

Description

The C10DN Series camera is Pelco's smallest day/night camera. Its day/night technology provides outstanding performance over a wide range of lighting conditions. The camera also uses a removable infrared (IR) cut filter to switch between color and black-white (B-W) modes as environmental lighting conditions change.

On-screen programmable menus can be accessed using the side panel controls. Use these menus to customize camera settings for the specific application.

The C10DN Series camera has a standard CS mount and can be used with fixed, manual, or DC drive auto iris lenses. The auto iris is controlled through a standard 4-pin square connector that is included with all Pelco auto iris lenses.

The C10DN Series camera is quick and easy to install and is ideal for Pelco's DomePak® and ImagePak® fixed camera dome/enclosure packages.

MODELS

C10DN-6	1/3-inch high resolution day/night, CCD camera, 24 VAC or 12 VDC, NTSC format
C10DN-6X	1/3-inch high resolution day/night, CCD camera, 24 VAC or 12 VDC, PAL format
C10DN-7X	1/3-inch high resolution day/night, CCD camera, 220–240 VAC, PAL format

OPTIONAL ACCESSORIES

C10-UM	C10 series universal wall/ceiling/rail mounting kit.
LDC100	Auto iris drive converter; converts a DC drive auto iris lens to a video drive auto iris lens. Compatible with all lens size formats.
PCMA40	Lens adapter; adapts standard C-mount lenses to CS-mount cameras.

REQUIRED TOOLS

- Small Phillips screwdriver for connector cover
- Small flat tip screwdriver for serial termination
- Allen wrench (1.5 mm) for back focus adjustment
- Neutral density filter (ND3) for auto iris adjustment

Camera Layout

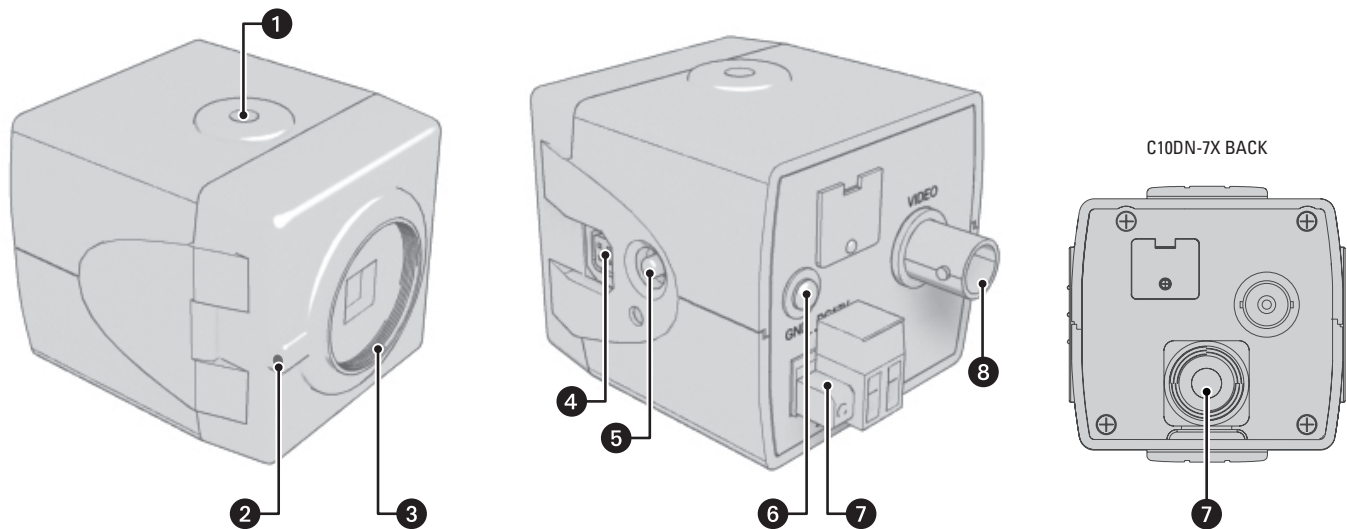


Figure 1. C10DN Series Camera

- 1 **Camera Mount:** Use the top or bottom mount hole. The maximum thread depth is 0.25 inches (6.4 mm); refer to *Camera Mounting* on page 10.
- 2 **Back Focus Locking Screw:** Use a 1.5-mm Allen wrench to adjust the back focus (refer to *Lens Focusing* on page 25). Back focus is set at the factory for a standard CS-mount back focus distance.
- 3 **Lens Mount:** Mount a standard CS-mount lens to the C10DN Series camera (refer to *Lens Mounting* on page 9). To use a C-mount lens, install a C- or CS-mount adapter.
- 4 **Auto Iris Lens Connector:** Insert the 4-pin connector from the DC drive auto iris lens into this connector (refer to *Lens Mounting* on page 9).
- 5 **Setup Button:** Use this five-position button to configure the camera through the setup menus (refer to *Accessing the Setup Menus* on page 15).
- 6 **Ground Screw:** Use this screw terminal as a ground.
- 7 **Power Connector** (refer to *Connecting Power* on page 11):
 - **C10DN-6/6X, Terminal Block:** Use the 2-pin terminal block to connect either 12 VDC or 24 VAC power.
 - **C10DN-7X, Power Cord:** A 2-terminal type cord for 220–240 VAC.
- 8 **Video Output Connector:** Connect a coaxial video cable to this BNC connector to output the video image (refer to *Connecting Video* on page 10).

Installation

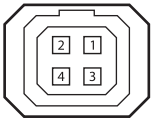
LENS MOUNTING

The C10DN Series camera supports both manual and auto iris lenses, either fixed focal length or varifocal. It also supports both DC and video drive lenses. It automatically senses an auto iris lens as soon as you plug in the connector. The camera has a standard CS mount that can accept a C-mount lens with a PCMA40 lens adapter.

After mounting a DC drive auto iris lens, but before using the camera, perform the dc drive auto iris automatic adjustment procedure (refer to *DC Iris Level* on page 20). Also perform this procedure each time you change the lens.

WIRING AN AUTO IRIS LENS

Auto iris lenses are controlled through the 4-pin drive connector (type D4-152N). Figure 2 identifies the pin connections for the auto iris lens connector on the side of the camera.



Pin	DC Drive	Video Drive
1	Control coil negative (-)	+9 VDC (40 mA maximum)
2	Control coil positive (+)	+9 VDC (40 mA maximum)
3	Drive coil positive (+)	AI-Video
4	Drive coil negative (-)	GND

Figure 2. DC Drive Auto Iris Lens Connector

MOUNTING THE LENS

To mount the lens onto the camera refer to Figure 3, and then complete the following steps:

1. Make sure the lens will not touch the camera imager when installed.
2. Use clean, compressed air or a clean, dry lens cloth to make sure there is no dust or other foreign matter between the lens and the camera imager.
3. **C-mount lens:** Screw the adapter onto the lens.
4. Screw the lens onto the lens mount.

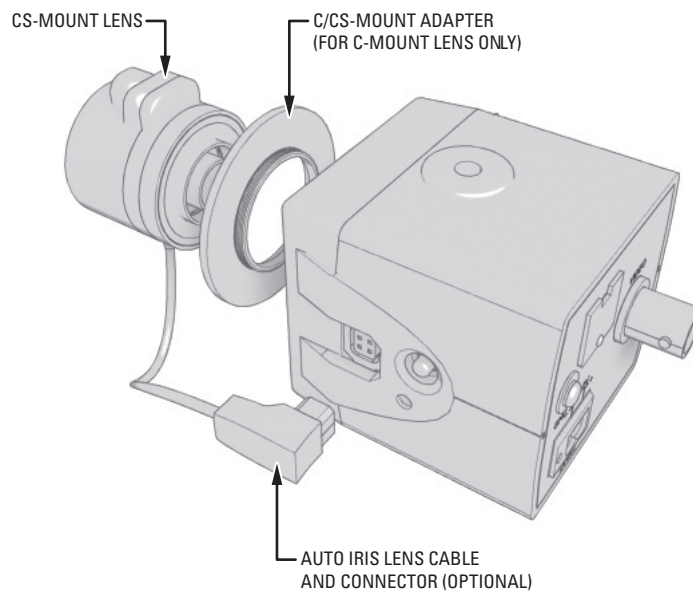


Figure 3. Mounting Lens to Camera

5. **Auto iris lens:** Connect the 4-pin connector from the lens to the connector on the side of the camera.
6. Perform the lens focusing procedure before using the lens (refer to *Lens Focusing* on page 25).

CAMERA MOUNTING

The C10DN Series camera can be mounted from either the top or bottom, depending on the type of camera mount used in your installation. Use a standard 1/4-20 screw. The maximum thread depth (top) is 0.188 inches (4.7 mm). To extend the thread depth (top) to 0.25 inches (6.4 mm), use the camera mount spacer (supplied). The maximum thread depth (bottom) is 0.25 inches (6.4 mm).

The C10DN Series camera can be fitted with most Pelco lenses and mounted into most Pelco domes and enclosures, resulting in the greatest possible number of combinations. This means you can find a solution for nearly any application.

When selecting a lens, dome, or enclosure for this camera, consider how the physical dimensions of each component may affect camera installation and operation.

NOTE: To simplify lens and enclosure selection, Pelco offers ImagePak options for the C10DN Series camera. Select the lens and the dome or enclosure. Pelco will build and test it for you. Contact Pelco or your dealer for more information.

CONNECTING VIDEO

Connect a coaxial video cable to the BNC connector on the back of the camera. Refer to Table A for the type of video coaxial cable to use.

Table A. Video Coaxial Cable Requirements

Cable Type*	Maximum Distance
RG59/U	750 ft (229 m)
RG6/U	1,000 ft (305 m)
RG11/U	1,500 ft (457 m)

*Cable requirements:

75-ohm impedance

All-copper center conductor; steel-center

conductor cable may result in poor performance

All-copper braided shield with 95% braid coverage

If white spots appear in the video image, one or more pixels on the camera imager may be defective. This condition is common to CCD camera imagers. To correct this condition, refer to *Save as Custom* on page 24.

CONNECTING POWER

The C10DN-6 and C10DN-6X are designed to operate from either a 12 VDC or a 24 VAC power source. The camera automatically senses power type. Use only a Class 2 isolated power source that can supply 12 VDC $\pm 15\%$ or 24 VAC $\pm 15\%$, 50/60 Hz. Maximum power consumption is about 3.5 W.



WARNINGS:

- Do not connect high voltage power to the camera because you may damage the camera.
- Do not short circuit the power leads when connecting the power supply to the camera.
- Do not remove the connector cover during camera operation.

NOTES:

- Be sure to use 60 Hz power for NTSC (C10DN-6) and 50 Hz power for PAL (C10DN-6X and C10DN-7X).
- Install the camera near a socket or outlet that is easily accessible.

Use Table B to help you identify the necessary wire gauge and maximum cable distance. This table applies to 2-conductor solid copper wire. (Reduce distance by 10 percent for stranded copper wire.) These maximum distances are based on a maximum allowable voltage drop of 10 percent.

Table B. Recommended Wire Gauge and Maximum Wiring Distances

Wire Gauge	Maximum Distance	
	12 VDC	24 VAC
24 AWG (0.25 mm ²)	80 ft (24 m)	323 ft (98 m)
22 AWG (0.35 mm ²)	128 ft (39 m)	513 ft (156 m)
20 AWG (0.5 mm ²)	203 ft (61 m)	815 ft (248 m)
18 AWG (1.0 mm ²)	323 ft (98 m)	1,295 ft (394 m)
16 AWG (1.5 mm ²)	514 ft (156 m)	2,056 ft (626 m)
14 AWG (2.5 mm ²)	816 ft (248 m)	3,264 ft (994 m)
12 AWG (4.0 mm ²)	1,295 ft (394 m)	5,183 ft (1,579 m)
10 AWG (6.0 mm ²)	2,057 ft (626 m)	8,228 ft (2,507 m)

C10DN-7X CAMERA ONLY

The C10DN-7X camera uses a power main supply of 220–240 VAC, 50 Hz. This main supply must also have a minimum rating of 50 mA.



CAUTION: Unplug the power cord during installation.