PELCO
by Schneider Electric

Sarix® TM Series
Thermography
Fixed Camera

C1331M (5/15)

Contents

Important Notices

REGULATORY NOTICES

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RADIO AND TELEVISION INTERFERENCE

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 required to correct the interference at his own expense.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

CAN ICES-3 (A)/NMB-3(A)

WARRANTY STATEMENT

For information about Pelco's product warranty and thereto related information, refer to *www.pelco.com/warranty*.

LEGAL NOTICE

SOME PELCO EQUIPMENT CONTAINS, AND THE SOFTWARE ENABLES, AUDIO/VISUAL AND RECORDING CAPABILITIES, THE IMPROPER USE OF WHICH MAY SUBJECT YOU TO CIVIL AND CRIMINAL PENALTIES. APPLICABLE LAWS REGARDING THE USE OF SUCH CAPABILITIES VARY BETWEEN JURISDICTIONS AND MAY REQUIRE, AMONG OTHER THINGS, EXPRESS WRITTEN CONSENT FROM RECORDED SUBJECTS. YOU ARE SOLELY RESPONSIBLE FOR INSURING STRICT COMPLIANCE WITH SUCH LAWS AND FOR STRICT ADHERENCE TO ANY/ALL RIGHTS OF PRIVACY AND PERSONALTY. USE OF THIS EQUIPMENT AND/OR SOFTWARE FOR ILLEGAL SURVEILLANCE OR MONITORING SHALL BE DEEMED UNAUTHORIZED USE IN VIOLATION OF THE END USER SOFTWARE AGREEMENT AND RESULT IN THE IMMEDIATE TERMINATION OF YOUR LICENSE RIGHTS THEREUNDER.

VIDEO QUALITY CAUTION

FRAME RATE NOTICE REGARDING USER-SELECTED OPTIONS

Pelco systems are capable of providing high quality video for both live viewing and playback. However, the systems can be used in lower quality modes, which can degrade picture quality, to allow for a slower rate of data transfer and to reduce the amount of video data stored. The picture quality can be degraded by either lowering the resolution, reducing the picture rate, or both. A picture degraded by having a reduced resolution may result in an image that is less clear or even indiscernible. A picture degraded by reducing the picture rate has fewer frames per second, which can result in images that appear to jump or move more quickly than normal during playback. Lower frame rates may result in a key event not being recorded by the system.

Judgment as to the suitability of the products for users' purposes is solely the users' responsibility. Users shall determine the suitability of the products for their own intended application, picture rate and picture quality. In the event users intend to use the video for evidentiary purposes in a judicial proceeding or otherwise, users should consult with their attorney regarding any particular requirements for such use.

OPEN SOURCE SOFTWARE NOTICE

This product includes certain open source or other software originated from third parties that is subject to the GNU General Public License (GPL), GNU Library/Lesser General Public License (LGPL) and different and/or additional copyright licenses, disclaimers, and notices.

The exact terms of GPL, LGPL, and some other licenses are provided to you with this product. Please refer to the exact terms of the GPL and LGPL at *http://www.fsf.org (Free Software Foundation)* or *http://www.opensource.org (Open Source Initiative)* regarding your rights under said license. You may obtain a complete corresponding machine-readable copy of the source code of such software under the GPL or LGPL by sending your request to *digitalsupport@pelco.com*; the subject line should read *Source Code Request*. You will then receive an email with a link for you to download the source code.

This offer is valid for a period of three (3) years from the date of the distribution of this product by Pelco.

Models

SP-TM314	Sarix TM fixed environmental camera, 384 x 288 resolution with 14.25 mm lens, NTSC
SP-TM314-X1	Sarix TM fixed environmental camera, 384 x 288 resolution with 14.25 mm lens, PAL 8.3 ips
SP-TM335	Sarix TM fixed environmental camera, 384 x 288 resolution with 35 mm lens, NTSC
SP-TM335-X1	Sarix TM fixed environmental camera, 384 x 288 resolution with 35 mm lens, PAL 8.3 ips
SP-TM350	Sarix TM fixed environmental camera, 384 x 288 resolution with 50 mm lens, NTSC
SP-TM350-X1	Sarix TM fixed environmental camera, 384 x 288 resolution with 50 mm lens, PAL 8.3 ips

GETTING STARTED

Before installing your camera, thoroughly familiarize yourself with the information in this section.

NOTES:

- While this camera can operate in both IP and analog modes, it is recommended that you use the camera in only one of these modes at any given time, not both.
- Pelco recommends connecting the camera to a network that uses a Dynamic Host Configuration Protocol (DHCP) server to address devices.
- Do not use a network hub when configuring the network settings for the camera.
- To ensure secure access to the IP camera, place the camera behind a firewall when it is connected to a network.

PARTS LIST

The following parts are supplied:

Qty	Description
1	Camera
1	Installation manual
1	Resource disc
3	MAC address labels (extra)
1	T20 security driver bit

USER-SUPPLIED PARTS LIST

Installation tools and mounting hardware are needed but not supplied.

Download the Sarix TM Operation manual (part number C1326M) on *www.pelco.com* for instructions on how to use your Sarix TM system.
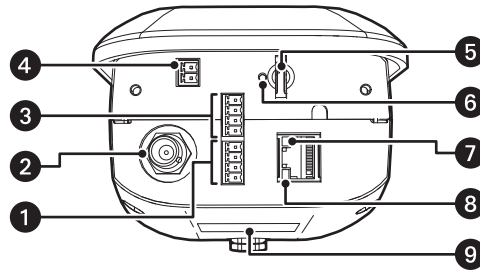
Product Overview

Figure 1. Camera Features

❶ **Audio Connectors:** Enables optional audio capability.

❷ **BNC Connector:** Enables analog video output.

❸ **Alarm and Relay Connectors:** Enables optional alarms and relays.

❹ **24 VAC Connector:** Provides power to the unit.

❺ **Micro SD Card Slot:** Saves a snapshot image to a micro SD card based on alarm activity.
NOTE: The micro SD card must be formatted as FAT32. Other formats are not compatible with the camera.

❻ **Reset Button:** Reboots the camera or restores the camera's factory default settings. This button is recessed. Using a small tool, such as a paper clip, press and release the reset button once to reboot the camera. Press and hold the reset button for 10 seconds to restore the camera to the factory default settings.

❼ **Ethernet Link LED:** Flashes green to indicate that a live network connection is established.

❽ **Ethernet Activity LED:** Glows solid green to indicate that data is being transmitted or received by the camera.

❾ **Product Label:** Lists the model number, revision number, serial number, and Media Access Control (MAC) address. This information might be required for setup.

NOTE: Figure 1 shows the camera with the back cover removed.

Installation

1. Mount the camera in the desired location using a recommended mount (refer to the instructions provided with the mount).

   NOTE: Do not install the camera behind a window or other glass. Glass is opaque to long wave infrared and will block the camera's view.

2. Loosen the two T20 security screws using a T20 security driver bit (supplied), and then remove the back cover.
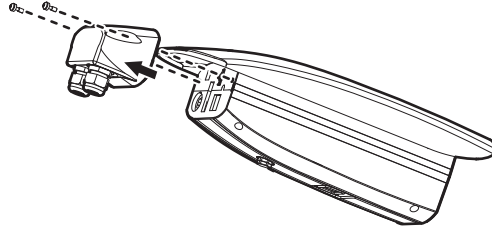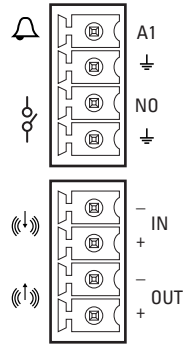

Figure 2. Removing the Back Cover

3. Connect all wires and cables (refer to Figure 1 on page 5).

4. *Optional:* Connect the wiring for relays, alarms, and audio. Refer to *Wiring* on page 7 for more information.

5. Turn on the system power.

   NOTE: There might be a delay of approximately 3 minutes between power up and video being displayed in analog installations.

6. Refer to the Sarix TM Operation manual (part number C1326M) on *www.pelco.com* for instructions on how to use your Sarix TM system.

WIRING

Figure 3. Alarm, Relay, and Audio Connections

Table A. Pinouts for Alarm, Relay, and Audio Connections.

Pin Group	Pin	Description
🔔	**A1**	Alarm Input
	⏚	Alarm Return
⟜⟜	**NO**	Normally Open (N.O.) Relay Output.
	⏚	Relay Return
((↓))	**−**	Audio Line-In (negative)
	+	Audio Line-In (positive)
((↑))	**−**	Audio Line-Out (negative)
	+	Audio Line-Out (positive)

CONNECTING A RELAY DEVICE

NOTE: Relays must be configured using the Web interface.

The Sarix TM has one output for activating external devices. It supports both momentary and continuous relay operation.

You can operate the relays interactively during an active connection, or they can operate automatically to coincide with certain events. Typical applications include turning on lights or other electrical devices or activating a door, gate, or lock.

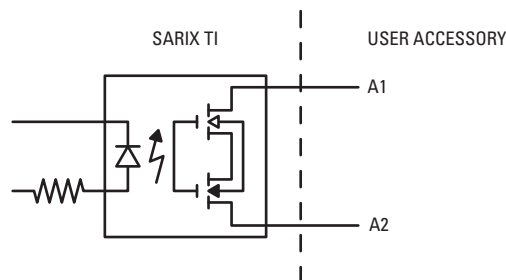⚠ **WARNING:** Do not exceed the maximum relay ratings of 15 VDC, 75 mA.

Figure 4. Relay Wiring Diagram

CONNECTING ALARMS

NOTE: Alarms must be configured using the Web interface.

The Sarix TM provides one alarm input for external signaling devices, such as door contacts or motion detectors. Both normally open and normally closed devices are supported.

Supervised Alarms

When an alarm is configured as a supervised alarm, the Sarix TM maintains a constant electrical current through the alarm circuit (3.3 VDC, 1 kohm). If the alarm circuit length changes, due to an electrical short or a bypass, the voltage fluctuates from its normal state and activates an alarm.

NOTE: Install the 1-kohm resistor as close to the switch as possible.

Figure 5 illustrates the alarm and no alarm conditions of a supervised alarm input. Whether the alarm is normally closed or normally open, neither a cut nor a bypass can defeat these alarms.
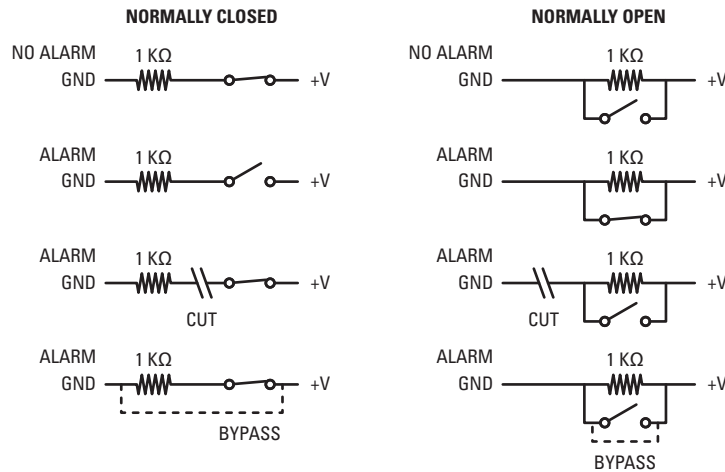
Figure 5. Supervised Alarm Conditions

Figure 6 illustrates the wiring configuration for supervised alarm inputs.

Figure 6. Supervised Alarm Input Wiring

Unsupervised Alarms

When an alarm is configured as an unsupervised alarm, an alarm is only activated when the normal alarm state (open or closed) changes.

Figure 7 illustrates the alarm and no alarm conditions of an unsupervised alarm input.
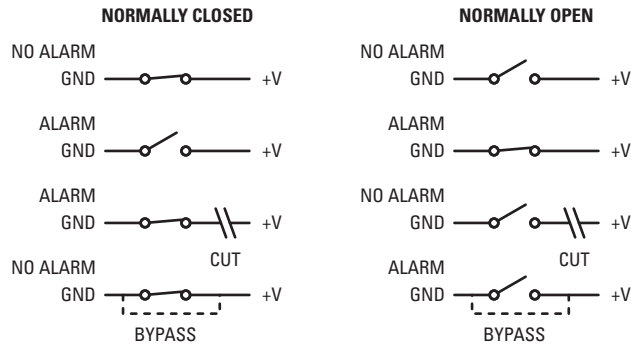
NORMALLY CLOSED

NO ALARM
GND ——o o—— +V

ALARM
GND ——o o—— +V

ALARM
GND ——o o—|⊢—— +V
CUT

NO ALARM
GND ——o o—— +V
BYPASS

NORMALLY OPEN

NO ALARM
GND ——o o—— +V

ALARM
GND ——o o—— +V

NO ALARM
GND ——o o—|⊢—— +V
CUT

ALARM
GND ——o o—— +V
BYPASS

Figure 7. Unsupervised Alarm Conditions

Figure 8 illustrates the wiring configuration for unsupervised alarm inputs.

NORMALLY CLOSED

A1 ——o o——

NORMALLY OPEN

A1 ——o o——

Figure 8. Normally Closed and Normally Open Unsupervised Alarm Input Wiring

NOTE: A normally closed alarm input can be defeated with a bypass; a normally open input can be defeated with a cut.

Alarm Connections

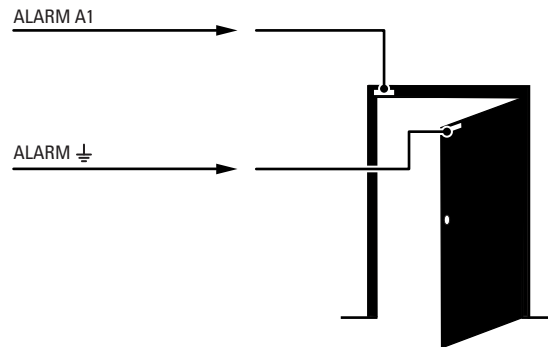Figure 9 shows how to wire the Sarix TM to an alarm.

ALARM A1

ALARM ⏚

Figure 9. Alarm Connections

CONNECTING AUDIO

NOTES:

- Improper use of audio/visual recording equipment might subject you to civil and criminal penalties. Applicable laws regarding the use of such capabilities vary between jurisdictions and might require, among other things, express written consent from the recorded subjects. You are solely responsible for ensuring strict compliance with such laws and for strict adherence to any/all rights of privacy and personalty.

- The maximum recommended cable length for the audio wiring is 304.8 m (1,000 ft).

- The Sarix TM is designed to work with microphones that have an internal preamplifier and provide professional line-level output (+4 dBu).

- If your microphone is a consumer line-level device (–10 dBu), the audio output may be quieter than you expect. Mic-level devices are not recommended as they must be amplified to a line-level signal, which often results in excessive noise.
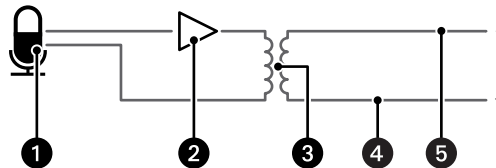

Figure 10. Line-In Audio Wiring

1 Microphone

2 Amplifier

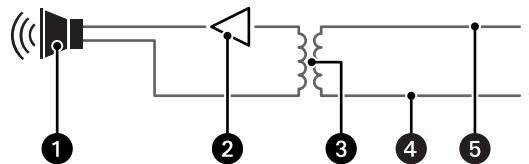**3** 600-Ohm Impedance Matching Transformer

4 Line In –

5 Line In +

Figure 11. Line-Out Audio Wiring

1 Speaker

2 Amplifier

3 600-Ohm Impedance Matching Transformer

4 Line Out –

5 Line Out +

REVISION HISTORY

Manual #	Date	Comments
C1331M	5/15	Original version.

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by Schneider Electric