iCAM7100 SERIES
HARDWARE GUIDE
ADVANCED MULTIFACTOR BIOMETRIC IRIS READER

IRIS ID
Advanced Identity Authentication™

VERSION 1.3

IrisAccess®

iCAM7101

iCAM7111

DUAL IRIS	FACE CAMERA	4.3" LCD	CONTACTLESS CARD READER
ISO/ANSI COMPLIANT		EASY INSTALLATION	

- **Fully automatic dual iris capture**
- **Simple non-intrusive, non-contact user interface**
- **Integrated megapixel face camera with flash**
- **ISO/ANSI compliant iris and face images**
- **4.3" color touch screen LCD**
- **Integrated contactless smart card reader [optional]**
- **Surface mount plate included; Recess mounting kit [optional]**

CE

TÜV Rheinland of North America, Inc.
C US

Packing List

What's in the Box
- iCAM7100 series
- Hardware Guide
- L wrench

Required Equipment (not included)

Power Source
- 12-24 VDC +/- 10% / Minimum 24W (12VDC @ 2AMPS) (Measured at iCAM unit)
- Uninterruptable Power Supply (strongly recommended)

Network
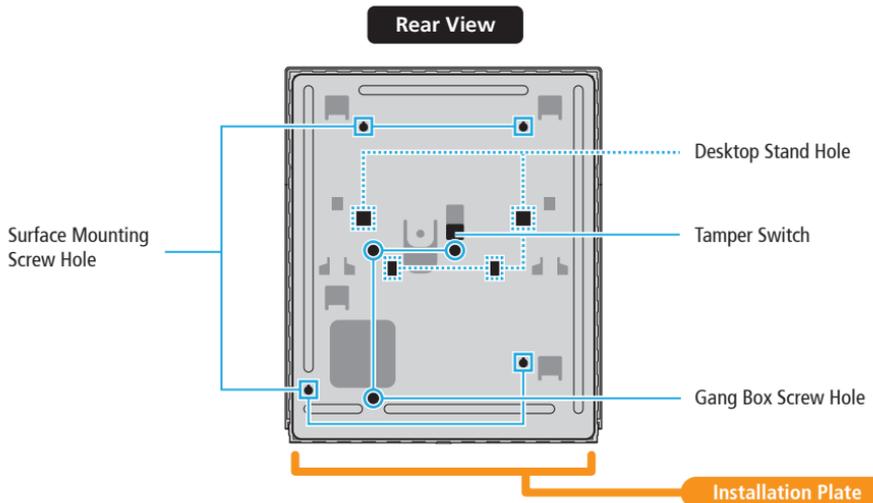- Ethernet Wiring ➡ CAT5e Ethernet Cabling (or better)
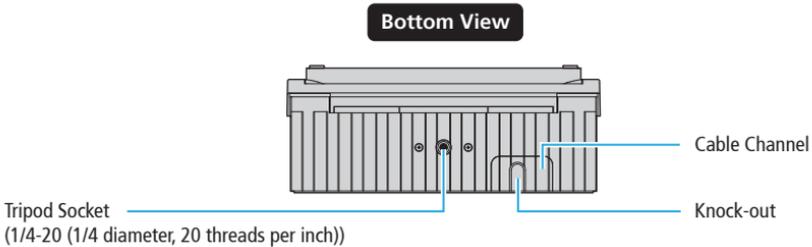- Ethernet Switch

Software
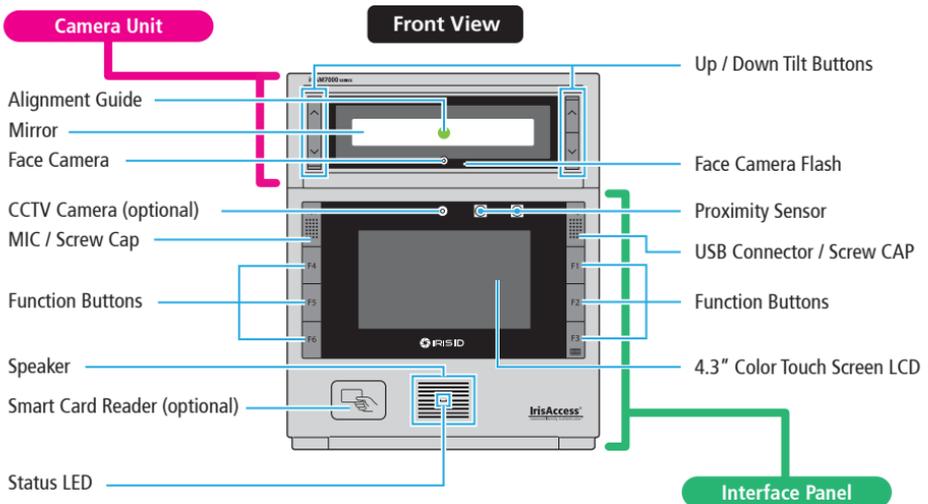- Required Software for desired system type (IrisAccess EAC, iData SDK, etc.)

iCAM7100 series   Hardware Guide   L wrench

Hardware Information
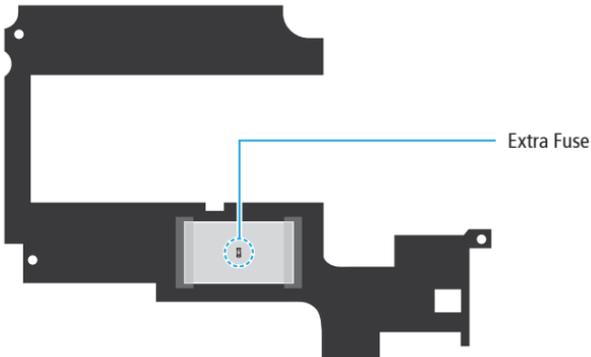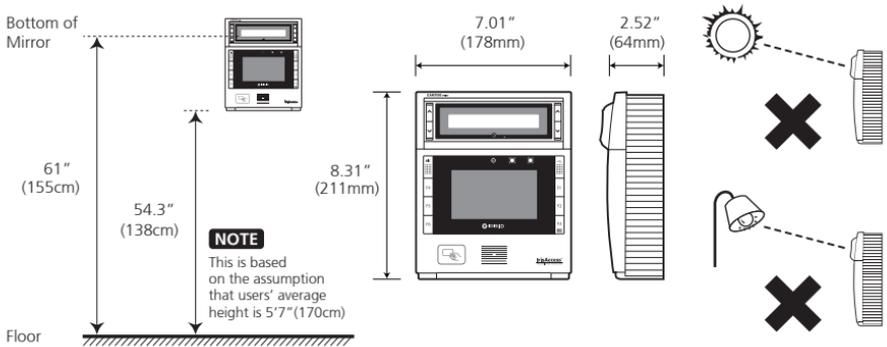
Camera Unit

Front View

Alignment Guide

Mirror

Face Camera

CCTV Camera (optional)

MIC / Screw Cap

Function Buttons

Speaker

Smart Card Reader (optional)

Status LED

Up / Down Tilt Buttons

Face Camera Flash

Proximity Sensor

USB Connector / Screw CAP

Function Buttons

4.3″ Color Touch Screen LCD

Interface Panel

Bottom View

Tripod Socket
(1/4-20 (1/4 diameter, 20 threads per inch))

Cable Channel

Knock-out

Rear View

Surface Mounting
Screw Hole

Desktop Stand Hole

Tamper Switch

Gang Box Screw Hole

Installation Plate

Hardware Information

Inside

Installation Plate Screw

RTC Battery

Factory Default Button

Tamper Switch

Wiring Legend Guide

Extra Fuse

Input / Output Connections

Fuse   Power LED

On/Off Switch

Power Connection

Ethernet Connection

Wiring Legend Guide Rear View

Extra Fuse

Installation Guidelines

1. Recommended Mounting Information

Bottom of Mirror

7.01" (178mm)   2.52" (64mm)

61" (155cm)

8.31" (211mm)

54.3" (138cm)

NOTE This is based on the assumption that users' average height is 5'7"(170cm)

Floor

- ■ The recommended mounting height for the iCAM7100 series is 138cm (54.3inches) from the floor to the bottom of the unit. This mounting height can be adjusted to accommodate the height of the average user at the installed location.

- ■ High amounts of ambient light must be avoided. Intense light sources such as sunlight or halogen lamps may reduce the image capture performance of the iCAM which may result in an increased "failure to acquire" rate.

- ■ The iCAM was designed for indoor use only. This device is not weatherproof and must not be exposed to precipitation or extreme temperatures. If it is required to use this product in an outdoor or extreme environment, a 3rd Party enclosure may be used to protect the unit from exposure to dust, moisture, and extreme temperatures. See www.irisid.com - Support & Service for more information. Installation in a extreme environment without proper protection may cause permanent damage and void your warranty.

2. General Wiring Requirements

The iCAM7100 series requires at least the following wires:

- ■ Ethernet network wiring to connect with the network switch for communication.
  NOTE For systems consisting of only the iCAM and a computer, an Ethernet cross-over cable may be used.

> **IMPORTANT:** IT IS RECOMMENDED THAT THE IRISACCESS SYSTEM BE PLACED ON A PRIVATE NETWORK SEPARATE FROM GENERAL CORPORATE OR PUBLIC ACCESS. SYSTEM PERFORMANCE AND STABILITY MAY BE AFFECTED DEPENDING ON AMOUNT OF GENERAL NETWORK TRAFFIC.

- ■ Power Wiring: The minimum recommended wire gauge used for power is 16AWG (1.0mm^2)

- ■ Power Requirements: 12-24VDC +/- 10% / Minimum 24W (12VDC @ 2AMPS)
  NOTE Use of a stable power supply and proper guage wire is required. Wire length voltage drop must be accounted for in order to maintain the correct power at the iCAM unit (with iCAM connected). For example; with a 12VDC source and 16AWG (1.0mm^2) copper wire, the maximum distance is 71.5 Feet (21 Meters). If a longer power wire distance is required, it is recommended that a 24VDC power source be used. Voltages within the range of 12VDC and 24VDC are acceptable as long as 24W of power is supplied to each iCAM.
  (e.g. 12VDC @ 2AMPS = 24Watts OR 24VDC @ 1AMP = 24Watts).

> **IMPORTANT:** IT IS RECOMMENDED TO SUPPLY THE CORRECT AMOUNT OF POWER TO THIS UNIT. AN OVER OR UNDER VOLTAGE APPLIED TO THIS PRODUCT MAY CAUSE PERMANENT DAMAGE AND VOID THE WARRANTY.
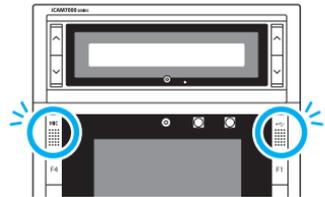
iCAM Installation

iCAM7100 Mounting & Stand Solutions

The iCAM7100 series unit can be fitted to a surface mount (available out-of-the-box), recess mount (with optional recess mounting kit), or optional desktop stand.

Surface Mounting

The iCAM can be surface mounted with standard equipment provided with the contents of your unit. Review the following procedure for instruction on how to surface mount your iCAM7100 series unit.

1 Open each cap at both sides of unit,
and loosen the captive screws (with included L wrench)
to release the interface panel.
(Left : MIC / Screw Cap.
Right : USB Connector / Screw Cap)

2 After opening the interface panel, loosen the screw.
Unscrew the installation plate screw to seperate from the installation plate.
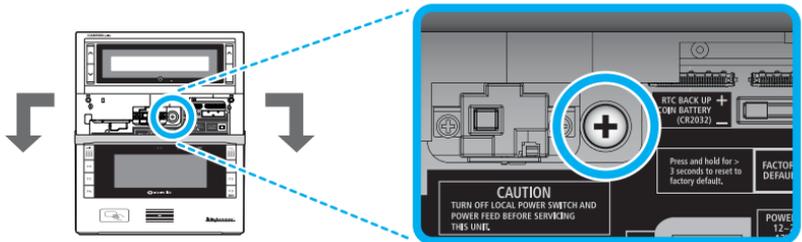
3 Seperate the installation plate
by sliding the plate downward.

Cover Rear

Installation Plate
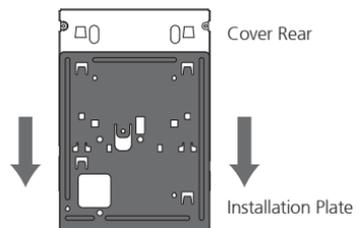
4 Place the installation plate on the desired wall and screw into wall.
Feed any needed wiring through the installation plate hole (i.e.: Power, Ethernet, etc).
Attach the installation plate to the wall surface using the appropriate fastener (recommended #10 screws) and anchors for the wall material. Another option is to mount and fasten the installation plate to a previously installed electrical gang box.
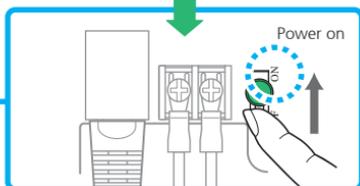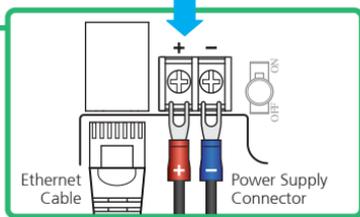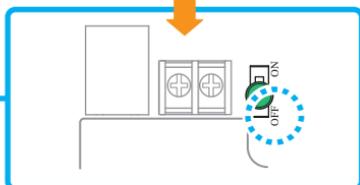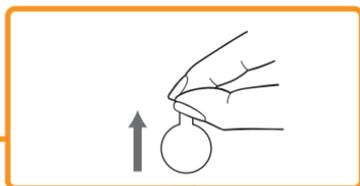
Surface Mount

Hole Marking

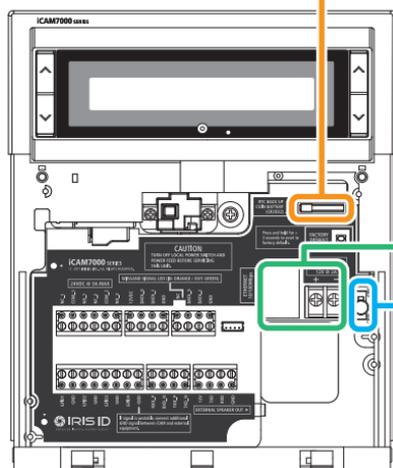Installation Plate

OR

Gang Box Mount
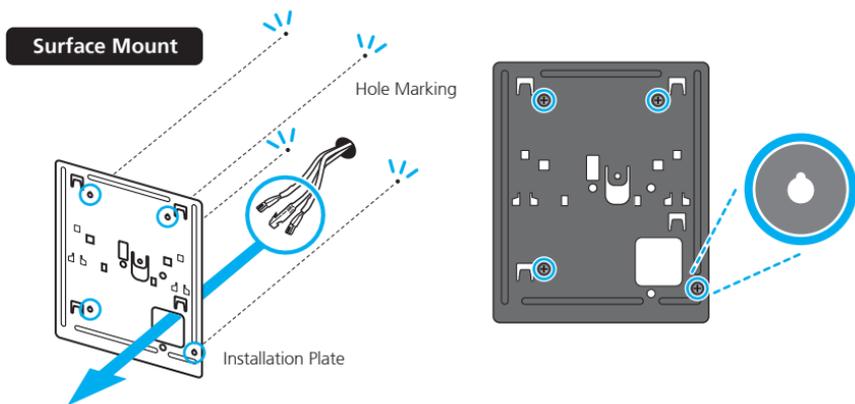
Installation Plate
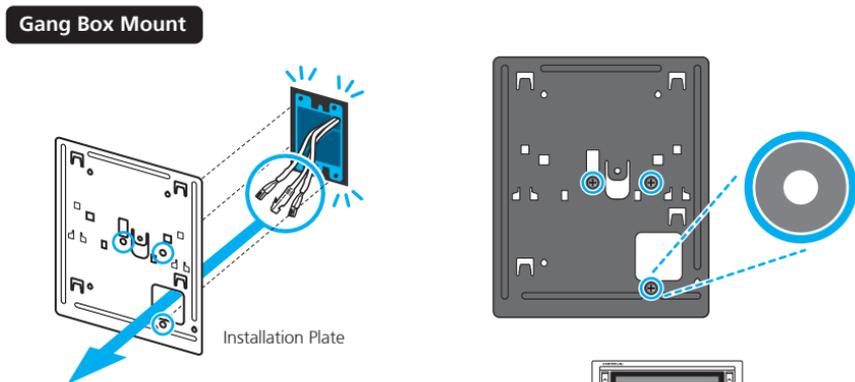
5 Slide the iCAM7100 series into the installation plate and fasten the installation plate with a screw.
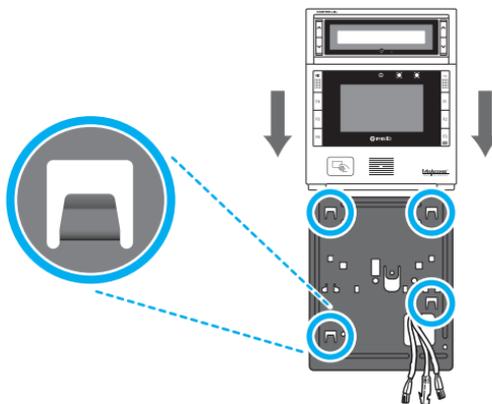
**6** Remove protective film from RTC battery.

7 Before wiring unit, confirm the power is in the off position. Route and connect the Power and Ethernet wires to iCAM7100 series.

NOTE If connecting any other wiring such as Wiegand, GPI/O to the iCAM, review the following section "Wire Connection Details" before closing interface panel and fastening screws.

8 Turn on power source and switch the power switch of the iCAM7100 series unit to the ON position.

9 After wiring the unit and switching it to the ON position, close the interface panel and fasten the screws. (with screw caps placed back into closed position).

Ethernet Cable

Power Supply Connector

Power on
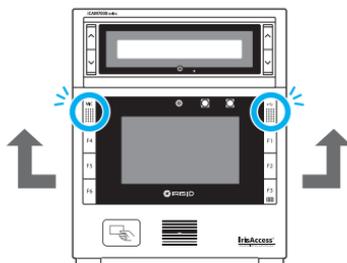
Wire Connection Details
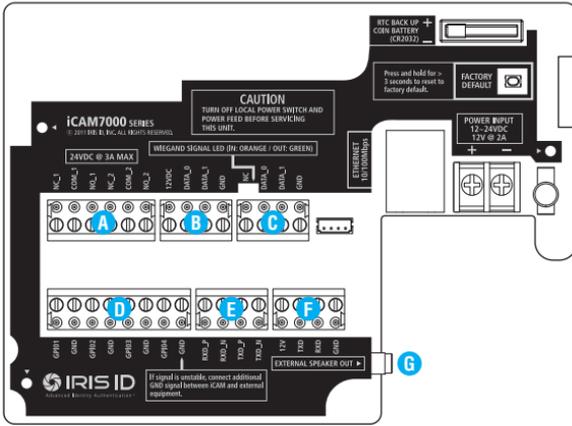

A Relay Output

IMPORTANT: ONLY KNOWLEDGEABLE PROFESSIONAL INSTALLERS SHOULD BE USED TO INSTALL ALL ELECTRONIC ENTRY/EXIT LOCKING DEVICES. DIRECT CONNECTION OF ELECTRONIC ENTRY/EXIT LOCKING DEVICES SHOULDN'T BE MADE FROM THE RELAY OUTPUTS ON THE ICAM. IT IS THE RESPONSIBILITY OF THE INSTALLER TO ASSURE THAT THE INSTALLATION IS PERFORMED IN ACCORDANCE WITH ALL COUNTRY/STATE/LOCAL FIRE AND SAFETY REGULATIONS AND THAT ANY 3RD PARTY PRODUCTS USED WILL NOT CREATE A HAZARD.

Two independent dry contact relays. The purpose and the duration of the relays are defined by the controlling software. Typically, Relay_1 (NC_1, COM_1, NO_1) is triggered upon user acceptance (access granted). The diagram shows Relay_1 connected to indicators which changes from Red to Green for an accepted user. Relay_2 (NC_2, COM_2, NO_2) is typically used to indicate iCAM tamper. In this diagram the relay is activated when the iCAM tamper switch is triggered. The maximum electrical rating for the relay is 3A at 24VDC.
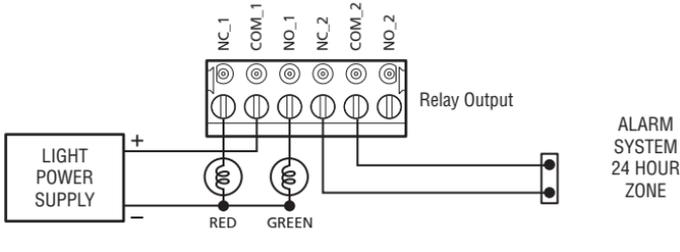
B Wiegand Input

Wiegand input is available on the iCAM for connection from 3rd party proximity card readers. This connection can provide 12VDC and a maximum 500mA current to a proximity card reader.
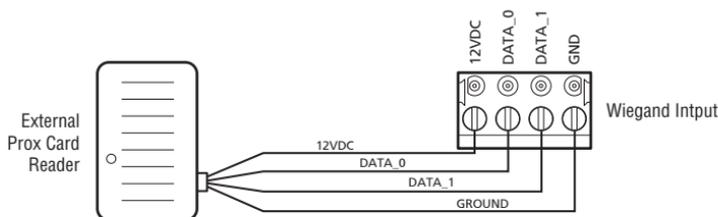

C Wiegand Output

The Wiegand Output from the iCAM7100 series camera unit can be used with 3rd party devices capable of receiving Wiegand data. This Wiegand output emulates a typical Access Control Card Reader. Configuration of this output is provided through software.
See the associated image for general wiring of Wiegand Output to an Access Control Panel.

Wiegand Specifications:
• Wiegand output uses 3 wire interface (Data0, Data1, and Ground),
• Maximum wire length from iCAM to Access Control Panel is 500feet (152m).
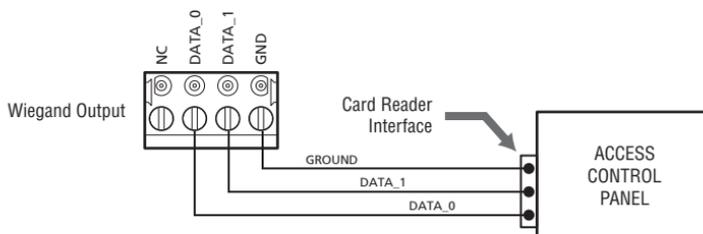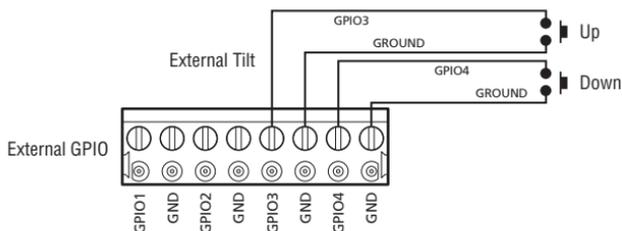

D External GPIO

GPIO3 and 4 can be used to control the tilt position of the tilt unit of an iCAM7100.
Use GPIO3 and GND for up tilting. Use GPIO4 and GND for down tilting.

GPIO Specifications:
• For output, the GPIO can provide 5VDC @ 20mA.
• For Input, the GPIO is selectable between active High & active Low.
• Assignment of GPIO is handled through Software

E RS422 Output

RS422 serial communication port for connection with an access panel or to other computer equipment. When configured, the Card ID associated with the user is output from the RS422 output port upon a successful identification.

RXD_P
RXD_N
TXD_P
TXD_N

To RS422 port
of computer
or access system

RS422
Output

RXD_P
RXD_N
TXD_P
TXD_N
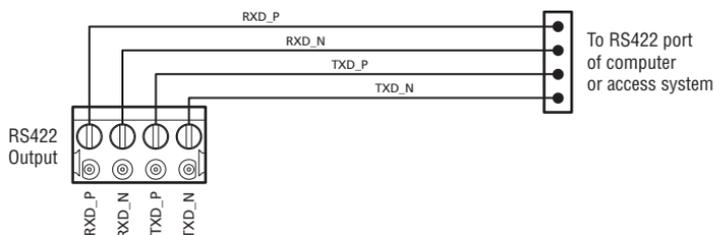
F External Smart Card Interface RS232 Smart Card

Allows connection of internally (ex. HID OEM150) and externally installed smart card readers which utilize serial (RS232) communications. This connection can provide 12VDC and a maximum of 500mA current to a smart card reader.

External Smart Card Interface
RS232 Smart Card

External
Smart Card
Reader

12VDC
TXD
RXD
GND
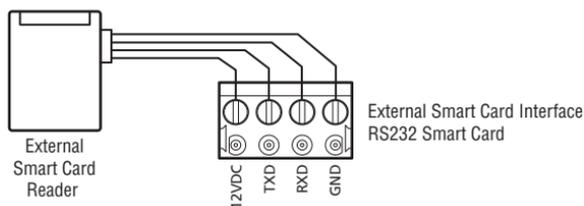
G External Speaker Out

Allows for connection of an external amplified speaker. This port provides mono (single channel) audio of voice prompts and other unit sounds. Both the internal and external speakers can operate concurrently.
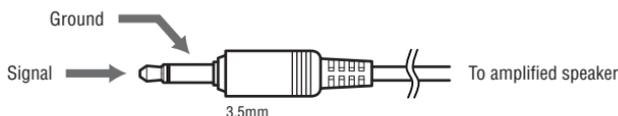
iCAM Configuration

iCAM7100 Series camera contains an internal configuration interface called iCAM Configuration. This camera specific interface allows installers to perform configuration and setup options to the iCAM series unit.
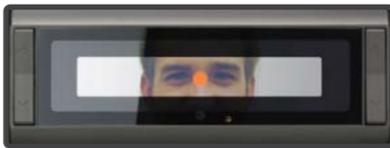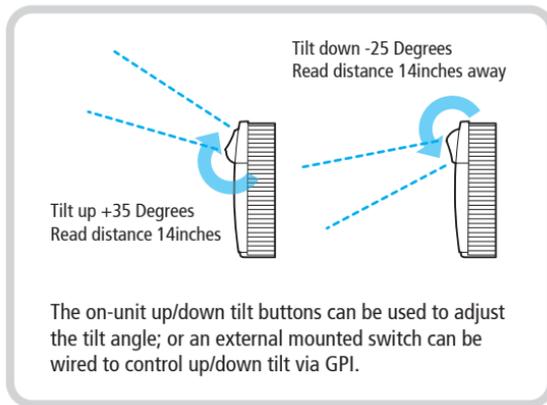
How to access the iCAM Configuration interface

From a PC with an internet browser connected to the network (that the iCAM7100 series unit is connected to), type the IP address of the iCAM. For example, if the IP address of an iCAM is 192.168.5.100 (default IP), you would access the configuration web interface by typing http://192.168.5.100 from an internet browser.

To login, the **User ID** required when prompted is **iCAM7000**. The **Password** is **iris7000**. The system is case sensitive when entering in your login credentials.

Once you have connected to the iCAM Configuration Interface - settings, information, and options become available to further configure your system. Additional documentation for setup and configuration can be found at:

http://irisid.com/ss/documentation.htm

How to Operate

12~14"
(31-35cm)

Tilt down -25 Degrees
Read distance 14inches away

Tilt up +35 Degrees
Read distance 14inches

The on-unit up/down tilt buttons can be used to adjust the tilt angle; or an external mounted switch can be wired to control up/down tilt via GPI.
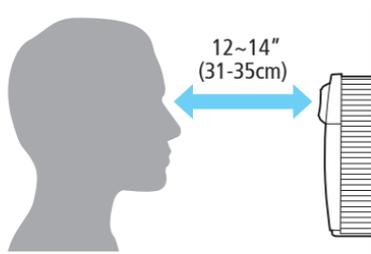
- iCAM activates when user approaches or when card is presented.
- Picture capture range is 12~14 inches (31-35cm) away.
- Self or auto/set height adjustment.
- Placing dot over the bridge of nose, easily helps alignment.

- Orange ● turns to green ● when user is at correct distance.
- Visual indication is amplified with friendly audio prompts.
- Right and left irides are acquired.
- A face picture can also be captured.

● **Green dot = In range**   ● **Orange dot = Out of range**

Restoring The Unit to Factory Default

Factory Default Button

The Factory Default Button can be used to restore settings of an iCAM7100 series camera to restore settings to factory default.
This button is located inside of the unit below the RTC battery (see image), and can be used in two different ways:
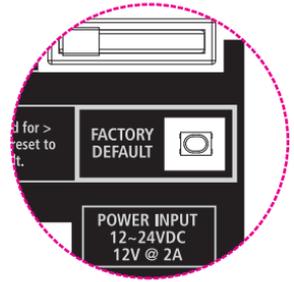
1. IP ADDRESS DEFAULT - Resets the IP Address to Factory Default

NOTE Default IP Address = 192.168.5.100, Subnet Mask = 255.255.255.0.

• Hold the factory default button down for at least 3 seconds while the unit is already powered-on to reset the unit IP address information back to the default settings.

2. FACTORY DEFAULT - Resets All Settings to Factory Default

NOTE Any information, uploaded information (including firmware updates) to the unit that may have been performed prior to this reset function may be cleared. All settings will be factory restored to the default level.

• While powering on the iCAM7100 series unit, hold the factory default button down for at least 5 seconds to restore the entire unit back to all factory default settings.

Fuse Replacement

The iCAM7100 series camera unit(s) contains a replaceable fuse which protects the unit(s) from excessive current consumption. In the event that the iCAM7100 series unit(s) will not power on, a fuse replacement may be necessary.

CAUTION: FUSE REPLACEMENT SHOULD BE PERFORMED WITHOUT POWER CONNECTED TO THE UNIT.

TIP The fuse can be tested by checking the continuity across both sides of fuse with a multi-meter. If no continuity is measured, the fuse must be replaced.

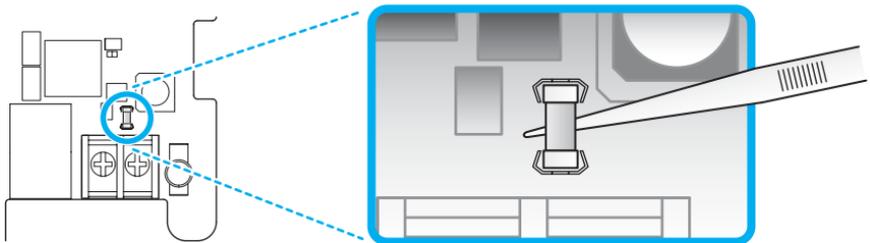**NOTE** An additional replacement fuse is included on the back of the Wiring Legend Guide.

How to Replace the Fuse

1 Remove the screws to release the Wiring Legend Guide.
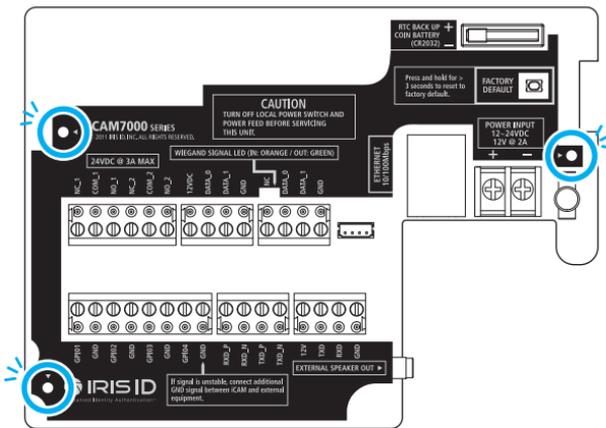
2 Use tweezers, and replace the Fuse.

Fuse Specification

Manufacturer	Littlefuse
Part No.	0451 004. MRL
Ampere Rating	4A

14

Memo

Serial Number:

Unit IP Address:

Installation Date:

Note:

General Information

The iCAM7100 series contains an optical system designed to operate with the integrated high-speed multi-sensor iris imager array. The iCAM7100 series will automatically process and outputs high quality ISO standards compliant iris images of a subject in less than one second.

Dimension (W x H x D)	7.01" x 8.31" x 2.52" (178mm x 211mm x 64mm)
Weight	3.5lbs (1.6kg)
Power Input / Consumtion	12-24VDC, 2.0 Amps @ 12VDC / 24W
Status LED	Multi Color - Red, Green, Blue for status and alarm indication
Iris Operating Range Indicator	Dual Color - Orange (out of range), Green (in range)
Voice Indication	English standard, other available by download
Iris Capture Range	12"~14" (31cm ~ 35cm)
User Input	Function keys six user definable
Touch Screen LCD	4.3" diagonal (480 x 272 pixels)
Pin Pad	Pop-up on screen pin pad
Flash	High output flash for face capture
Face Image Camera	Face camera CMOS - 5MP
Relays x 2	Control for user defined operations
External Media Device Connectivity	Secure user accessible USB port
Operating Temperature	32°F~113°F (0°C~45°C)
Storage Temperature	-4°F~203°F (-20°C~95°C)
Humidity	Up to 90% non-condensing
Iris & Face Camera Rotation Angle	+35°/-25°
Communications	Ethernet (LAN, WAN), RS422, RS232
Inputs / Outputs	Proximity Card Reader (Wiegand In), Embedded Smart Card Reader (Optional), Wiegand In, Wiegand Out, Dry Contact Relay x 2, Programmable GPIO x 4
Equipment Supplied with iCAM7100	Instruction Manual - Hardware Guide
IrisAccess EAC, iData SDK	Refer to IrisAccess Control Software specifications

Technical Support

Additional information and technical assistance is available on the Iris ID Systems support web site at www.irisid.com. Click on Support & Service then Technical Support.

IRIS ID

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