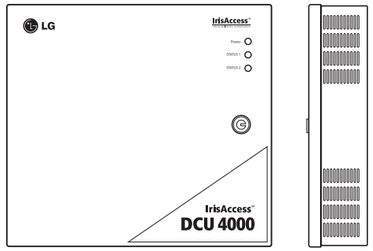
# DCU4000R Hardware Guide version 1.00






**DCU4000 Model Variation**

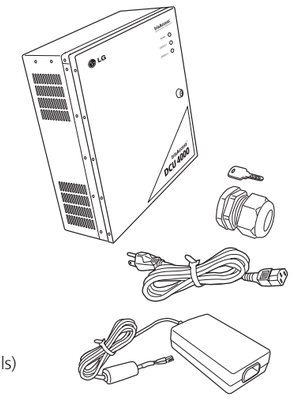
| | Supports iCAM | Supports ROU3000 | RoHS Compliant |
|---|---|---|---|
| DCU4000 * | ● | ● | ● |
| DCU4000R | ● | | |

* The DCU4000 is not covered in this document; refer to the DCU4000 hardware guide for more details.

## Packing List

**What's in the box**

- DCU4000R - Door Controller
- Power Adapter
  Input: 110~240V AC - 1.5AMP 50/60Hz
  Output: 19V DC - 4.74AMP
- Power Cable for 110V (IEC60320 C5 "Clover Leaf" to NEMA 5 "US")
- Grommet
- Keys
- Hardware Guide
- Two 6 Conductor Wire (for ICU to DCU Connection)



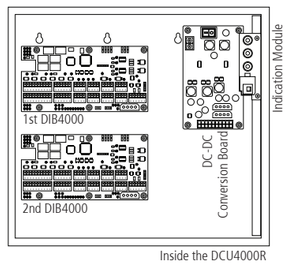

**Required Equipment (not included with DCU4000R)**

- Iris Camera (iCAM)
- ICU4000 series (Identity Controller)
- Server Computer (refer to the Software Manual for details)
- Uninterruptible Power Supply

## Inside DCU4000R

- The DCU4000R provides expanded input and output options for connecting the ICU4000 series (Identity Controller Unit) to external access control devices such a door strikes, magnetic locks, egress switches, and door status switches.

- The DCU supports up to 4 channels, providing one Dry contact relay (for door control), six General Purpose inputs, two General Purpose Output Relays, one RS-422 Output, and one Wiegand Output for each. The DCU4000R connects directly to the ICU using RS-422 communication. Only one DCU4000R can be connected per ICU.



Inside the DCU4000R

- **Upper DIB4000:** Input and Output for Channels 3 and 4

- **Lower DIB4000:** Input and Output for Channels 1 and 2

- **DC-DC Conversion Board:** Takes the 19VDC output from the included power supply and converts it the 12 and 5 volts needed.

- **Indication Module:** Contains DCU status indication LEDs and Tamper switch.

  Power LED - Green = DCU Power On
  Status 1 LED - Red = Upper DIB not operational, Green = Upper DIB operation normal
  Status 2 LED - Red = Lower DIB not operational, Green = Lower DIB operation normal

* Note: The DCU4000R does not support ROU3000 iris cameras.

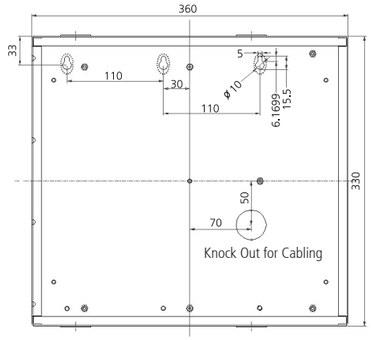
**IMPORTANT: USE ONLY THE POWER ADAPTER SUPPLIED WITH THIS PRODUCT. USE OF OTHER ADAPTERS WILL VOID THE WARRANTY.**

## Installation

**Mounting**

1. Using the key provided, unlock the enclosure.
2. Determine the point of entry into the enclosure for each cable. Remove the appropriate 3.5 cm (1-3/8") knockouts or if a knockout is not available at the desired location, drill holes using a hole punch commonly used for penetrating steel enclosures. Protect internal electronics from metal filings.
3. Install the supplied wire grommet or another connector to protect the wires.
4. Hold the enclosure in the desired location on the mounting surface using it as a template; mark the location of installation holes. There are two types of screw holes, the diameter of one type is 10mm (0.39 inch) and the other type is 5mm (0.20 inch).
5. Drill or punch holes in the mounting surface on the marks.
6. Insert the cables into the enclosure.
7. Mount the enclosure on the wall using appropriate hardware

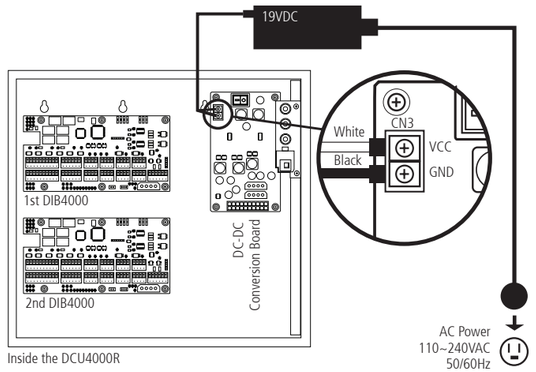
* Note: The DCU4000R is designed for surface mounting only.




**Power Connection**

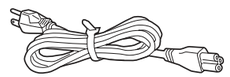
- Connect the supplied power adapter to the DC-to-DC converter board located inside the DCU enclosure. The white wire of the power adapter connects to the VCC or positive screw terminal and the black wire connects to the GND or ground screw terminal of the DC-to-DC converter board.

- The included power adapter is auto switching from 110VAC~240VAC 50/60Hz and includes an IEC60320 C5 "Clover Leaf" to NEMA 5 mains power cable.



Inside the DCU4000R

- If the local AC power outlets are not the NEMA 5 "US" type, then a local type power cable with a C5 power connection must be purchased and used for installation.

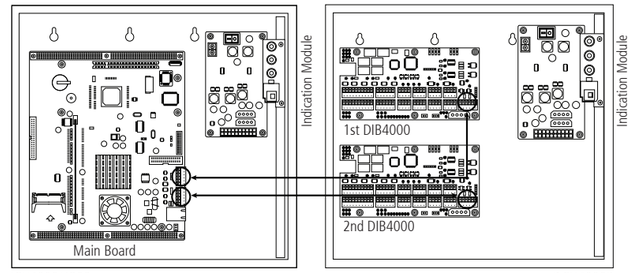


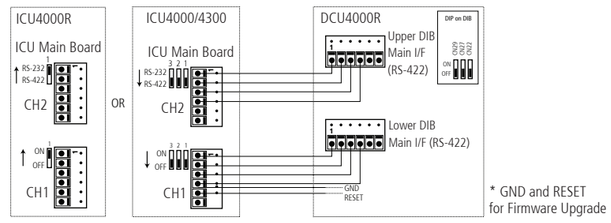
**DIB Main Interface to ICU Main Board**

- Each DIB (Door Interface Board) of the DCU is controlled directly by the ICU Serial Ports (CH1 and CH2). The lower DIB is connected to ICU serial 1 (CH1), and the upper DIB is connected to ICU serial 2 (CH2).

- The communication between the ICU and DCU is RS-422 serial. This requires 8 conduc tors (4 for each ICU serial to DIB communication).

* Note: The two extra wires on the included ICU to DCU cables are not needed and should not be connected.

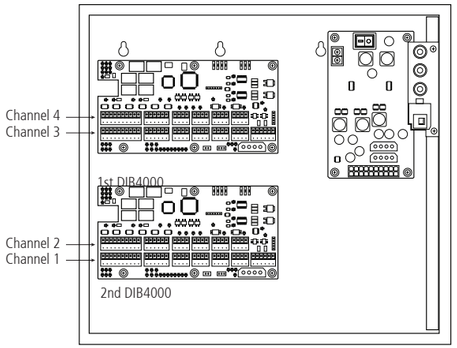


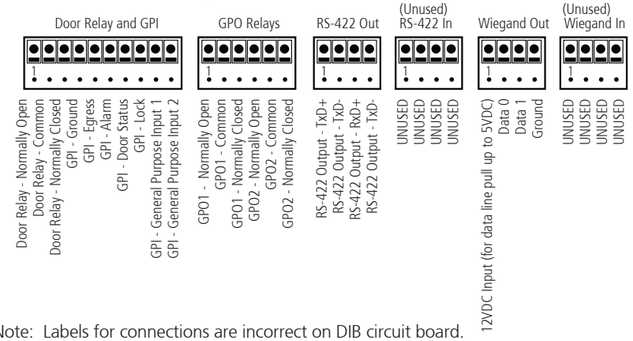

- On the ICU main board, CH1 and CH2 must be set for RS-422 communications.

- On each DIB in the DCU4000R there are three DIP switches near the upper right corner of the DIB. To set the DIB for RS-422 communications, all three switches must be set to the RS-422 position (down).

## Inputs & Outputs

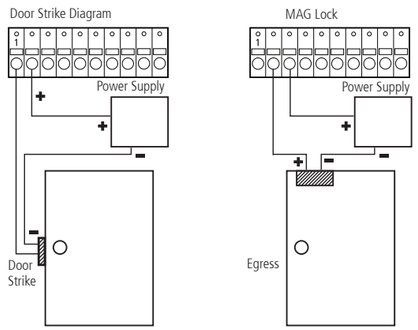



**Each Channel Has Following Connections:**




* Note: Labels for connections are incorrect on DIB circuit board.

**Door Relay**
There is one dry contact door relay available for output per DCU channel. The duration of the relay is defined through software selections available in IrisICUAdmin.



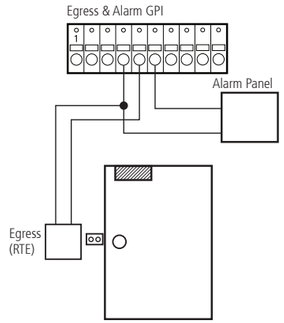

**General Purpose Inputs (GPI)**
Four designated general purpose inputs are available per DCU channel. Each GPI is connected between ground and the designated pin connector for activation.

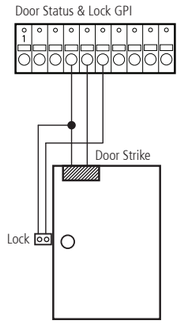
**Egress**
Egress, also known as Request To Exit will activate the door relay for the set duration time when this input is activated. Typical applications can include a button or PIR (Passive Infrared Detector) on the interior of the portal to allow exit capability.

**Alarm**
When activated this input will open/close the door relay for the duration of this input being held. Typical application can include (but is not limited to) connection of a fire-alarm system that when activated will either open/close the portal to allow for emergency exit or area lockdown.

**Door Status**
This input can be used to monitor the status of the portal to detect forced entry or door being opened and held ajar for more then a set duration time (configurable from the IrisICUAdmin software).

**Lock**
This input is used to monitor the status of the door lock mechanism. Typical use is to detect if the portal is in the locked state.




**GPI 1 & GPI 2**
Two additional non-designated General Purpose Inputs are available per DCU channel. These GPI can be configured via the IrisICUAdmin software. Two typical uses for these additional inputs are listed below.

**1. iCAM Activate:**
The GPI can be used to control the iCAM activate function.
iCAM activate allows the iCAM to be placed into a stand-by mode and activated only when the input changes state from high to low or low to high.

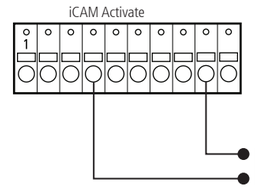
**2. Access Panel Response:**
Access panel response allows the appropriate voice response and transaction log to be produced or output depending on the user acceptance or rejection by the third party access control panel.

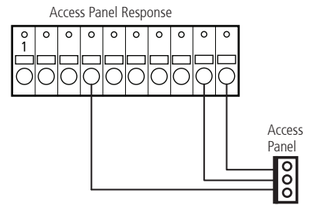
This control from the access panel is input to the GPI's.

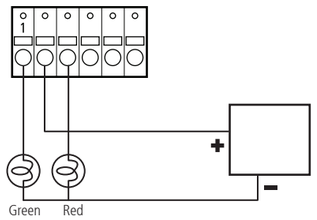
In the ICU software configuration, one wire returned from the access panel can be designated for user acceptance while the other GPI is designated for user rejection.

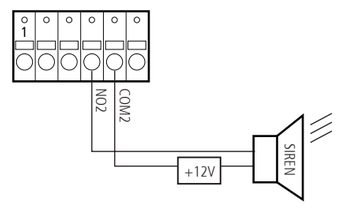
These inputs can be switched by an AUX relay or other output provided by the access control panel.

**General Purpose Outputs**
Two general purpose dry-contact relays are available for each DCU channel. Typical application can include (but is not limited to) connection of Lights or Sirens to signal selectable events.



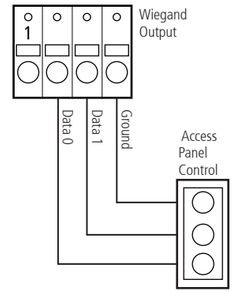




**RS-422 Input and Output**
RS-422 serial communication ports for connection with an access panel or to other computer equipment. When configured, the Card ID associated with the user is output from the RS-422 output port upon a successful identification.

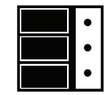
*Note: RS-422 Input is not enabled.

**Wiegand Output:**
Wiegand is the most commonly used communication method for access control equipment. When configured, the Card ID associated with the user is output from the Wiegand output port upon a successful identification. Wiegand output must be configured in the ICU using IrisICUAdmin4000. A Card ID must be entered for each user. The Wiegand output from the DIB4000R is by default pulled up to a 5VDC level on the data lines. This voltage "pull-up" can be disabled if required by moving the jumper shunts J1-J6 on each DIB.




*Note: Wiegand output is available from either the iCAM, ICU with WIB board, or a DCU.


Pull-up Enabled (default)


Pull-up Disabled

Wiegand out channel 1 = J4, J5, and J6 on lower DIB
Wiegand out channel 2 = J1, J2, and J3 on lower DIB
Wiegand out channel 3 = J4, J5, and J6 on upper DIB
Wiegand out channel 4 = J1, J2, and J3 on upper DIB

**Wiegand Input:**
Wiegand Input is not enabled in the DCU4000R. The Wiegand Input at the iCAM should be used for card reader input.

**Software and Configuration:**
No software is required for the DCU4000R; all functions are handled by the ICU. Refer to the Software and User Manuals for ICU configuration details.

## 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.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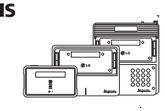

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