



e-Watch®

Installation Guide for CAM-322-E CAM-332-E CAM-352-E

Outdoor Day/Night Fiber Camera

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- Turn the television or radio antenna until the interference stops.
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e-Watch systems do not prevent crimes from being committed, but are intended to be used to monitor and investigate.

e-Watch components are electronic devices and complex commercial software products. As such, they may fail on occasion. Multiple devices with overlapping zones should be used for redundancy.

e-Watch event notification capabilities must be user programmed and activated prior to use. System reliability is dependent on the underlying network infrastructure and associated communications services that may fail on occasion. The user of the e-Watch system is advised to evaluate risk associated with network failures and operator errors. Routine auditing and preventive maintenance of the system is essential to assure optimum performance.

Event analysis and recreation is subject to system configuration, lighting conditions, environmental conditions, lens and housing cleanliness, distance to subject, operator-invoked control settings, and many other factors.

Read and follow all documentation to assure proper performance.


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PREFACE

The preface describes the purpose, audience, organization, and conventions of this guide and provides information on how to obtain related documents.

The preface covers these topics:

- **Purpose**
- **Audience**
- **Organization**
- **Related Documentation**
- **Conventions**
- **Obtaining Documentation**
- **Documentation Feedback**
- **Obtaining Assistance**

Purpose

This document provides instruction for the installation of the CAM-322-E, CAM-332-E, CAM-352-E Outdoor Day/Night Fiber Cameras. The Installation Guide for outdoor fiber cameras provides a parts list and diagrams. It also provides illustrations of the connections and construction required. This document acts as an illustrated guide for hardware installation.

Audience

This Installation Guide provides information for hardware construction and is intended for qualified technicians involved in hardware maintenance and repair. This guide requires knowledge of basic electronic hardware installation and tools. Ability to lift five to ten pounds is required for installation of the unit.

Organization

This guide is organized as shown in the following table

Part	Description
Part 1	‘Installation Guide’ Contains information on constructing and installing a outdoor fiber camera. Diagrams and procedures are included.
Part 2	‘Appendix’ Contains an illustration of a completed outdoor fiber camera and suggestions for better performance.

Related Documentation

Refer to the following documents for further information about related e-Watch applications and products:

- **URG-9110-001—SiteWatch™ Situational Awareness System Administration Guide**
- **URG-9111-001—e-Watch® Situational Awareness System Quick Start Guide**
- **Pelco Manual C1405M-E**

Conventions

This document uses the following conventions:

CONVENTION	DESCRIPTION
Boldface font	Commands and keywords are in boldface .
<i>Italic font</i>	Arguments for which you supply values are in <i>italics</i> .
[]	Elements in square brackets are optional.
{x y z}	Alternate keywords are grouped in brackets and separated by vertical bars.
[x y z]	Optional keywords are grouped in brackets and separated by vertical bars.
String	A non-quoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Screen font	Terminal sessions and information the system displays are in screen font.
Boldface screen font	Information you must enter is in boldface screen font.
<i>Italic</i> screen font	Arguments for which you supply values are in <i>italic</i> screen font.
^	The symbol ^ represents the key labeled Control - for example, the key combination of ^D in a screen display means hold down the Control key while you press the D key.
-->	This pointer highlights an important line of text in an example.
<>	Non-printing characters, such as passwords, are in angle brackets.

Obtaining Documentation

The following sections provide sources for obtaining documentation from e-Watch Corp.

World Wide Web

e-Watch documents can be found by going to the e-Watch web site www.e-watch.com

By Mail

e-Watch Corp.
 7800 IH 10 West, Suite 720
 San Antonio, Texas 78230
 210.349.2000
support@e-watch.com

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You can submit technical comments about e-Watch documentation in the following ways:

E-mail your comments to support@e-watch.com

To submit comments by mail, write to the following address:

e-Watch Corp.
 7800 IH 10 West, Suite 720
 San Antonio, Texas 78230

We appreciate your comments.

Obtaining Assistance

The following sections provide sources for obtaining assistance from e-Watch Corp.

Customer Support

For technical assistance please send requests to support@e-watch.com or your local e-Watch reseller. You may also call 210-349-2000 and ask for Customer Support.

Sales

For assistance with sales or marketing please call 210-349-2000 and ask for Sales or send requests to sales@e-watch.com

Introduction

Key Features and Benefits

The CAM-322-E, CAM-332-E and, CAM-352-E Cameras are e-Watch® Outdoor Day/Night Fiber Cameras, capable of full communication with any PC running the ViewWatch™ software.

CAM-322-E is a Multimode Duplex SC fiber camera. CAM-332-E is a Singlemode Duplex SC fiber camera. CAM-352-E is a Singlemode MTRJ fiber camera. These fiber cameras are in an outdoor enclosure. Power requirements are discussed latter in this document.

e-Watch is an enterprise wide surveillance and situational awareness system optimized for transmitting MPEG video streams, high resolution JPEG images, detected event data and other sensor and detector data using digital data transmission over both wired and wireless networks (LANs, WLANs).

The comprehensive e-Watch® Situational Awareness System is based on standard networking and Internet technology. Both real-time and archived data may be viewed from any authorized PC on the LAN, WAN or the Internet. The archive application tracks and maintains all situational awareness information and provides high-speed random access for fast location of data relating to specific events

Components Supplied with the Unit

The unit contains the following components:

- CAM-322-E, CAM-332-E or, CAM-352-E

Components Supplied by Customer

Power, mounting hardware and other connections must be supplied by the customer.

For More Information

e-Watch Sales at sales@e-watch.com

e-Watch Technical Support at support@e-watch.com

Power Requirements

Power

The CAM-322-E, CAM-332-E, CAM 352-E require a source of 24 VAC power. It contains a heater and fan to regulate the internal system temperature. Maximum power consumption of the system is limited to approximately 70 VA. Please observe the following recommendations for wire gauge when installing the camera's power cabling.

Table 2-1 Wire Gauge Based On 70vA

Wire Gauge	20	18	16
Feet	40	64	102
Meters	12	19	31

In addition, it is strongly recommended that a protective earth ground be installed and connected to the Camera's 'ground' connection. e-Watch Corporation will not cover damage to outdoor equipment caused by lightning-induced voltage transients. This protective ground should be installed in accordance with local codes. This protective ground connection should not be common with either of the 24 VAC wires (in other words, the 24 VAC wires should 'float' relative to the protective ground.)

To install power, please follow these steps.

1. Insure that the source of 24 VAC power is turned OFF.
2. Unlatch and open the lid to the CAM-3X2-E.
3. Remove one of the plastic knockout plugs from the bottom surface of the CAM-3X2-E housing (Figure 2-1).

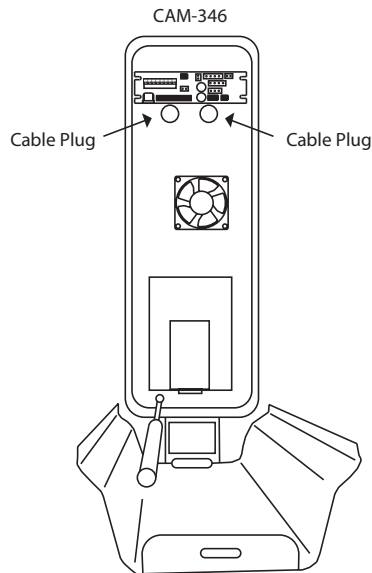


Figure 2-1 Cable Plugs

4. Assemble and install the gland nut. The accessories kit provided with the CAM-3X2-E has four (4) such gland nuts. Note that there are two different sizes of the gland nuts: all have the same outer diameter, but two of the gland nuts have a larger bore diameter, to accommodate larger diameter cables. Select the gland nut appropriate for the cable being used, and install it according to Figure 2-2.

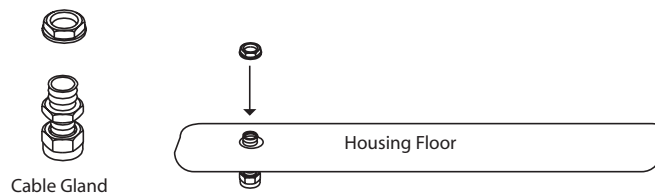


Figure 2-2 Cable Gland

5. Route the 24 VAC power cable through the gland nut installed in step 4. Also route the protective ground wire through the gland nut.
6. Identify the two 24 VAC wires in the power cable. Connect them to the 'HI' and 'NT' screw terminals on the terminal block depicted in Figure 2-3. In addition, identify the protective safety ground wire and connect it to the GND terminal depicted in Figure 2-3.

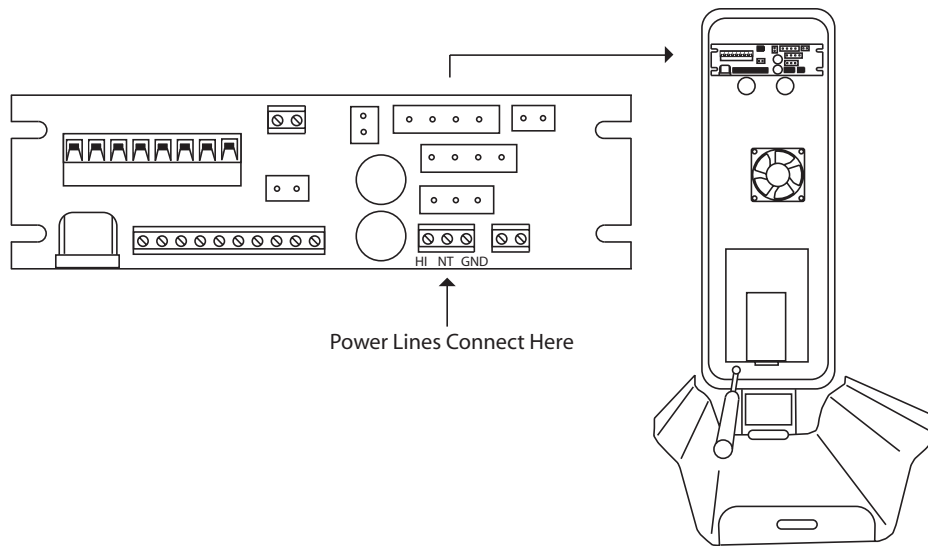


Figure 2-3 Power Line Connection

7. Turn the source of 24 VAC power ON. If possible, measure the incoming 24 VAC with a voltmeter. Verify that the front panel LED's on the camera assembly illuminate, indicating that 24 VAC power is available.
8. To complete the installation, it is strongly recommended that a waterproofing compound be added to the inner bore of the power cable gland nut. This will prevent ingress of humidity and insects into the enclosure.

Note: For added stability please follow the suggestions in “Appendix B” on page 12

Network

Network Wiring

The cameras will require a fiber connection to establish network connectivity.

Each camera has a specific type of fiber connection. Please follow these steps to connect the fiber cables.

1. Open the outdoor enclosure.
2. Remove one of the plastic cable plugs from the housing

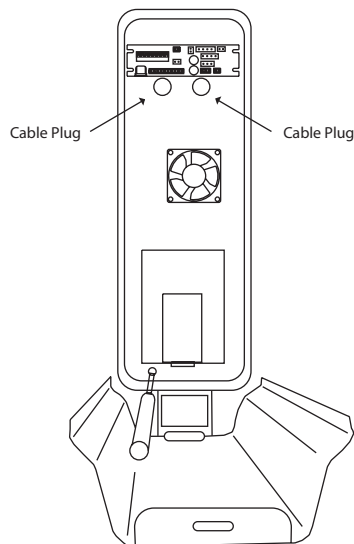


Figure 3-1 Cable Plugs

3. Assemble and install the Cable Gland

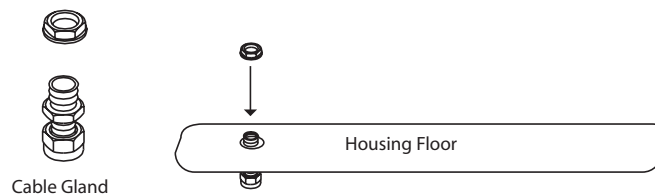


Figure 3-2 Cable Gland

4. Run the fiber optic cable from the bottom of the enclosure thru the cable gland into the housing.

Note: When using a Duplex SC connector please follow the procedure described on page 8

Note: For added stability please follow the suggestions in “Appendix B” on page 12

5. Remove the optical protector plug from the fiber connector at the rear of the e-Watch camera
6. If your camera model is a CAM-322-E, you will use multimode fiber and a Duplex SC connector.
7. If your camera model is a CAM-332-E, you will use singlemode fiber and a Duplex SC connector.
8. If your camera model is a CAM-352-E, you will use singlemode fiber and a MTRJ connector.
9. Connect the appropriate fiber connector to the e-Watch camera

Note: Fiber optic connections are delicate, use caution

10. Close the outdoor camera housing.

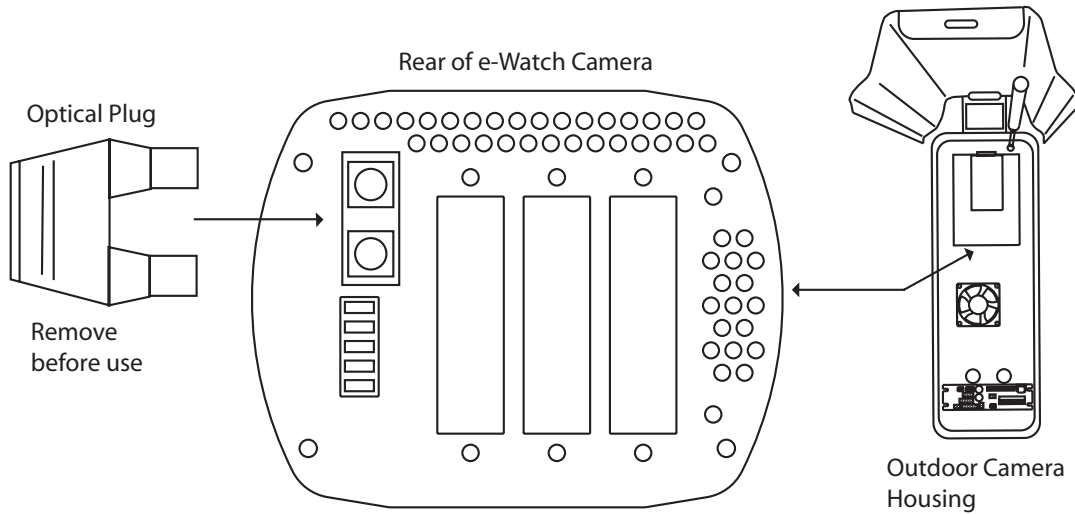


Figure 3-3 Duplex SC Fiber Connection

Duplex SC Special Procedure

When using a Duplex SC connector, it will be necessary to remove the individual SC connectors from the duplex clip, in order to feed the connectors through the watertight bushing. Be sure to reassemble the individual connectors in the correct orientation. For reference, the camera's fiber transmitter is the top SC connector, labeled 'A' on the duplex connector. The bottom SC connector (Labeled 'B') is the camera's fiber receiver.

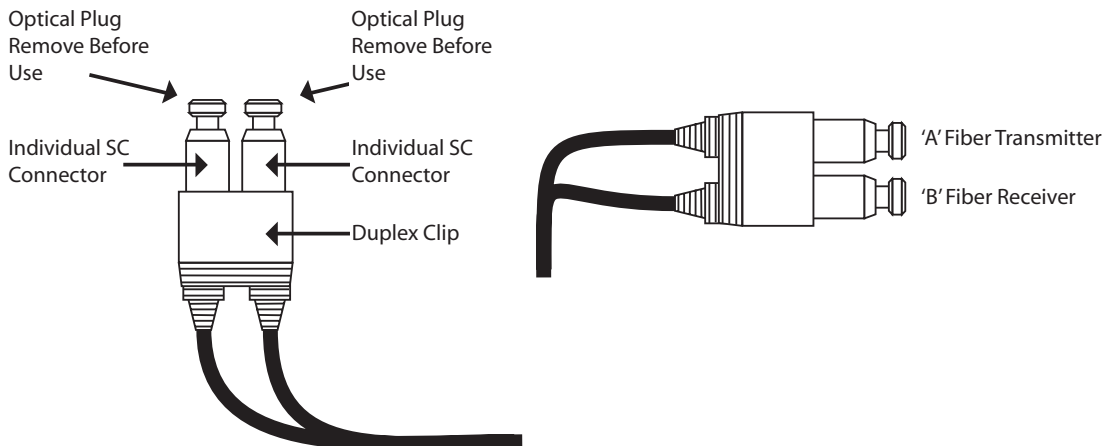


Figure 3-4 Duplex SC Fiber Connector

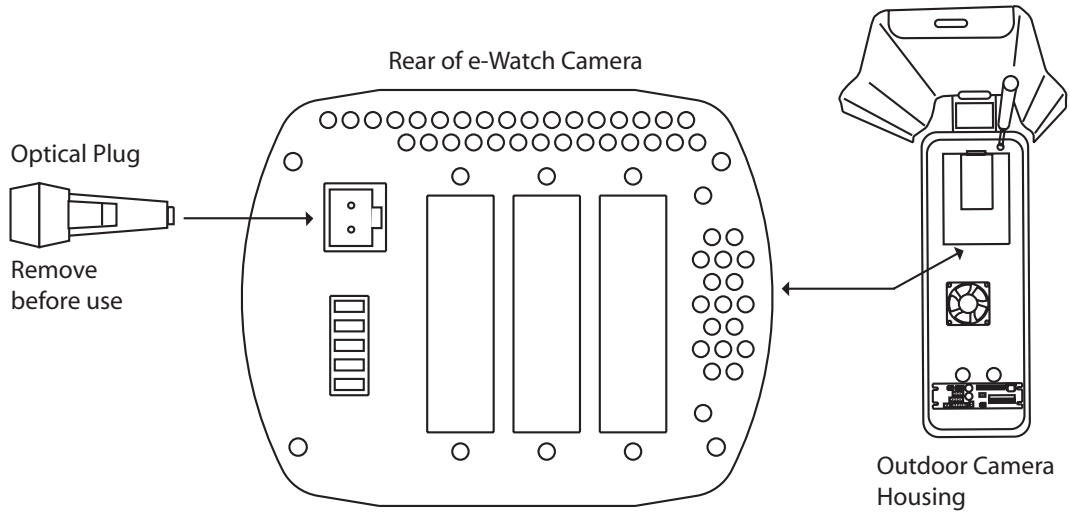


Figure 3-5 MTRJ Fiber Connection

Mounting

Mounting

The CAM-322-E, CAM-332-E, CAM-352-E weighs 9.65 lb; please mount the unit on a base strong enough to support the weight. Please refer to the included Pelco Manual C1405M-E for specific mounting detail.

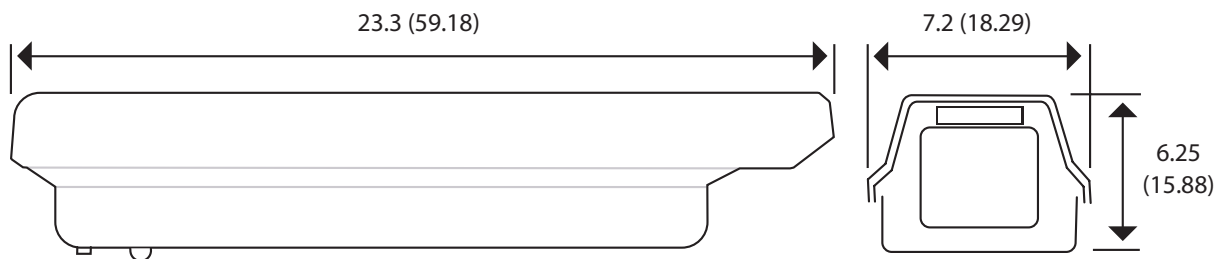


Figure 4-1 CAM-322-E, CAM-332-E, CAM-352-E Dimensions

Completed System

The CAM-322-E, CAM-332-E, CAM-352-E should appear similar to Figure A-1 below.

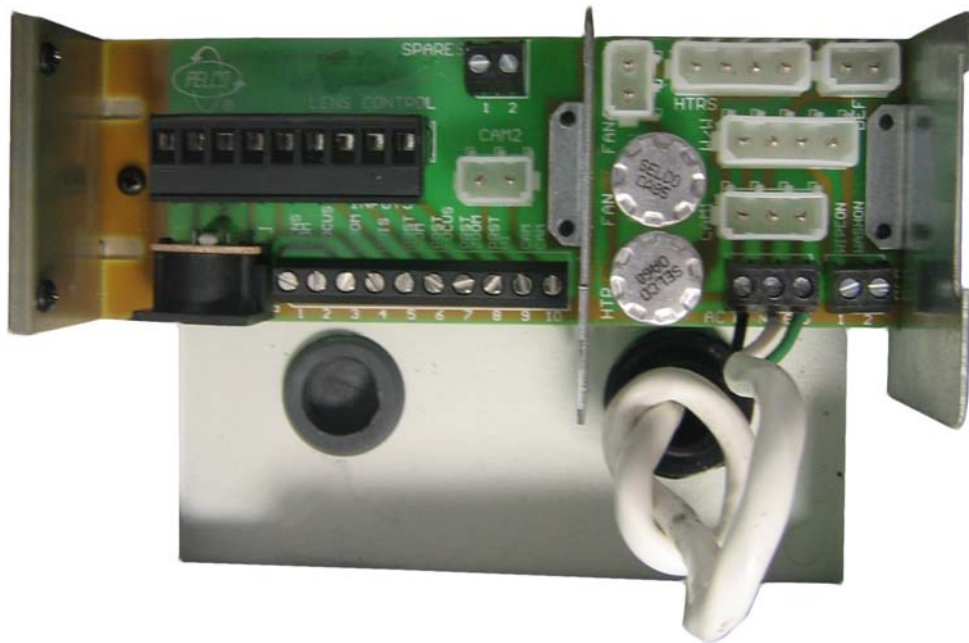


Figure A-1. CAM-322-E, CAM-332-E, CAM-352-E

Suggestions

Wiring Suggestion

To increase the strength of the power cable to housing connection, it is suggested that the power cable be tied in a knot inside the housing.



How To Use A Voltmeter

Incoming 24 VAC power may be measured with a commonplace Digital Voltmeter (DVM). Although DVM's from different manufacturers may vary in appearance and other detail, basic operation is similar:

1. Make sure that the black probe is plugged into the socket labeled 'COMMON'
2. Make sure that the red probe is plugged into the socket labeled 'V' or 'VOLTS'.
3. Using the meter's *knob* or *selector* buttons, select 'VOLTS AC'. This is sometimes indicated with a '~' symbol.
4. Select a voltage range higher than the 24 VAC you expect to see; typically a 100 VAC scale is available.
5. Place the red and black probe across the incoming 24 VAC wires (since it is AC voltage, the polarity of the probes is unimportant).

Expect to measure an AC voltage typically within 22 - 26 volts. Note that this voltage may be lower than the same voltage measured at the source, due to the effects of voltage drop across the wiring between the source and the load.