

# Installation Guide: NexBot Drives 341-006 Thermal Camera

SKU: NXB-SNS-341-006 | Revision: 1.0 | Category: Sensors & Vision > Temperature & Environment Sensors > Thermal Cameras

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

## 1. Required Tools & Materials

- M4 Hex Key Set
- Torque Wrench (Nm scale)
- Industrial Shielded Cat6a Ethernet Cable with M12 X-coded connector
- 24VDC Power Cable with M8 A-coded connector
- Robot-specific mounting bracket
- Wire strippers and ferrule crimper (if using unterminated cables)
- Laptop with NexBot Vision Suite software installed
- Anti-static wrist strap

## 2. Pre-Installation Checks

1. Verify package contents include the NXB-SNS-341-006 camera and documentation.
2. Inspect the camera's germanium lens and anodized aluminum housing for any signs of shipping damage.
3. Ensure the designated mounting surface is rigid, clean, and free from excessive vibration.
4. Confirm the host controller or PC has a dedicated Gigabit Ethernet port configured for GigE Vision communication.
5. Verify the 24VDC power source is stable, properly fused, and can supply the required current.
6. Check that all power and data cables are of sufficient length and are rated for the industrial environment.

### 3. Installation Procedure

#### Step 1: De-energize Equipment

Before installation, ensure the robotic cell and all related machinery are powered down and follow proper Lockout/Tagout (LOTO) procedures. This prevents accidental movement or electrical shock.

**Warning:** Failure to de-energize equipment can result in severe injury or death.

#### Step 2: Securely Mount the Camera

Fasten the NexBot Drives 341-006 camera to the mounting bracket using four M4 bolts. Tighten the bolts to the specification provided by the bracket manufacturer, ensuring not to overtighten and damage the camera's 6061-T6 aluminum housing.

#### Step 3: Connect Power Cable

Connect the 24VDC power supply cable to the camera's designated power input port. Ensure the M8 connector is fully seated and the locking ring is tightened to maintain the IP67 seal.

**Warning:** Ensure correct polarity. Reversing the power supply connection may permanently damage the device.

#### Step 4: Connect Data Cable

Attach the GigE Vision Ethernet cable to the camera's data port. As with the power cable, ensure the M12 connector is fully engaged and locked to protect against moisture and dust ingress.

#### Step 5: Route and Secure Cabling

Carefully route the power and data cables along the robot arm or structure, using appropriate cable management and strain relief. Leave sufficient slack to accommodate the robot's full range of motion without pinching or stretching the cables.

### Step 6: Power On System

After removing LOTO and ensuring the area is clear, re-energize the robotic cell and the camera's 24VDC power supply. Observe the status indicator LED on the camera to confirm it has powered on correctly.

### Step 7: Configure Network Interface

On the host PC, configure the network interface card (NIC) to be on the same subnet as the camera's default IP address. It is highly recommended to enable Jumbo Frames (9k MTU) for optimal performance with the GigE Vision protocol.

### Step 8: Establish Software Connection

Launch the NexBot Vision Suite software. Use the device discovery tool to locate the NXB-SNS-341-006 on the network, establish a connection, and confirm that a live thermal stream is being displayed.

## 4. Post-Installation Verification

1. Verify a stable, uninterrupted thermal video stream is received in the NexBot Vision Suite.
2. Monitor the network connection for packet loss or high latency over a 15-minute test period.
3. Confirm the camera's reported ambient temperature is plausible for the surrounding environment.
4. Manually move the robot through its most extreme positions to verify cable routing is free from snagging or stress.
5. Perform an initial focus adjustment at the target working distance and save the configuration.
6. Check that the camera's housing temperature remains within its specified operating range after 30 minutes of use.

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