Installation Guide: NexBot Robotics 212-010 Safety Controller SIL3/PLe

SKU: NXB-CTL-212-010 | Revision: 1.0 | Category: Controllers & Software > Robot Controllers > Safety Controllers

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

1. Required Tools & Materials

- Calibrated torque wrench
- Metric hex key set
- Digital multimeter
- Precision level or alignment tool
- Lockout/tagout kit
- Laptop with commissioning software

2. Pre-Installation Checks

1. Verify that the delivered SKU matches NXB-CTL-212-010 and that the product name matches NexBot Robotics 212-010 Safety Controller SIL3/PLe.
2. Confirm the installation location and use case align with the Controllers & Software > Robot Controllers > Safety Controllers application requirements.
3. Inspect the unit for shipping damage and verify all visible surfaces, connectors, and fasteners are intact for the Polycarbonate assembly.
4. Validate that the available power and controls infrastructure matches 24VDC and EtherNet/IP with CIP Safety requirements.
5. Review the published protective rating and environmental limits before energizing the unit. Current ingress protection reference: IP20.
6. Confirm all applicable safety controls, guarding, and lockout/tagout procedures are in place before installation begins.

3. Installation Procedure

Step 1: Prepare the work area

Clear the installation zone, stage the required tools, and verify the mounting or routing path is suitable for NexBot Robotics 212-010 Safety Controller SIL3/PLe. Use the documented dimensions and clearances before positioning the unit with attention to 150 x 110 x 50 mm.

> **Warning:** Do not begin mechanical or electrical work until all energy sources are isolated and locked out.

Step 2: Position and secure the product

Install or route NexBot Robotics 212-010 Safety Controller SIL3/PLe according to the intended Controllers & Software > Robot Controllers > Safety Controllers application, ensuring all fasteners, clamps, or supports are tightened in the correct sequence. If the product interfaces with other equipment, maintain access for service and inspection.

Step 3: Connect utilities and controls

Complete all required power, signal, and communications connections using the documented configuration for NXB-CTL-212-010. Verify polarity, connector orientation, and termination quality before energizing the system.

> **Warning:** Connections must match the specified operating requirements for 24VDC to avoid equipment damage or unsafe operation.

Step 4: Commission the installation

Apply control power, confirm the product initializes without alarms, and verify basic status indications. If software commissioning is required, load the appropriate configuration and confirm communications and diagnostics are healthy on EtherNet/IP with CIP Safety.

Step 5: Verify functional operation

Run a controlled functional test for NexBot Robotics 212-010 Safety Controller SIL3/PLe under safe conditions and verify the installation performs

as expected. Document any adjustments required before releasing the equipment to production.

> **Warning:** Keep personnel clear of moving equipment during the first controlled startup.

4. Post-Installation Verification

1. Confirm all connectors, fasteners, and cable supports are secure and properly strain-relieved.
2. Verify no active alarms, faults, or abnormal status indicators remain after commissioning.
3. Record the final installation state, configuration details, and any deviations in the maintenance log.
4. Verify the equipment can be returned to service without interfering with guarding or operator access.
5. Ensure spare parts, support references, and service contacts are documented for the installed SKU.

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