SPECIFICATIONS

General

Imaging Device	Color 1/4-inch interline transfer CCD
Signal System	NTSC
Pixels	768 (H) x 508 (V)
Scanning System	2:1 interlace
Sync System	
12 VDC	Internal synchronization
24 VAC	External AC line lock
Horizontal Resolution	470 TV lines
Signal-to-Noise Ratio	>46 dB
Minimum Illumination	1.0 lux, F1.6, 30 IRE, AGC on, 89.9% reflectance
Gain Control	Automatic
Exposure	Automatic (1/60–1/10,000)
White Balance	Push to set auto
Focal Length	3.9 to 63 mm
Zoom Ratio	16X optical, 8X digital (total 128X)
Minimum Focus Distance	0.01m (wide angle), 1.20m (telephoto)
Focus Mode	Auto focus
Iris Control	Automatic
Camera Control	RS-422 cable interfaced with PC

Electrical

Power Requirements	
CC1400HZ16-2	24 VAC, 50/60 Hz
CC1400HZ16-4	12 VDC, 50/60 Hz
Power Consumption	
CC1400HZ16-2	6 watts maximum (camera only)
CC1400HZ16-4	4.7 watts maximum (camera only)
Video Output	Composite output, 75 ohms terminated

Environmental

Operating Temperature	32°-113°F (0°-45°C)
Storage Temperature	32°-140°F (0°-60°C)
Humidity	0%-80% relative humidity

Physical

Construction	Aluminum case
Finish	Neutral gray
Dimensions	
CC1400HZ16-2	2.36 (H) x 2.27 (W) x 5.63 (L) inches (5.99 x 5.77 x 14.30 cm)
CC1400HZ16-4	2.36 (H) x 2.27 (W) x 4.42 (L) inches (5.99 x 5.77 x 11.20 cm)
Weight	
12 VDC	0.75 lb (0.34 kg)
24 VAC	0.95 lb (0.43 kg)

(Design and product specifications subject to change without notice.)

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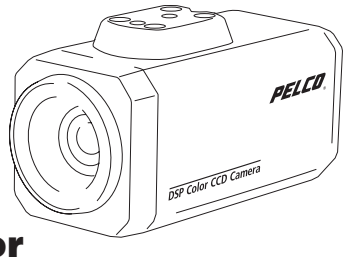
CC1400HZ16-* Series



DSP Color CCD Camera

C1960M-A

SAFEGUARDS AND WARNINGS

Prior to installation and use of this product, the following WARNINGS should be observed.

1. Installation and servicing should only be done by qualified service and installation personnel.
2. Installation shall be done in accordance with all local and national electrical and mechanical codes utilizing only approved materials.
3. Use only installation methods and materials capable of supporting four times the maximum specified load.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

Please thoroughly familiarize yourself with the information in this manual prior to installation and operation.

DESCRIPTION

The CC1400HZ16-* Series DSP Color CCD Camera combines high resolution imaging and a built-in lens in a compact package. This DSP (Digital Signal Processing) camera uses a 1/4-inch color CCD (charged coupled device) interline transfer sensing element. The built-in lens has a maximum zoom ratio of 128X (16X optical and 8X digital).

The telephoto (zoom in), white balance, and wide angle (zoom out) controls are push buttons located on the back of the camera. When you press and hold the telephoto button, the camera reaches maximum optical magnification (16X). If you continue to press and hold the telephoto button, the camera automatically goes into 8X digital zoom. Auto focus is enabled during zoom lens setup. The white balance control renders colors based on the amount of white in the scene. Once you set the white balance, the camera holds the setting until you adjust the white balance again.

Additional adjustments can be made by connecting the camera to a personal computer through an RS-422 cable interface. For information about adjusting the camera through an RS-422 interface cable, please contact the factory.

MODELS

CC1400HZ16-2	NTSC format camera, 24 VAC
CC1400HZ16-4	NTSC format camera, 12 VDC

INSTALLATION

1. Attach to a mount.
2. Connect video cable to the VIDEO OUT connector (BNC) on the rear of the camera. Refer to Table A for the type of video coaxial cable to use.
3. Connect input power to the screw terminals on the back of the camera.
4. To adjust the scene, do the following as necessary:
   - To zoom in, push and hold the TELE button until achieving the desired distance, then release. Once the camera reaches its zoom limit (16X), the camera automatically goes into 8X digital zoom (for a maximum zoom of 128X).
   - To zoom out, push and hold the WIDE button until achieving the desired distance, then release.
   - To accurately render colors, push and release the PUSH AUTO WB button. The camera reads the white color in the scene and renders other colors accordingly.

POWER REQUIREMENTS

An external power supply (not provided) is required when using CC1400HZ16-* Series cameras. Use a power supply that is UL listed (U.S.A.) or CSA certified (Canada).

Power and Video Connections

If you are using AC power and wiring more than one camera to the same transformer, connect one side of the transformer to the same terminal on all cameras, and connect the other side of the transformer to the remaining terminal on all cameras. Failure to connect all of the cameras the same will cause the cameras to be out of phase with each other and may produce what appears to be vertical roll when switching between cameras.

WARNING: *Be sure to connect the power and ground leads to the appropriate terminals. Wrong connections may cause malfunction and/or damage to the video camera.*

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)

* Minimum cable requirements:
75 ohms
All-copper center conductor
All-copper braided shield with 95% braid coverage

CAMERA SYNCH AND V-PHASE

When using a DC power supply, synchronization is internally locked and V-phase control is inoperative.

V-phase adjustment is unnecessary when using AC power with a single camera.

When powering more than one camera with AC, phase differences may occur as a result of being connected to different power groups. These phase differences become apparent as a brief rolling of the picture each time cameras are switched.

Vertical roll can be corrected by synchronizing the cameras using the V-phase control on the back of the camera.

Generally, it is necessary to have two people in communication when cameras are synchronized: one person at the camera to be synchronized and a person at the monitor to observe the vertical “roll” and the effect of any adjustments made at the camera.

1. Choose a camera to which all of the other cameras will be synchronized. Go through the available cameras and determine the best camera to which the others should be synchronized.
2. Select a second camera that is out of synchronization with the first camera.
3. To shift the V-phase, turn the V-phase control.
4. Switch the cameras back and forth, observing the “roll” between the cameras when they are switched.
5. If “roll” is present, turn the V-phase control again, observing the “roll” each time an adjustment is made.
6. Repeat this process as many times as necessary and for each of the other cameras in the system.

REGULATORY NOTICES

NOTE: This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be re-

WARRANTY

This product is covered under Pelco’s standard three-year warranty. Please consult factory for details on warranty and return policy.