeding.

> **Warning:** Failure to properly clean surfaces can result in improper seating, leading to vibration and positional errors.

Step 2: Step 2: Position the Bracket on Robot Arm

Carefully align the NexBot Vision AC811-003 bracket with the corresponding mounting holes on the robot arm structure. Ensure the orientation is correct according to the assembly diagram.

Step 3: Step 3: Secure Bracket to Robot Arm

Insert the specified fasteners through the bracket into the robot arm. Hand-tighten them initially to ensure proper alignment without cross-threading.

> **Warning:** Do not use power tools for initial threading to prevent damage.

Step 4: Step 4: Torque Bracket-to-Arm Fasteners

Using a calibrated torque wrench, tighten the bracket-to-arm fasteners in a star or cross pattern to the torque value specified in the main robot service manual. This ensures even clamping force.

Step 5: Step 5: Mount the Servo Unit

Carefully position the servo motor onto the AC811-003 bracket, aligning its mounting holes with the threaded holes on the bracket. Ensure the servo is fully seated and flush against the bracket surface.

> **Warning:** Do not force the servo into place. If it does not seat easily, re-check for debris or misalignment.

Step 6: Step 6: Apply Thread Locker and Install Servo Fasteners

Apply a small drop of medium-strength thread-locking compound to the threads of the servo mounting fasteners. Insert the fasteners and hand-tighten them to secure the servo to the bracket.

Step 7: Step 7: Torque Servo-to-Bracket Fasteners

Using a calibrated torque wrench set to 3 Nm, tighten the servo mounting fasteners in a star pattern. This precise torque is critical for securing the servo without distorting its casing.

> **Warning:** Over-torquing can damage the servo housing, while under-torquing can lead to loosening from vibration.

Step 8: Step 8: Connect Servo Cables

Route and connect the servo's power and communication (e.g., PROFINET) cables according to the robot's wiring diagram. Ensure cables are secured and have adequate strain relief.

4. Post-Installation Verification

1. Double-check that all fasteners are tightened to their specified torque values.
2. Visually inspect the entire assembly for any gaps between mating surfaces.
3. Verify that all connected cables have sufficient slack for the robot's full range of motion without pinching or stretching.
4. Remove all tools and materials from the robotic work cell.
5. After safely removing LOTO, power on the robot and check for any new error codes on the controller.
6. Perform a slow, manual jog of the affected axis to confirm smooth movement and listen for any unusual noises.

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