Installation Guide: NexBot Safety 812-008 Sensor Mounting Bracket

SKU: NXB-SNS-812-008 | Revision: 1.0 | Category: Accessories & Mounting > Brackets & Adapters > Sensor Mounting Brackets

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

1. Required Tools & Materials

- Metric Hex Key Set (5mm, 6mm, 8mm)
- Calibrated Torque Wrench with Metric Sockets
- Digital Multimeter (for voltage verification)
- Wire Crimper and Stripper (for grounding lug)
- Flat-head Screwdriver
- Lint-free cloths and Isopropyl Alcohol
- Insulated Electrician's Gloves
- Safety Glasses

2. Pre-Installation Checks

1. Verify that the main power to the robotic cell is disconnected and a Lockout/Tagout (LOTO) procedure is in effect.
2. Confirm the received part number is NXB-SNS-812-008 and inspect the bracket for any shipping damage, such as cracks or bends.
3. Ensure the mounting surface on the robot frame is clean, flat, and free of debris or burrs.
4. Check that the designated installation area provides adequate clearance for the bracket's dimensions (210 x 75 x 165 mm) and subsequent sensor cabling.
5. Verify you have the correct NexBot-approved mounting hardware (bolts, washers) for the bracket and the corresponding sensor.
6. Confirm the intended sensor is compatible with the bracket's mounting pattern and the system's EtherCAT network.

3. Installation Procedure

Step 1: Step 1: Confirm Zero-Energy State

Before beginning, use a digital multimeter to verify that the mounting location and any adjacent conductors are de-energized. This step is critical as the bracket is intended for use in systems operating at 400-480VAC.

> **Warning:** Failure to verify a zero-energy state can result in severe electrical shock, injury, or death. Always follow established LOTO procedures.

Step 2: Step 2: Prepare Mounting Surface

Thoroughly clean the designated mounting surface with isopropyl alcohol and a lint-free cloth. Ensure the surface is completely dry before proceeding.

Step 3: Step 3: Position the Bracket

Carefully align the mounting holes on the NexBot Safety 812-008 Sensor Mounting Bracket with the corresponding threaded holes on the equipment frame. Do not force the bracket into place; it should sit flush against the surface.

Step 4: Step 4: Secure the Bracket

Insert the specified mounting bolts and washers. Hand-tighten all bolts first to ensure proper alignment, then use a calibrated torque wrench to tighten them to the specification listed in the main robot assembly manual. Tighten in a cross pattern to ensure even pressure.

> **Warning:** Do not over-torque the bolts, as this can damage the bracket's anodized aluminum structure or the equipment frame threads.

Step 5: Step 5: Attach the Grounding Wire

Securely fasten a dedicated grounding wire from the designated grounding point on the bracket to the main chassis ground. Ensure a solid, low-

impedance metal-to-metal connection. This is essential for electrical safety and signal integrity.

Step 6: Step 6: Mount the Sensor

Mount the compatible safety sensor onto the bracket using the provided hardware. Ensure the sensor is oriented correctly according to its own installation manual.

Step 7: Step 7: Connect Sensor Cabling

Connect the sensor's power and communication (EtherCAT) cables. Route the cables neatly, using any integrated cable management features on the bracket, and secure them to prevent snagging or interference with moving parts.

> **Warning:** Ensure cabling has sufficient slack to accommodate full robot motion without being stressed or pulled.

4. Post-Installation Verification

1. Double-check that all mounting hardware for both the bracket and the sensor is tightened to the correct torque.
2. Verify the grounding wire is secure and has continuity to the main chassis ground.
3. Inspect all cable connections to ensure they are fully seated and locked.
4. Remove all tools and materials from the work area.
5. Following established procedures, remove the LOTO device and restore power to the system.
6. In the robot controller software, verify that the newly installed sensor is online and communicating correctly over the EtherCAT network.

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