



IDTJADE™ HARDWARE MANUAL

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Part I

Introduction

1. Introduction

IDT Jade™ - A “new age” Physical Access Control terminal for those who are looking for a “No Touch” identifications process.

The IDT Jade™ and the accommodating IdentityManage™ software solutions offers a complete Identity Management solution both for indoor/outdoor environments.

1.1. Overview

IDT Jade™ incorporates precision Palm vein technology into an ergonomic computer peripheral that delivers unparalleled performance, reliability and convenience. Available in a modular manner, using the most accurate technology to the biometric market, the Palm Secure™ - Palm Vein reader, the DT Jade™ provides an ultimate solution for small to medium access control deployments.

With its integrated Smart Card/Prox reader, the IDT Jade provides a true two method Identification / Verification PAC.

The IDT Jade™ operates as a Stand Alone PAC or as part of a networked Access control solution, allowing for complete modularity and interoperability between all IDentyTech and third party software and hardware using our IDT SDK.

Internal / External processing options using the IDentyTech MiniMOAC™ embedded board for the only true Real Time Operating system solution to market.

MiniMOAC allows a two door, four reader control using encrypted protocols for a total secured controlled environment.

1.2. General Features

- Full stand-alone capabilities
- On board two sensor management – IN/OUT
- Internal SQLite db.
- Easy integration into third party hardware and software.
- Integrated Contactless smart card – Iclass, Mifare and Proximity.
- Critical information is Secured and encrypted
- Encrypted communications
- Robust design- anti vandal casing, IP65 (suitable for outdoor use).
- Easy installation kit
- 1 GHz processor
- TCP/IP
- 1 Gb NAND Flash
- 2 Gb DDR
- Request Exit button interface
- Door status input
- Break Glass (for fire regulations)

- 3 power sources- power supply, POE, Battery
- USB host
- RS232/485
- On board 2 relay unit
- Real Time Clock
- Wiegand IN/OUT (26-512 Bit)
- Operating temperature -10 to +70 C

1.3. Modes Of Operation

- Multi Factor Authentication
- Identification and Verification.
- Integrated Contactless smart card – Iclass, Mifare and Proximity.
- 1:1 < 100 ms
- 1:200 < 2 second
- Server matching engine for over 1000 users available only when operated through Server / Client mode.
- Internal Log file- 500,000 last events

The IDT Jade™ support also different Access Modes:

- Hand Only
- Card Only
- Card or Hand
- Card and Hand

The IDT Jade™ support also different controlled Door States and status:

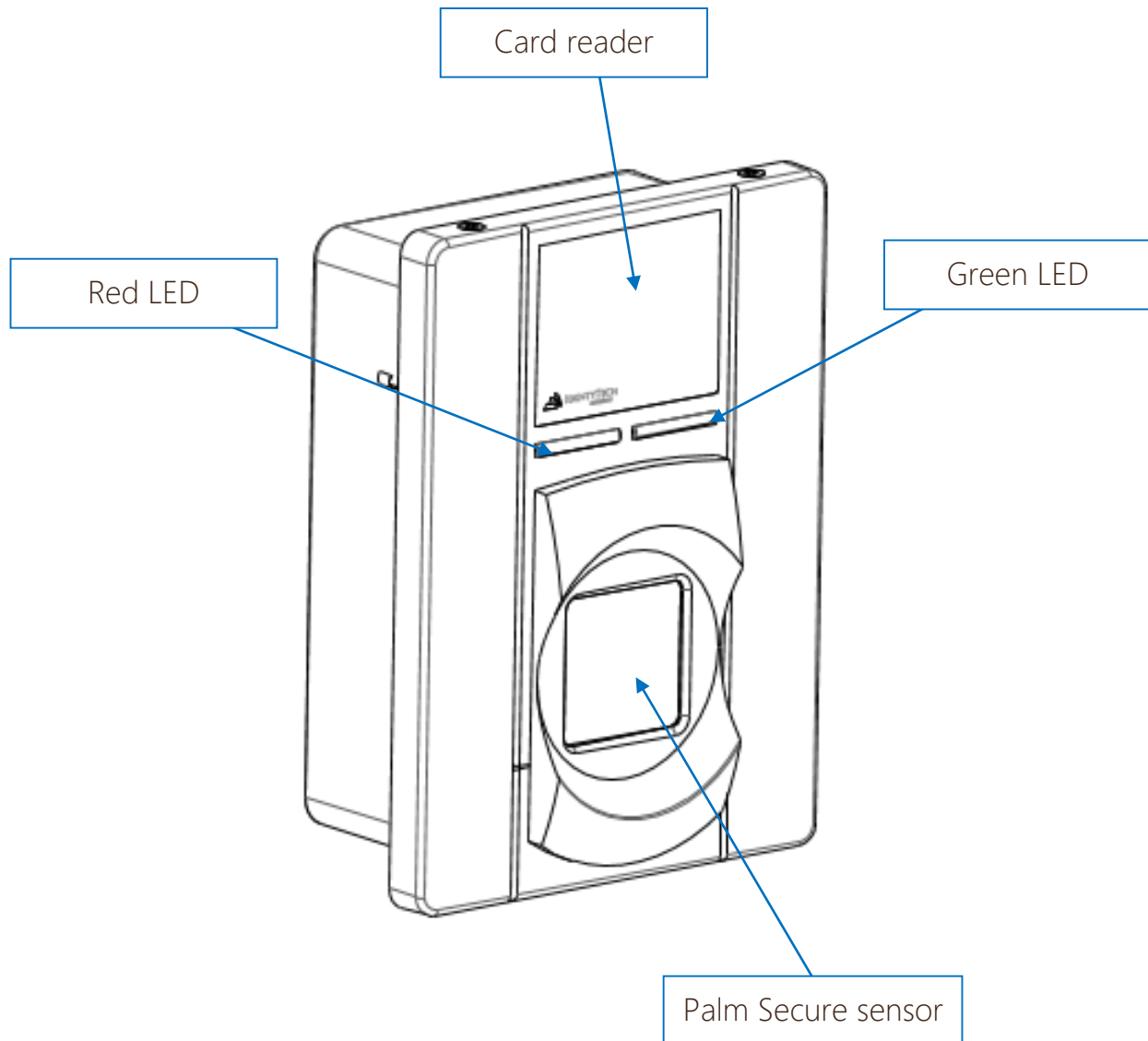
- Strike Time—The time duration that the strike relay will be energized for in the case of an access grant
- Held Open Time—After an access grant and a subsequent opening of the door contact, the time in which the door contact must be closed before an alarm state is reported
- Forced Open Time - the door status changed , without any access granted activity forced open alarm is generated

Part II

Hardware layout

2. Hardware layout

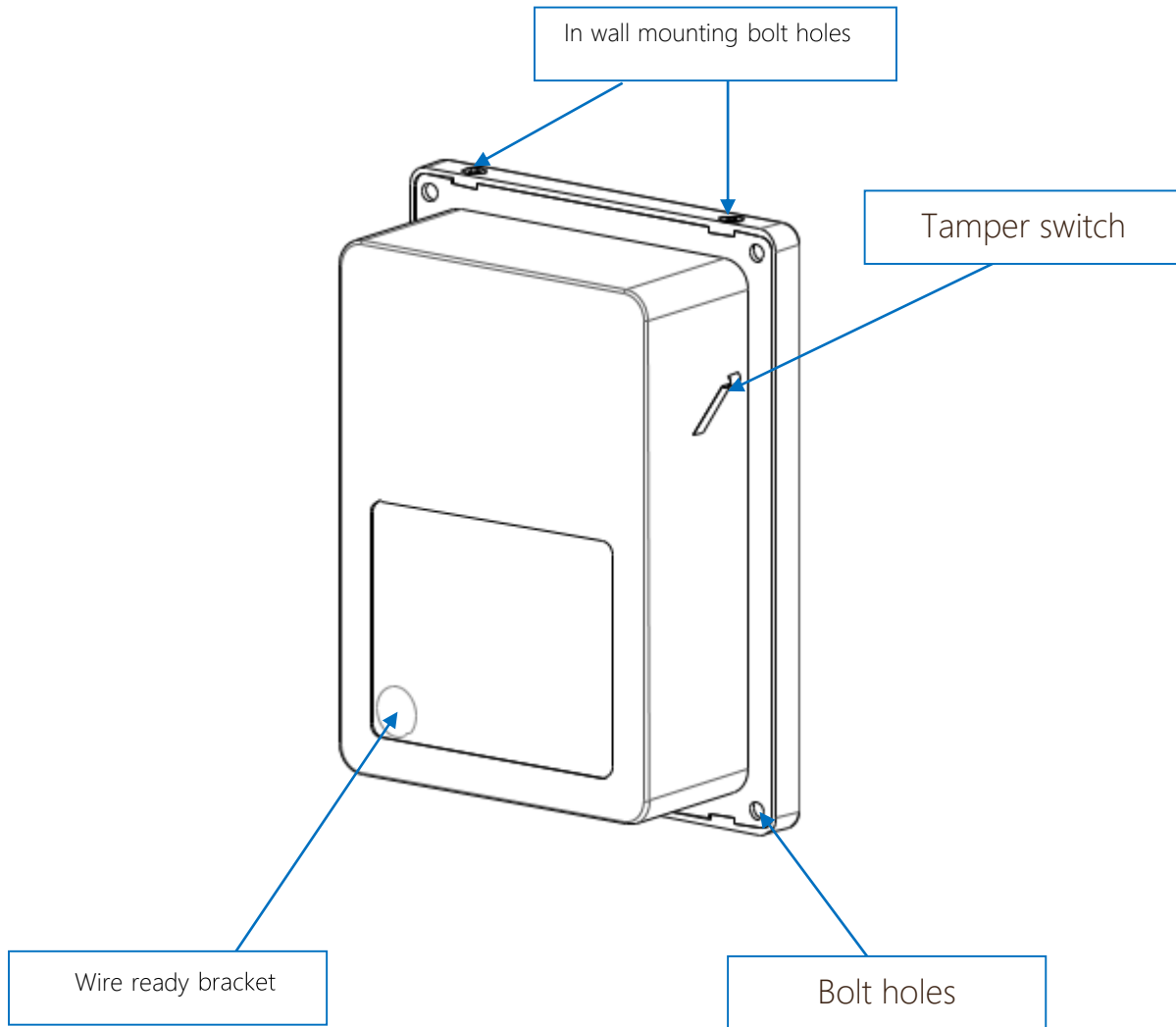
2.1. Terminal front view



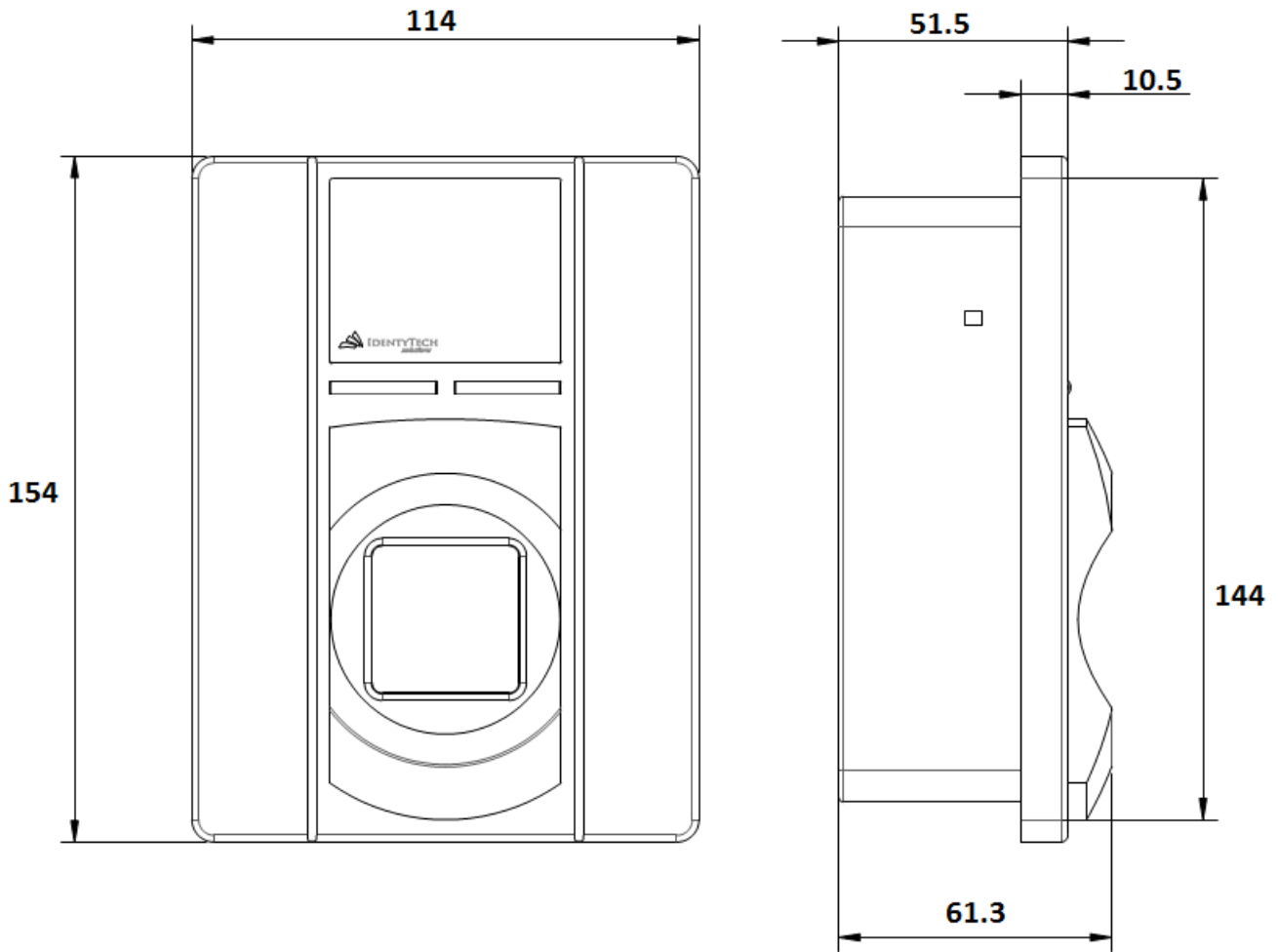
Terminal front elements

- Palm Secure Sensor.
- Card Reader.
- Red Led.
- Green Led.

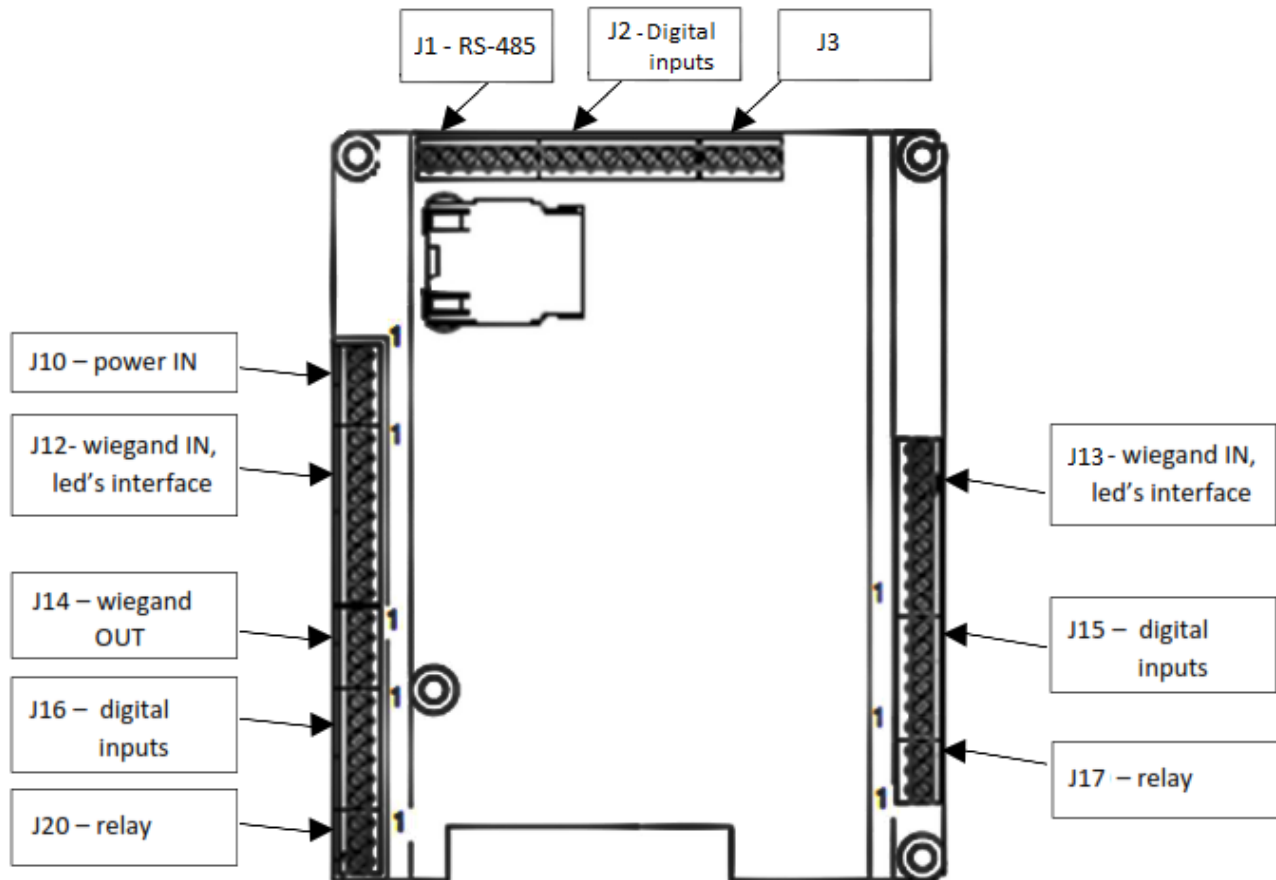
2.2. Terminal back view



2.3. Terminal dimensions



2.4. Terminal Board I/O Connection

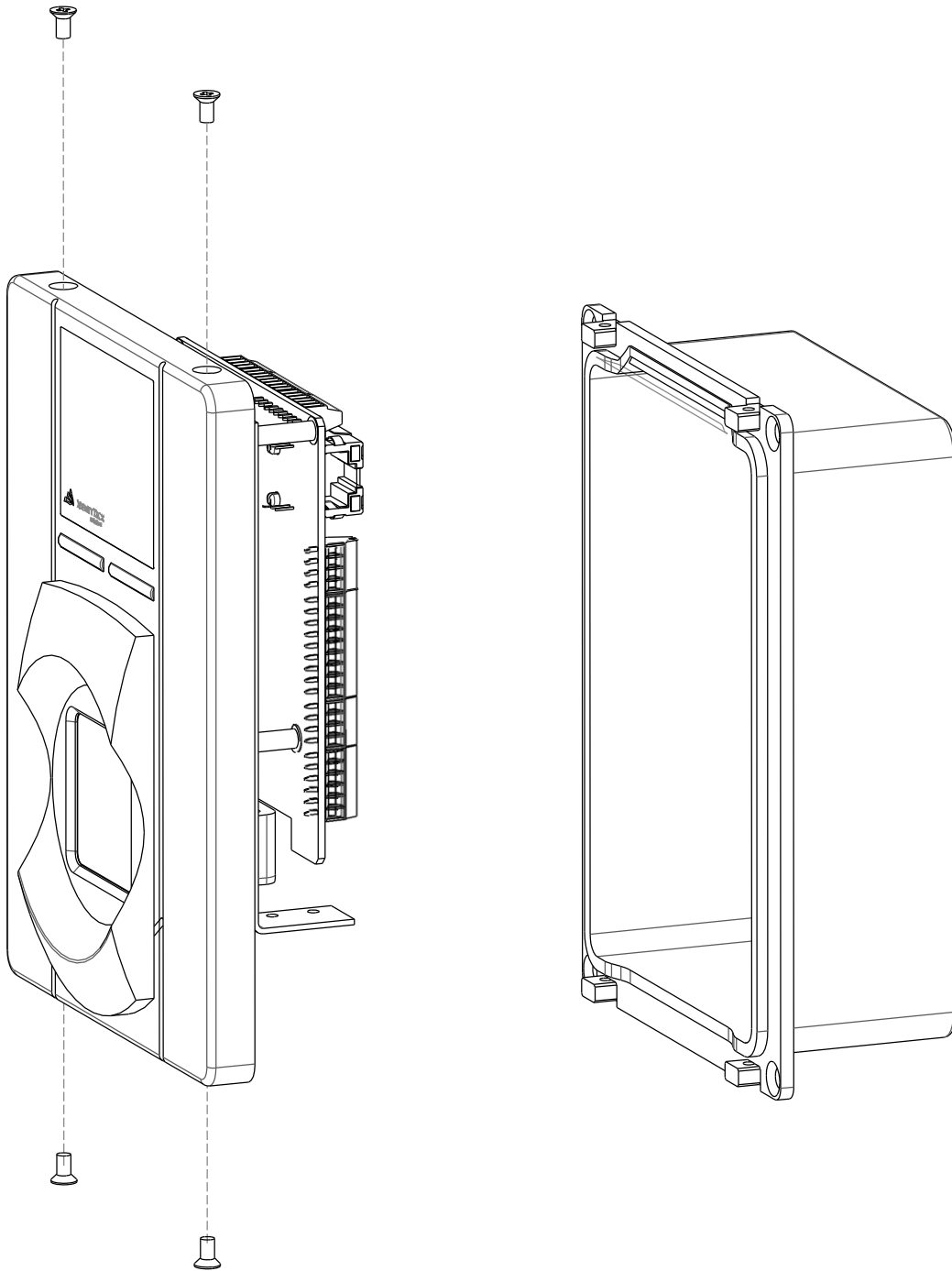


Terminal Board connectors

- J10 - Terminal Main Power 12 v DC power Supply
- J20 - Door Strike Relay Connectors (NO, C, NC)
- J16 - Door Status Connector
- J16 - Door Exit Push Button Connector
- J16 - Door Breaking Glass Box Connector
- J12 - Wiegand IN Communication Connector for different types of Readers
- J12 - Led's Interface.
- J14 - Wiegand OUT Communication Connector to 3rd Party equipment

IDT Jade I/O Terminal Connections Table					
Terminal Board I/O Connection					
	Function	Label	Type	Position	
J12	5 v DC External Reader power Supllay	RVDC	VDC (Reader Power)	1	
		RGND	Ground (Reader Power)	2	
	Reader 1 Device Connections Wiegand Communication to 3rd Party Reader			Buzzer	3
				Led 1	4
				Led 2	5
				Led 3	6
		GND		Ground (Reader Power)	7
		DI 0		Wiegand Data IN 0	8
		DI 1		Wiegand Data IN 1	9
J14	Wiegand Communication to 3rd Party Controller	DO 0	Wiegand Data OUT 0	1	
		GND	Ground	2	
		DO 1	Wiegand Data OUT 1	3	
		GND	Ground	4	
J16	Door Breaking Glass Box (Normally Closed)	BG	Breaking Glass Box	1	
		BGR	Breaking Glass Box Return	2	
	Door Exit Push Button (Normally Open)	EPB	Exit Push Button	3	
		EPBR	Exit Push Button Return	4	
	Door Status Connection (Normally Closed)	DS	Door Status	5	
		DSR	Door Status Return	6	
J10	12 - 24 v DC power Supllay	VDC	VDC (Terminal Power)	1	
		GND	Ground (Terminal Power)	2	
	Power Fault (Normally Closed)	PF	Power Fault Input	3	
		PFR	Power Fault Input Return	4	
J20	Door Strike Relay Connection	NO	Relay NO (Normaly Open)	1	
		C	Relay C (Common)	2	
		NC	Relay NC (Normaly Close)	3	

2.5. Terminal In-Wall \ Wall Mounting



3. Output Relay Wiring

The Secure I/O has two output relays onboard, both relays are dedicated strike relay, The Secure I/O can support a mixture of uses of onboard and on external relay modules.

Typically, doors are held closed and released by one of two methods (Fail Safe or Fail secure). Failsafe – Locked when powered; Fail-secure – Unlocked when Powered.

A. Failsafe locks and strikes require power to lock. When power is interrupted by an access control unit or power outage, the door will unlock. Failsafe locks are often used for life safety applications such as the access control of perimeter fire rated exit doors and high rise building stairwell doors where the locks are automatically released by a signal from the building fire life safety command center during an emergency or building power outage. When used on interior doors that do not require connection to the life safety command center, a battery back-up power supply may be used to provide continuous power to electric locks and strikes during a power outage.

B. Fail secure locks and strikes require power to unlock. When powered by use of an access control controller, the door unlocks. The door will lock or stay locked during a building power outage. A battery back-up power supply may be provided to ensure continued operation during loss of building power. This architecture is typically used for high security applications where fail-secure locks are not permitted on fire rated doors because they do not unlock during an emergency or power loss.

C. An electric door strike is installed in the door frame, replacing the mechanical strike plate. This type of strike has a "gate" that is normally held closed and is released by command from the terminal. This allows the door to be opened.

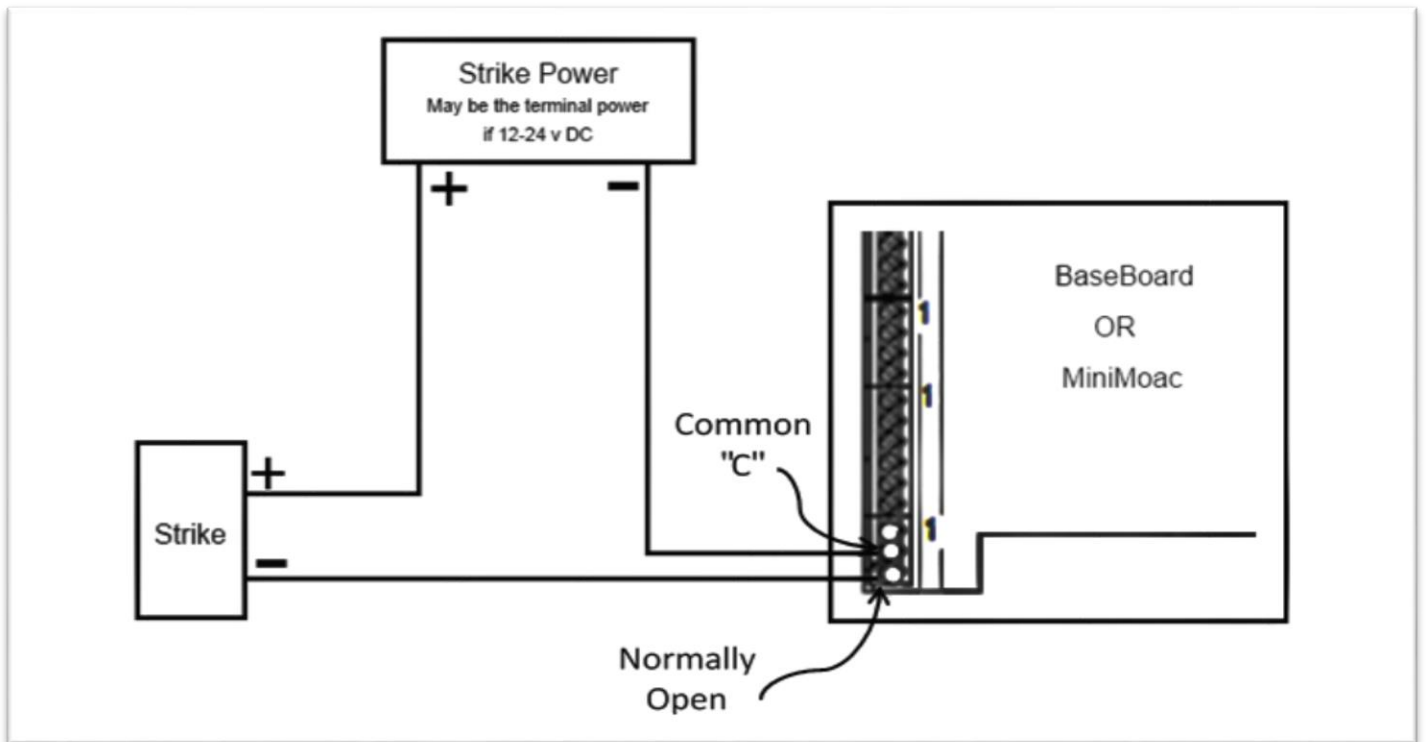
D. A second type of lock is an electro-magnetic lock which is a two piece device mounted on the perimeter of the door. A solid plate is mounted to the door and an electro-magnetic lock is mounted adjacent to the plate on the frame of the door. The electro-magnetic lock firmly holds the plate mounted to the door, holding it closed until the power is removed by the Terminal, allowing the door to be opened.

Most electric locks are available in two configurations, Fail-Safe and Fail-Secure. Fail-Safe locks require power to hold the door closed and will release the door when power is removed. This type of lock will open the door if a power outage occurs. This is desirable for doors used as emergency exits.

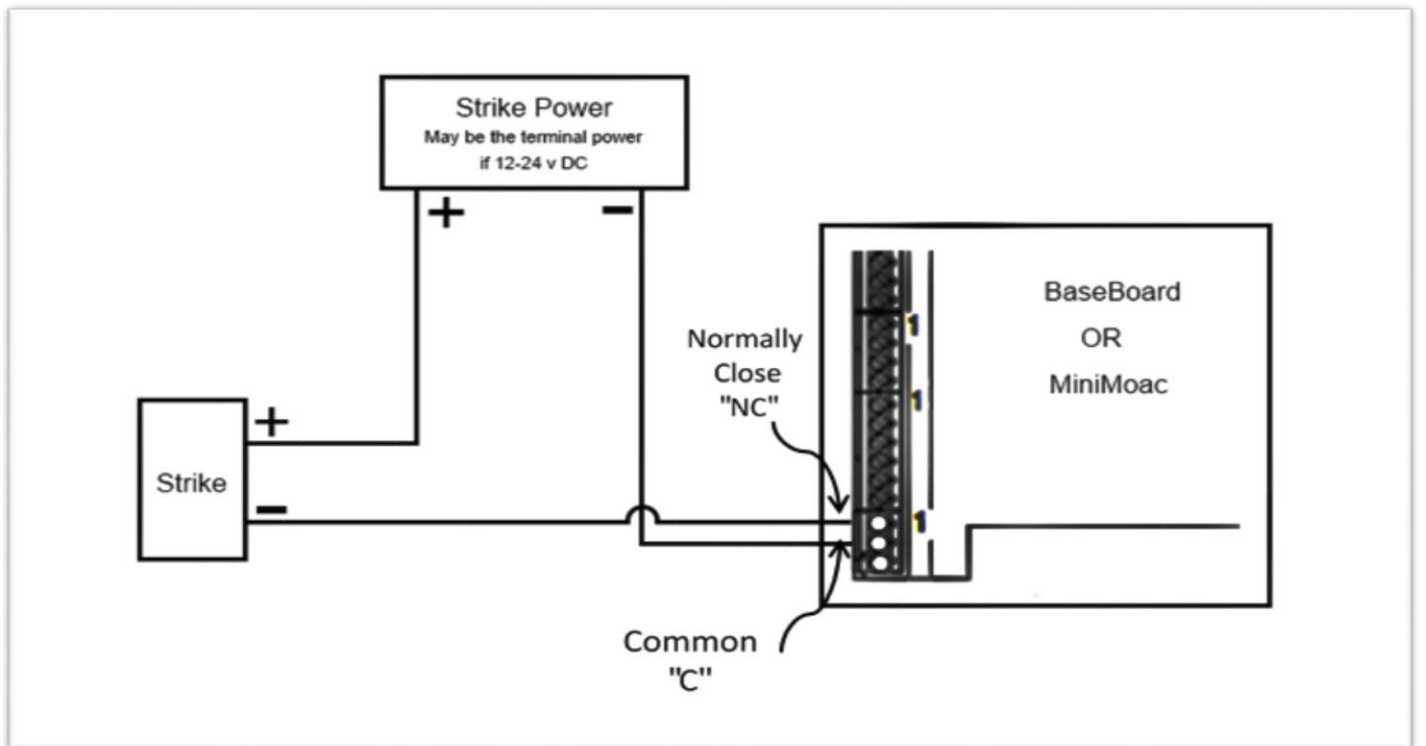
Fail-Secure locks hold the door closed automatically and require power to release the door. This type of lock is desirable for securing doors in high security applications.

Electro-Magnetic locks are typically only available in the Fail-Safe configuration. Electric locks are also available in a range of operating voltages. 12 volts DC or 24 volts DC are the most common.

AC power strikes are also available but are not widely used because of the difficulty in connecting.



Fail-secure strike wiring configuration



Fail-safe strike wiring configuration

Part IV

Terminal IP configuration

4. Terminal IP configuration

4.1. Default IP settings

All of IDTAccess™ terminals are shipped with the default IP settings as follows:

- IP address: **192.168.1.1**
- Subnet mask: **255.0.0.0**
- Default gateway: **192.168.1.1**

4.2 Resetting terminal to default IP settings

To reset IP address please do the following:

1. Disconnect the Power supply from the device
2. Short circuit between PINs 7, 8, 9 on the J12 connector
3. Re-power the unit while the pins are still shortened, then wait until the Green & Red LED will flash, and wait for the device to reboot itself
4. Power off the unit and remove wiring from PINs 7, 8, 9
5. IP address is now set to default settings

