IRIS ID

iCAM4100 Hardware Guide version 1.00
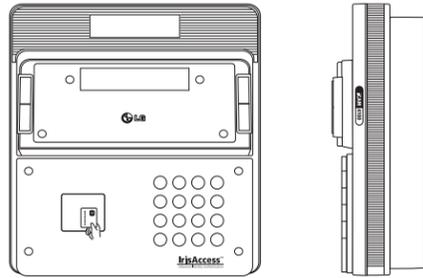

iCAM4100 Model Variations

	VFD	RoHS Compliant	Keypad	Smartcard Reader	
				HID iClass	IE Smart-ID
iCAM4100	●				
iCAM4100R	●	●			
iCAM4101	●		●		
iCAM4101R	●	●	●		
iCAM4110-H1	●			●	
iCAM4110R-H1	●	●		●	
iCAM4110-E1	●				●
iCAM4110R-E1	●	●			●
iCAM4111-H1	●		●	●	
iCAM4111R-H1	●	●	●	●	
iCAM4111-E1	●		●		●
iCAM4111R-E1	●	●	●		●

Packing List

What's in the box
- iCAM4100 - IrisCamera
- Power Adapter
    - Input: 110~240V AC - 1.5AMP 50/60Hz
    - Output: 12V DC - 5.0AMP
- Power Cable for 110V
- CAT5e Ethernet Cable
- Hardware Guide
- Security Screw Wrench
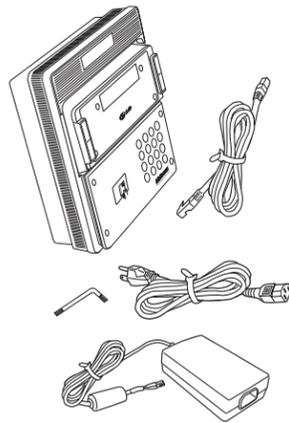
### Required Equipment (not included with iCAM4100)
- Server Computer (refer to the software manual for details)
- Ethernet Switch
- Ethernet Wiring
- Uninterruptible Power Supply (strongly recommended)

Installation Guidelines

- The recommended mounting height for the iCAM4100 is 140cm (55 inches) 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, this may result in an increased "failure to acquire" rate.

- The iCAM is not weatherproof and must not be exposed to precipitation or extreme temperatures. An enclosure may be used to protect the unit if required. See www.lgiris.com – Support

& Service for more information.
- All system components must be powered through Uninterruptible Power Supplies (UPS). UPS must provide power line filtering as well as power back-up operation.
- Each IrisAccess® system component if on an Ethernet network system must have a statically assigned IP address.
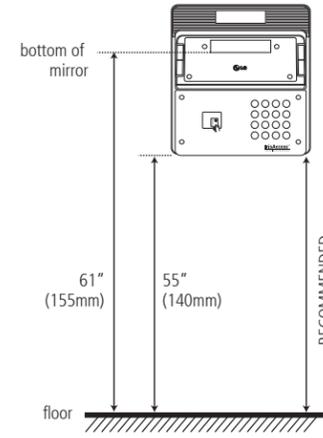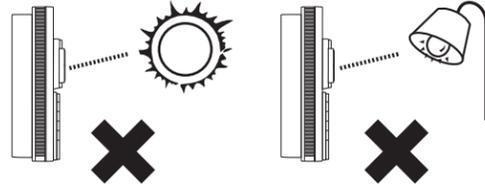
> **IMPORTANT**: IT IS RECOMMENDED THAT THE IRISACCESS SYSTEM BE PLACED ON A PRIVATE NETWORK SEPARATE FROM GENERAL CORPORATE OR PUBLIC ACCESS. SYSTEM PERFORMANCE AND STABILITY MAY BE AFFECTED DEPENDING ON AMOUNT OF GENERAL NETWORK TRAFFIC

The iCAM4100 requires at least the following wires:
- Ethernet network wiring to connect with the network switch to communicate to the Iris-Server or an ICU.
* Note: For systems consisting of only an IrisServer and iCAM may use an Ethernet cross over cable to connect the iCAM directly to the IrisServer computer.
- Power (12VDC +/-10% and 2.5Amps MAX)

> **IMPORTANT**: IT IS RECOMMENDED TO USE THE POWER ADAPTER SUPPLIED WITH THIS PRODUCT. AN OVER OR UNDER VOLTAGE APPLIED TO THIS PRODUCT MAY CAUSE PERMANENT DAMAGE AND VOID THE WARRANTY.

* Note: If not using the supplied power adapter, use of a stable power supply and proper gauge wire is required. Wire length voltage drop must be accounted for in order to maintain the correct 12VDC @ 2.5A power with the iCAM connected. (Ex. 50 feet of 16 gauge copper wire requires a supply voltage of 13VDC to provide 12VDC power at the iCAM.)

Installation

1. Remove the 3 security screws (use the security bit wrench) from the bottom of the iCAM.
2. While gently pulling the cover upward, pull forward simultaneously - Unscrew the installation screw and slide the body of the iCAM upward to separate from the installation plate.
3. Position the installation plate on the desired wall near the secured door and mark the holes as the figure illustrates. The recommended height from the floor to bottom of unit is 140cm (55"), however installation height can be adjusted depending on average height of users.
4. In case of recessed mounting, leave 6mm (1/4") of extra space above the marked hole when mounting the installation plate to allow the iCAM to slide down onto the installation plate tabs.
5. Route the power line, network line, and other necessary cables through the installation plate hole.
6. Using the appropriate fasteners for the material in which the iCAM will be mounted, securing the installation plate.
7. Slide the iCAM4100 body into the installation plate and fasten it with the retaining screw.
8. Attach the wires from the 12VDC power supply to the screw terminal connections. The +12VDC (white wire) power connects to the + (positive) terminal. The 12VDC ground (black wire) connects to the – (negative) terminal.
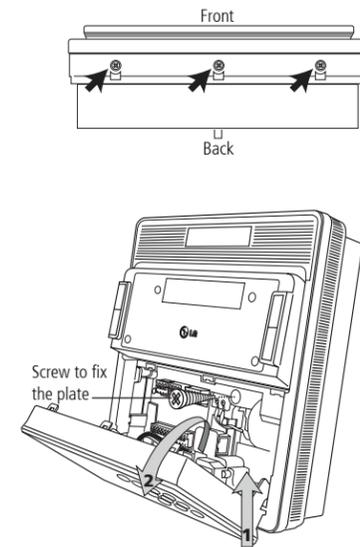
9. Connect the CAT5/RJ45 network wire into the LAN port (CN10) of the iCAM. Make sure the RJ45 connector locks securely into the LANport.
10. Wiegand and relay options should be connected at this time.
11. Close front cover and gently slide the iCAM downwards over the back plate. Fasten with two security screws on the bottom of the unit.

* Note: The iCAM includes two tamper switches. One switch is located on the rear of the iCAM to detect removal from the wall or enclosure from which it is installed. A second tamper switch is located behind the front plate to detect tampering with the front of the unit. During installation be sure that the rear tamper switch is in a position which can detect unit removal from the wall or enclosure.
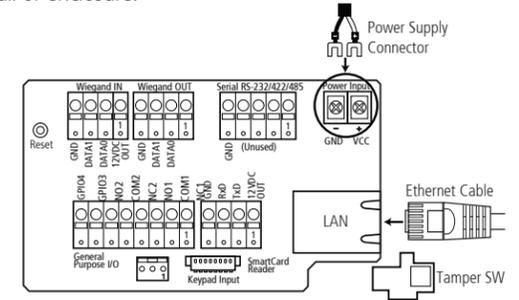
iCAM IP Settings

iCAM IP Address Configuration: To communicate over an Ethernet based network, the iCAM requires an IP address to be configured. By default factory settings of an iCAM is set to the address of 192.168.5.100 with a subnet mask of 255.255.255.0. This IP address can be changed from the iCAM web configuration screen. For details on viewing/changing an IP address of an ICAM please refer to the Software Installation Guide.

IP Announcement: The current iCAM IP address can be determined using the IP announcement function. To activate this function press the right tilt button UP on the front face of the iCAM. Hold this tilt until the unit face tilts to the UP position and continue to hold for at least ten seconds. Through the internal iCAM speaker an audible IP will be announced indicating the current IP address setting programmed in the unit. This function can be enabled or disabled through the web interface if desired.

iCAM Reset: The current iCAM contains a reset button located directly to the right of the positive and negative power connectors. This reset button when depressed for over 3 seconds will reset the iCAM to the factory default settings. Such settings include the IP address, and web interface login credentials.

Available iCAM Wiegand Output

Wiegand Output from iCAM4100: The Wiegand Output from the iCAM4000 can be used with 3rd party devices capable of receiving Wiegand data; this output emulates a typical Access control Card Reader. Configuration of this output is provided through the iCAM web-interface. See the below image for general wiring of Wiegand Output to an Access Control Panel.

Wiegand Specifications:
- Wiegand output uses 3 wire interface (Data 1, Data 0, and Ground),
- Maximum wire length from iCAM to Access Control Panel is 500 feet (152m).

* Note: Using IrisAccess EAC software, Wiegand output is available from either the iCAM, ICU with WIB board, or a DCU.
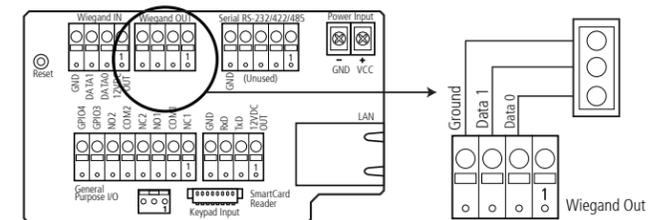
Optional Prox Card

- A Wiegand input is available on the iCAM for connection from Proximity card readers.
- This connection provides 12-volt DC power that can be used be used to directly power the attached card reader.
- Configuration of this input is provided through the applicable software application and iCAM web interface. See image for general wiring of a Prox card reader to an iCAM.
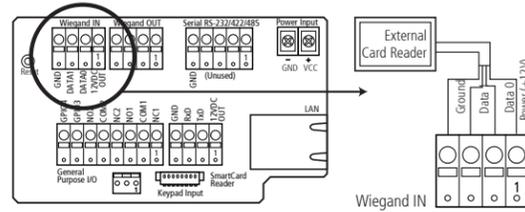

Optional Smartcard Readers

The iCAM is available with an optional integrated Smartcard reader. When an integrated Smartcard is installed in the iCAM, the card reader symbol [ ] appears in the front of the iCAM. The built-in card reader is pre-wired and enabled within the iCAM.

Two type of card readers are available:
- HID iCLASS (iCLASS)
- Integrated Engineering (MiFare / DesFire)

If desired, a compatible external card reader may be connected to the iCAM.
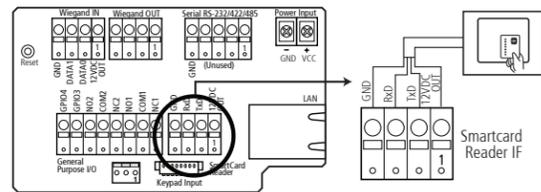
Available Relay Outputs

In the iCAM there are two available dry-contact relays that can be used for purposes such as door lock control, external indicators, control of external systems, and external audible alerts (as some examples). The functionality of the relays are determined by the software application used to control the iCAM. For more detail on these available options please refer to the applicable software installation guide.

* Note: The PINs on the iCAM interface board are numbered from left to right.

iCAM Relays:
Both iCAM relays have the normally open and normally closed contacts available. Relays one and two are independent from each other and can be set for different functions.

Typically relay one is used for door-lock control, whereas this relay is triggered upon successful identification or verification of the user. Typically relay two is used for iCAM tamper output, whereas this relay activated when the iCAM tamper switch is triggered.

* Note: For security purposes, it is not recommended to use the iCAM relay output for direct door-lock control.
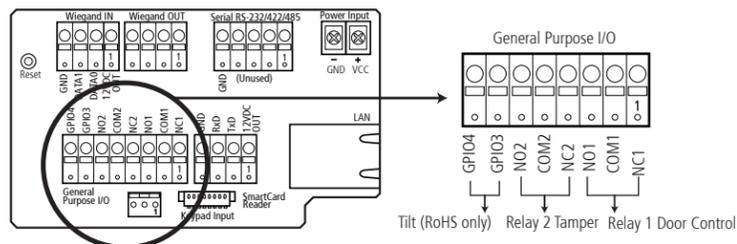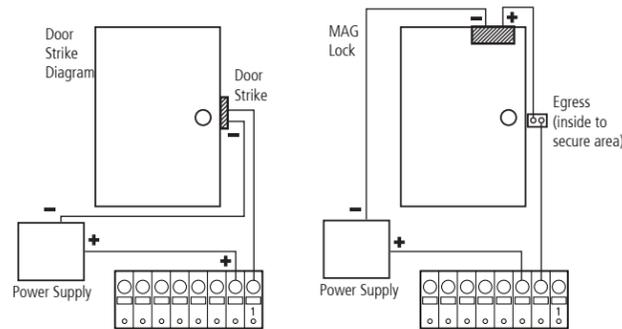

Direct Door Control Wiring:
The Door-Strike Diagram shows an example of an iCAM connected to the Negative wire from the 3rd party door strike connected to R1_NC, and the Positive wire from the 3rd Party required external power supply connecting to R1_COM connectors. (Completing the connection through to the door strike is then required as per the instructions provided by the door strike manufacturer.)

The Magnetic Lock (MAG-lock) diagram shows an example of an iCAM connected to the Negative wire from the 3rd party MAG-lock connected to R1_N.O., and the Positive wire from the 3rd Party required external power supply connecting to R1_COM connectors. (Completing the connection through to the MAG-lock is then required as per the instructions provided by the MAG-lock manufacturer).
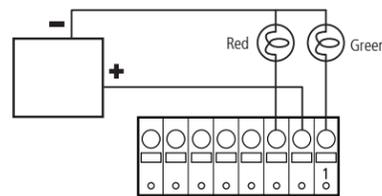
* Note: If working with a non-ROHS compliant iCAM the N.O. and N.C. are reversed. The diagrams in this guide are drawn to the correct connections of the RoHS compliant iCAM.

Disclaimer: Only knowledgeable insured professional installers should attempt to install Magnetic locking systems with use of the iCAM. Consult with your fire Marshall and local town/county code requirements to guarantee adherence to specific local ordinances and restrictions. LG cannot be held responsible for regulatory issues, and mandated legal requirements applicable to the potential installation of any 3rd party products compatible with the ICAM.
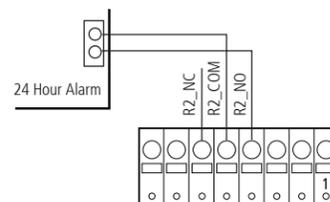

External Indicator Light
External indication lights can be connected for a more visual indication of a users acceptance at the iCAM. The diagram shows an example of external indicator lights connected to the Negative wire from the 3rd party external power source and the positive wire of the power source connected to the COM of relay one.

The Green light which is used to indicate a successful identification/verification is connected to the N.O. connection of relay one. The red light which is used to indicate a non-identification condition remains constantly lit unless a green light condition occurs (Red light is connected to the N.C. of the relay one).

iCAM Tamper Alarm Relay

24-Hour Monitored Alarm Zone
Connecting a tamper relay to either an active 24-hour monitored alarm system, or a passive alarm designed to alert locally can be configured with the applicable software. In the event that the iCAM is tampered, the alarm will be triggered when configured as illustrated.
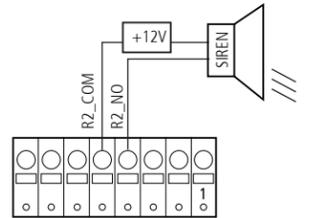
External Sound or Audible Device
Connecting a tamper relay to an audible device such as a siren locally positioned in your environment allows immediate recognizable audible input that the iCAM may be potentially compromised.

Available iCAM External Tilt Control

iCAM External Tilt Control – Wiring
When firmware enabled, the GPIO connections on the iCAM can be used to control the tilt position of the camera module. This tilt feature is available on the RoHS compliant iCAM series of iris cameras.

It is recommended that only momentary switches are used for the tilt control and that the wire length between the switches and iCAM does not exceed 15 meters (50 feet).

iCAM External Tilt Switch Operation
The External Tilt Switch allows the iCAM user to remotely control the tilt operation of the iCAM camera module. This feature is useful if the iCAM is installed where the tilt switches on the face of the camera module are inaccessible or inconvenient to the user.

Connection and operation of the External Tilt Switches does not disable or alter the operation of the tilt switches located on the face of the iCAM camera module.

Switch Wiring for the iCAM Series Camera
The external tilt switches are to be connected to the GPIO connections located on the interface board inside the iCAM. The GPIO are located on the General Purpose Input /Output port (labeled CN605).

Up Switch: The up tilt switch is to be wired between the GND (Ground) connection (located at PIN 5 of the Serial RS232/422 port – CN607) and the GPIO3 connection (located at PIN 7 of the General Purpose I/O port (CN605)).

Down Switch: The down tilt switch is to be wired between the GND (Ground) connection (located at PIN 5 of the Serial RS232/422 port – CN607) and the GPIO4 connection (located at PIN 8 of the General Purpose I/O port (CN605)).
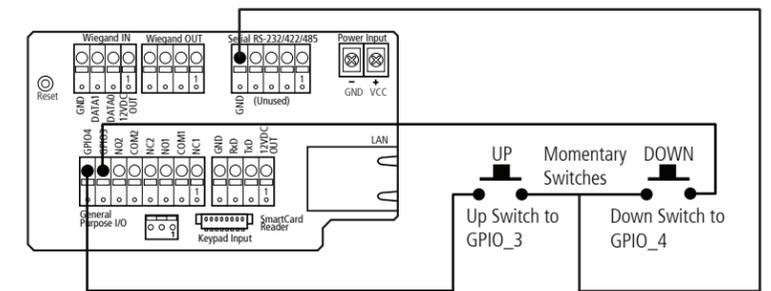
Technical Support

Additional information and Technical assistance is available on the Iris ID System's support web site at www.irisid.com, click on Support & Service then Technical Support.