

Installation Guide: NexBot Vision 622-015 Emergency Stop Device, 40mm Twist-Release

SKU: NXB-GEN-622-015 | Revision: 1.0 | Category: Safety Systems > Safety Interlocks > E-Stop Devices

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

1. Required Tools & Materials

- Panel knockout punch or step drill bit (for 22.5mm mounting hole)
- Phillips head screwdriver (#2)
- Flathead screwdriver (3mm for terminals)
- Wire stripper/cutter (18-22 AWG)
- Wire crimping tool and appropriate ferrules
- Digital Multimeter (DMM)
- Torque screwdriver
- Safety glasses

2. Pre-Installation Checks

1. Verify that the machine and control panel are completely de-energized and locked-out/tagged-out (LOTO).
2. Confirm the SKU NXB-GEN-622-015 matches the project specification.
3. Inspect the device for any signs of shipping damage, such as cracks in the polycarbonate housing.
4. Review the control system's electrical schematics to identify the correct safety circuit integration points.
5. Ensure the installation location provides clear, unobstructed access for personnel in an emergency.
6. Confirm the control voltage matches the device's 24VDC rating.

3. Installation Procedure

Step 1: Prepare Mounting Location

Select a suitable location on the control panel. Create a standard 22.5mm mounting hole for the operator base. Ensure the surrounding area is clean and free of burrs that could compromise the IP65 seal.

Warning: Wear safety glasses to protect against metal shavings during drilling or punching.

Step 2: Mount the Device

Insert the E-stop operator through the mounting hole from the front of the panel. From the rear, slide the mounting adapter over the operator base and secure it with the provided locking nut. Do not overtighten.

Step 3: Install Contact Blocks

Snap the normally closed (NC) contact block onto the mounting adapter. Ensure it is fully seated and the locking tab engages correctly. For redundant circuits, a second contact block may be added.

Warning: Always use the normally closed (NC) contacts for an emergency stop circuit to ensure fail-safe operation.

Step 4: Prepare Safety Circuit Wires

Cut the safety circuit wires to the required length. Strip approximately 8mm of insulation from the wire ends. If using stranded wire, it is recommended to install wire ferrules for a secure terminal connection.

Step 5: Connect Wiring

Loosen the terminal screws on the contact block. Insert the prepared wires into the appropriate NC terminals and tighten the screws to the manufacturer's recommended torque specification. Gently tug on each wire to ensure a secure connection.

Warning: Incorrect wiring can defeat the safety function. Double-check connections against the electrical schematic.

Step 6: Secure Enclosure

Once all components are installed and wired, close and secure the control panel door. Ensure no wires are pinched or stressed by the panel door or other components.

4. Post-Installation Verification

1. Visually inspect the installation for correct assembly and secure wiring.
2. With power still off, use a multimeter to check for continuity across the NC contacts when the button is reset (armed).
3. Verify there is no continuity (an open circuit) across the NC contacts when the button is pressed (actuated).
4. After removing LOTO and re-energizing the panel, perform a full functional test of the emergency stop circuit.
5. Press the E-stop and confirm that all hazardous motion and energy sources are stopped or removed as designed.
6. Twist to release the button and verify that the system does not automatically restart, requiring a separate start command.

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