



## **IDU-5 Installation**

### **Installation Manual**

Version 5.3.1

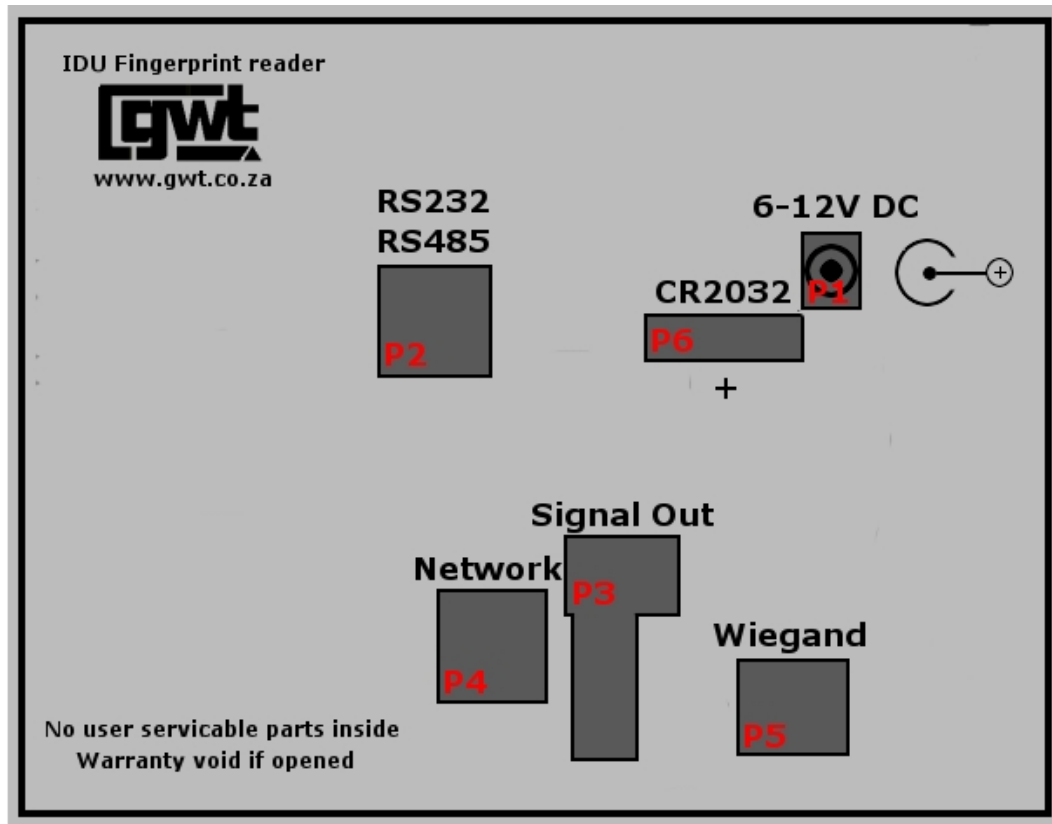
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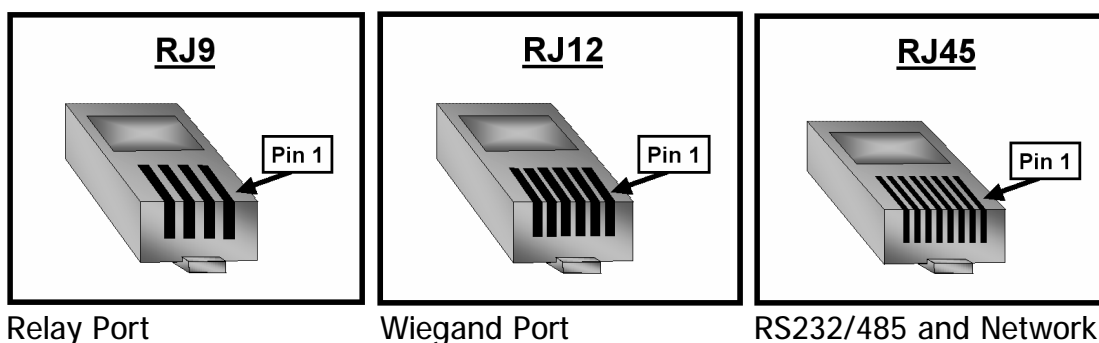
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## 1. Device Back View



- P1 – Power (6-12 VDC)
- P2 – RS232/RS485 Connector (RJ45)
- P3 – Relay Port (RJ9)
- P4 – Network Port (RJ45)
- P5 – Wiegand I/O (RJ12)
- P6 – RTC Battery Port

## 2. Connector PIN Layout



## 3. Power consumption

Maximum: 600mA @ 12 VDC  
 Standby: 350mA @ 12 VDC

#### 4. Earthing

It is not necessary to earth the IDU unit if it is not connected to any other system. When connected, either by using the relay ports or the Wiegand port, the unit must be earthed to a common earth.

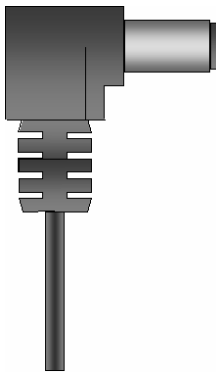
**NB! The IDU reader must be earthed at one point, and one point only.**

The IDU unit and the system connected to it, must use a common earth to avoid ground loop problems, especially with Wiegand communications.

#### 5. Interface Connectors

##### 5.1. P1 – Power supply port

Connector type: Power Socket

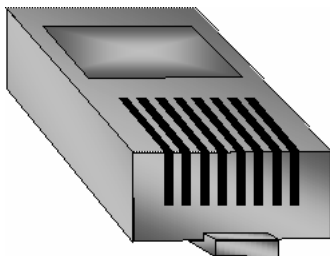


The power supply port provides power to the module. A voltage source of 7V to 12V DC must be applied to the power socket, the inner pin (VinA) is positive and the outer pin (VinB) is negative.

Pin	Signal	Type	Description
Inner	VinA	Power, positive	Voltage in/out
Outer	VinB	Power, negative	Voltage in/out

##### 5.2. P2 – Serial port (232/485)

Connector type: RJ-45 (8 way, 8 loaded)



The serial port is a RS232/RS485 port and can be used to connect the module to an external computer.

Pin number	Signal	Type	Description
1	RS485+	Bi-directional	RS485 Signal
2	GND	Power	Signal ground
3	RXD	Input	Receive data
4	TXD	Output	Transmit data
5	CTS	Output	Clear to send
6	RTS	Input	Request to send
7	GND	Power	Signal ground
8	RS485-	Bi-directional	RS485 Signal

### Connection to Personal Computer (RS232).

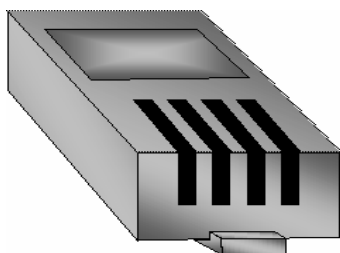
To connect the IDU device to a personal computer a serial cable will have to be made up with the following connections:

Pin (IDU RJ-45)	Signal	Pin (PC DB-9 Female)
1	Not Connected	
2	GND	5
3	RXD	3
4	TXD	2
5	CTS	8
6	RTS	7
7	GND	5
8	Not Connected	

Note: Pins 1, 4, 6 and 9 on the DB-9 connector is not connected.

## 5.3. P3 – Signal Out (Relay port)

### 5.3.1. Connector type: RJ-9 (4 way, 4 loaded)



The signal out port is an open collector port capable of sinking a continuous current of **500mA** and handles a maximum voltage of **12V DC**.

The port is a dry contact switch in the normal open state, it does not provide any power, and will only close the circuit when activated.

Pin number	Signal	Type	Description
1	RLY 1	Power	Relay 1 - output
2	GND 1	Power	Driver 1 - input
3	GND 2	Power	Driver 2 - input
4	RLY 2	Power	Relay 2 - output

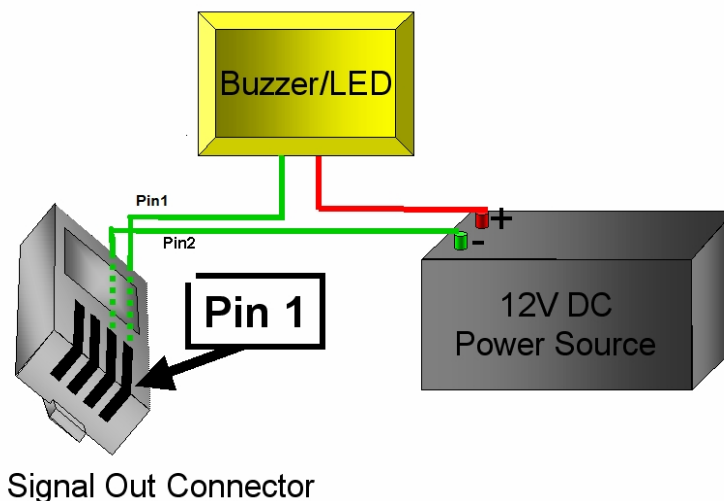
The IDU device has two signal out ports, port 1 and port 2. Port 1 is the default and will open when no direction is selected or when the IN button has been pushed. Port 2 will only open when the OUT button on the IDU has been pushed.

The signal out ports of the IDU device is capable of driving two external devices up to a maximum voltage of 12V DC without the use of an external relay (NOT RECOMMENDED FOR USE WITH LOCKING DEVICES). If the external device requires more than 12V DC or AC power a suitable external relay must be connected to the relay port output of the IDU device.

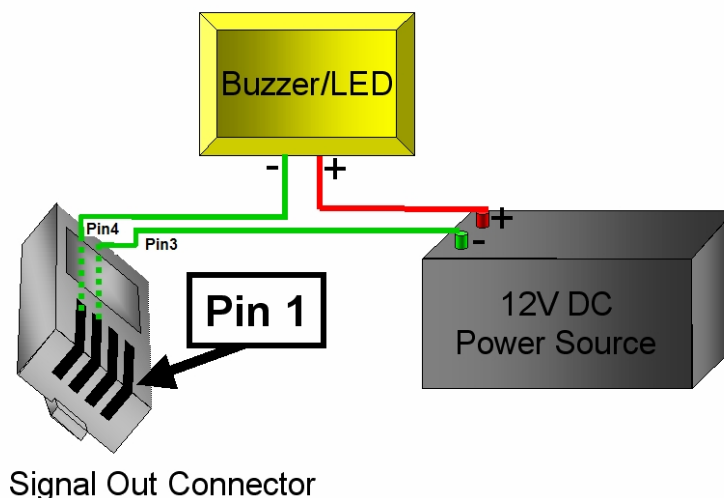
It is recommended that an external relay always be used as it would protect the unit from inductive feedback. The IDU will energize the relay, i.e. activate the relay's switch when a person is accepted. The wiring of the relay depends on what the application/lock type is used; e.g. a magnetic lock would be wired to the normally closed pin and a striker lock would be wired to the normally open pin.

### 5.3.2. P3 – Connection Diagram – Buzzer

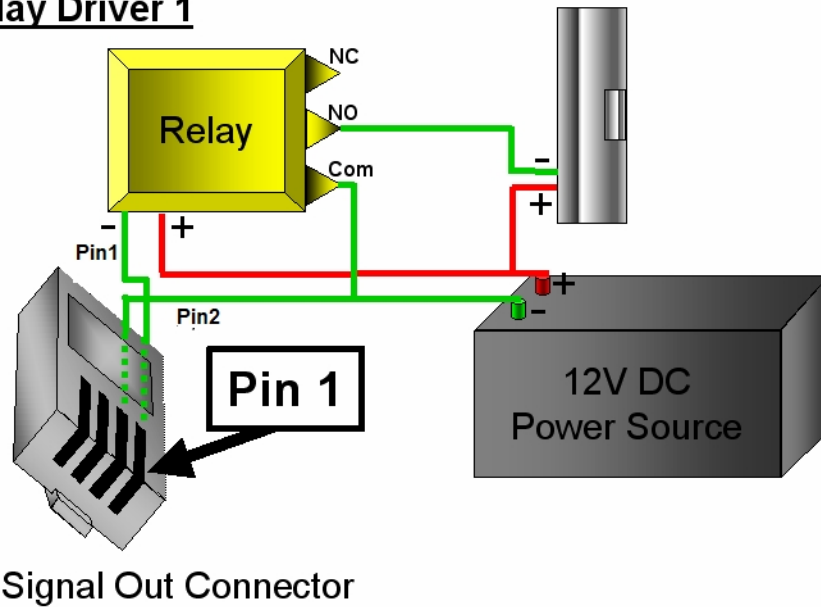
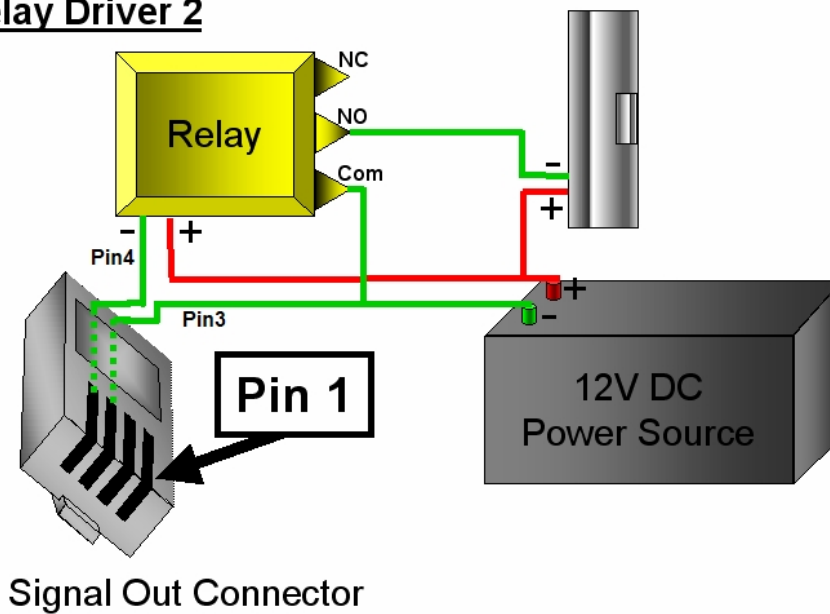
#### Relay Driver 1



#### Relay Driver 2



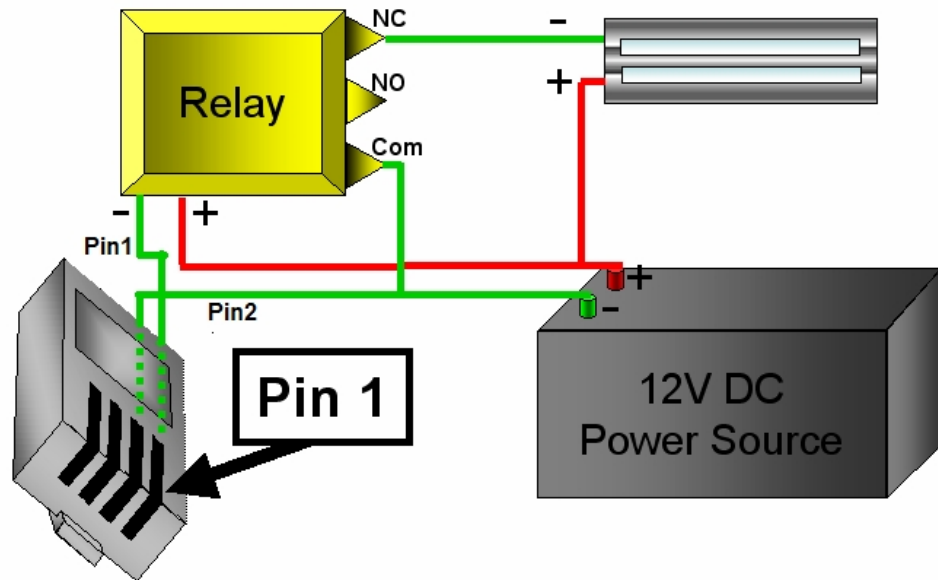
## 5.3.3. P3 - Connection Diagram – Striker Lock

**Striker Lock****Relay Driver 1****Striker Lock****Relay Driver 2**

## 5.3.4. P3 - Connection Diagram – Magnetic Lock

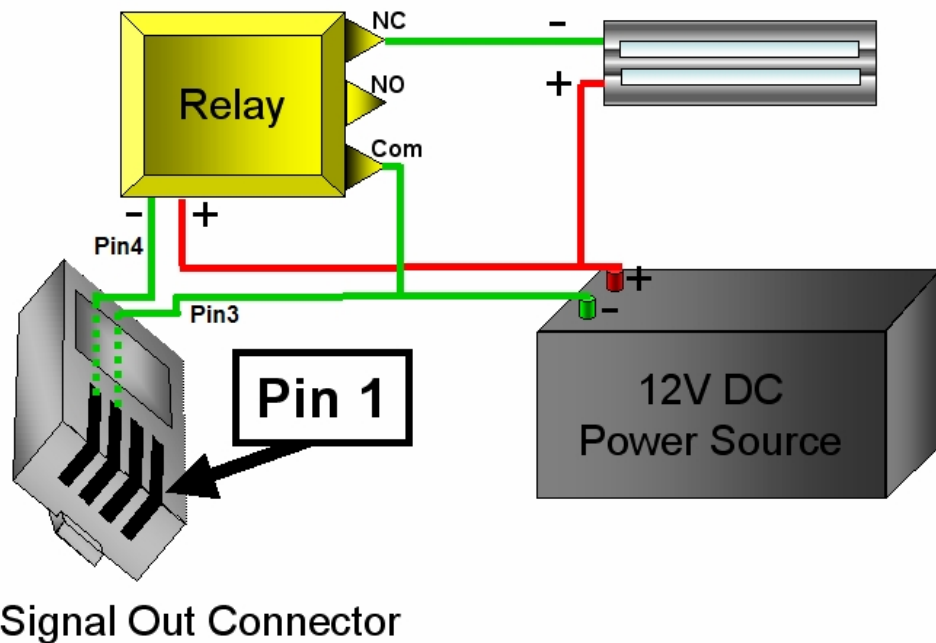
## Magnetic Lock

### Relay Driver 1



## Magnetic Lock

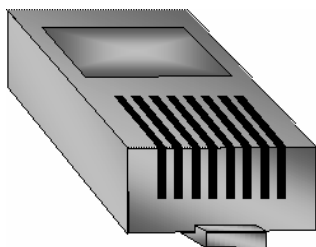
### Relay Driver 2





#### 5.4. P4 – Network port

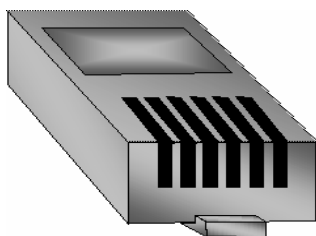
Connector type: RJ-45 (8 way, 8 loaded)



The connector is an industry standard 10BASE-T RJ45 connector to connect to any Ethernet cable.

#### 5.5. P5 – Wiegand port

Connector type: RJ-12 (6 way, 6 loaded)



The Wiegand port can be used to attach a proximity card reader to the device and/or to connect the device to a Wiegand controller. A 5V power output is available to power an external proximity card reader.

Pin number	Signal	Type	Description
1	+5V	Power	Power supply output
2	TX 1	Output	Transmit 1
3	TX 0	Output	Transmit 0
4	RX 1	Input	Receive 1
5	RX 0	Input	Receive 0
6	GND	Power	Signal ground

#### 5.6. P6 – Battery port

The IDU reader has an onboard real time clock (RTC). This battery is used to power the RTC when power to the unit is disconnected. The battery used is a 3V battery, Code CR2032.

## 6. Mandatory IP65 Installation Procedure

- Pierce the mounting bracket (back-plate) grommets in the center with a rounded object (e.g. ballpoint pen).
- The cable grommet needs to be pierced using the same rounded object, by stretching the protrusion point and nicking the stretched rubber. Use silicone glue for cables that are not round.
- The supplied M6 washers need to be used with the with the mounting screws you decide to use. Utmost care should be taken not to over torque the screws, as this might deform the rubber seal (finger tight plus a quarter turn should be sufficient).
- Ensure that the mounting bracket is mounted on a flat rigid surface.
- Make use of the existing cable ways. Under no circumstances must cableways be cut or drilled into the casing, as this will severely affect the IP rating of the unit. This will also void the warranty of the unit.
- Use the IDU-5 IP65 back-plate as supplied, under no circumstances must any other back-plate be used.
- Slide the IDU casing over the mounting bracket, and compress the mounting bracket seal by pushing the IDU casing towards the mounting surface. Use the side screws, together with the small o-rings, to secure the casing in its place. Be cautious not to cross thread the side screws, and tighten them finger tight plus a quarter turn.