## 1 Out of the Box

Qty 1   **REM-PCB**
Qty 1   **Cabinet (DSC p/n PC5002C)**
Qty 1   **Cabinet lock with 2 keys (DSC p/n L-1)**
Qty 1   **Tamper Switch (GRI p/n TSC-20)**
Qty 2   **6 Position Terminal Block Plugs**
             (CUI p/n TBP02P1-381-06BE)
Qty 2   **8 Position Terminal Block Plugs**
             (CUI p/n TBP02P1-381-08BE)
Qty 5   **Plastic Standoffs (Keystone Electronics p/n 9067)**
Qty 1   **Installation and User's Manual**

2 Installation

2.1.1 Mounting the Cabinet and the REM

1. Remove the knockout from the front door of the cabinet and mount the lock.
2. Remove any additional knockouts on the box to support cabling for the specific installation.
3. Install the tamper switch.
4. Insert the 5 plastic standoffs through holes in the back of the cabinet as shown in the image below.
5. Using the 4 countersunk holes in the back of the cabinet, mount the cabinet to a secure structure. It is recommended to mount the cabinet using #8 or #10 screws or equivalent which are a ½" in length minimum, or #8 or #10 or equivalent wall anchors.
6. Mount the REM to the plastic inserts as shown in the image below.
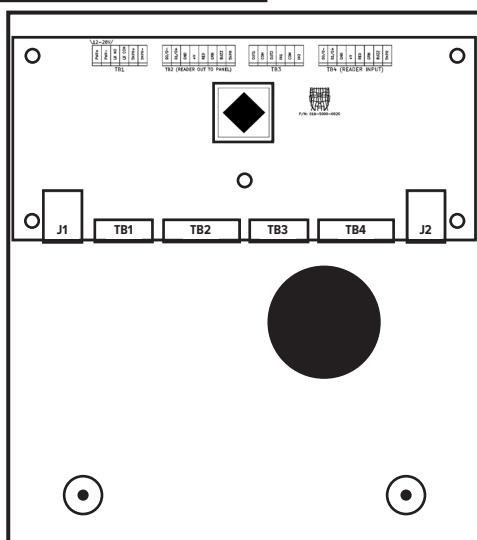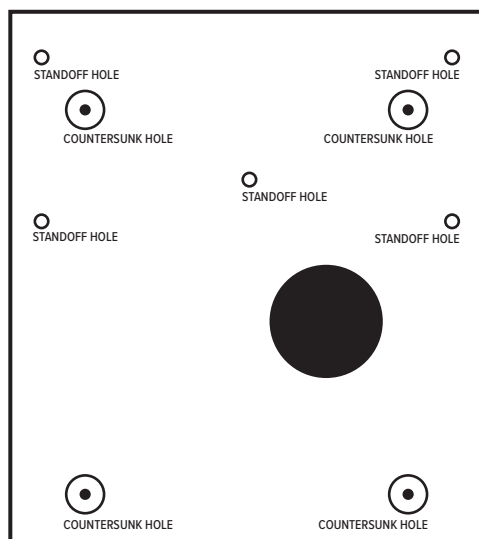
2.2 Connecting to the REM

On the back side of this sheet, an image shows the terminal block connections on the REM followed by a table which summarizes the type of cabling/wiring to be used with the terminal blocks.

J1
Lan Port: PoE+ (Power Over Ethernet) RJ45 Connector.
PoE/Network input to the REM.

J2
Reader Port PoE (Power Over Ethernet) RJ45 Connector.
PoE/Network output to the GO.

TB1
CUI P/N: TBP02P1-381-06BE (Supplied with unit)

PWR+	(12VDC @ 2.14A, or 24VDC @ 1.07A, 25.5W input power + to REM)
PWR-	(12VDC @ 2.14A, or 24VDC @ 1.07A, 25.5W input power – to REM)
LK NO	(Normally Open Contact from the Lock Relay of the Access Control Panel)
COM	(Common Contact from the Lock Relay of the Access Control Panel)
TMPR+	(Cabinet Tamper Switch)
TMPR-	(Cabinet Tamper Switch)

TB2 (Access Control Panel Connections)
CUI P/N: TBP02P1-381-08BE (Supplied with unit)

D0/D-	(Wiegand Data 0/OSDP D- Output to the Access Control Panel)
D1/D+	(Wiegand Data 1/OSDP D+ Output to the Access Control Panel)
GND	(Ground for Wiegand communication from the Access Control Panel)
+V	(+V from the Access Control Panel for the Card Reader)
RED	(RED LED signal from the Access Control Panel for the Card Reader)
GRN	(GRN LED signal from the Access Control Panel for the Card Reader)
BUZZ	(Buzzer signal from the Access Control Panel for the Card Reader)
TMPR	(Card Reader Tamper signal to the Access Control Panel)

TB3 (For future use)
CUI P/N: TBP02P1-381-06BE (Supplied with unit)

OUT1	(Auxiliary Output 1)
COM	(Common for Auxiliary Outputs 1 and 2)
OUT2	(Auxiliary Output 2)
In1	(Auxiliary Input 1)
COM	(Common for Auxiliary Inputs 1 and 2)
IN2	(Auxiliary Input 2)

TB4 (Card Reader Connections)
CUI P/N: TBP02P1-381-08BE (Supplied with unit)

D0/D-	(Wiegand Data 0/OSDP D- Input from the Card Reader)
D1/D+	(Wiegand Data 1/OSDP D+ Input from the Card Reader)
GND	(Ground for Wiegand communication to the Card Reader)
+V	(+V from the Access Control Panel to the Card Reader)
RED	(RED LED signal from the Access Control Panel to the Card Reader)
GRN	(GRN LED signal from the Access Control Panel to the Card Reader)
BUZZ	(Buzzer signal from the Access Control Panel to the Card Reader)
TMPR	(Tamper signal from the Card Reader to the Access Control Panel)

When connecting SWH-4100 or similar card readers that do not include internal pull-up resistors, two external pull-up resistors are required. A pull-up resistor between D0/D- and +V as well as a pull-up resistor between D1/D+ and +V. Pull-up resistor values of 5.1k-ohm to 7.5k-ohm are acceptable; 6.2k-ohm recommended.

2.2.1 Power and Ethernet Connections

The REM should be powered by a Power Limited/Class 2, PoE+ (Power over Ethernet) IEEE802.3at compatible network switch over a Cat 5 or better network cable terminated by an RJ45 plug connected to the LAN port. A Cat 5 or better network cable should be connected between the REM Reader Port and the PoE RJ45 port on the StoneLock GO.
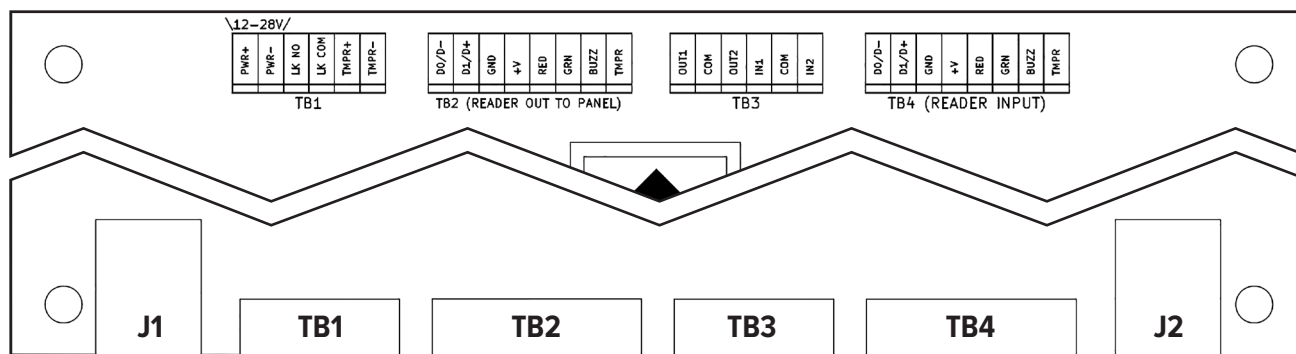
Signal Type	Manufacturer & Part Number	AWG	Wire Type	Shielded
Power (TB1-1, TB1-2, TB2-3, TB2-4, TB4-3, TB4-4)	Belden P/N 6300FE or equivalent	16 - 20	multi-conductor or twisted pair	recommended
Lock Input and Cover Tamper Input (TB1-3, TB1-4, TB1-5, TB1-6)	Belden P/N 5400FE or equivalent	18 - 24	multi-conductor or twisted pair	recommended
Wiegand Input and Output (TB2-1, TB2-2, TB4-1, TB4-2)	Belden P/N 5400FE or equivalent	18 - 24	multi-conductor or twisted pair	recommended
OSDP Input and Output (TB2-1, TB2-2, TB4-1, TB4-2)	Belden P/N 9841 or equivalent	18 - 24	twisted pair recommended	recommended
Access Control Pass-through Signals (TB2 - pins 5-8, TB4 - pins 5-8)	Syston P/N 5727 or equivalent	18 - 24	multi-conductor or twisted pair	recommended
Auxiliary Inputs and Outputs (TB3 - pins 1-6)	Syston P/N 5727 or equivalent	18 - 24	multi-conductor or twisted pair	recommended

2.2.2 Back Up Power, Lock Sense, Case Tamper (TB1)

- The PWR+ and PWR- terminals can be used to power the REM when PoE+ (Power over Ethernet) is not available. When PoE+ is available, these terminals can be connected to a backup power supply in the event of a PoE failure. The power supply should be capable of suppling 25.5W of power at the REM using 12VDC @ 2.14A, or 24VDC @ 1.07A.
- The LK NO and LK COM terminals sense a relay closure from the Access Control Panel to indicate to the REM the state of the door lock.
- The TMPR+ and TMPR- terminals can be connected to the tamper switch of the Cabinet to indicate to the REM whether the cabinet door is open or closed.

2.2.3 Access Control Panel Connection (TB2)

- The D0/D- and D1/D+ terminals have two functions. They can be used as either a Wiegand Data Output or an OSDP Output to the Access Control Panel.
- The GND terminal is the ground for Wiegand communication from the Access Control Panel.
- The +V terminal is DC power from the Access Control Panel for the Card Reader.
- The RED terminal is the RED LED signal from the Access Control Panel for the Card Reader.
- The GRN terminal is the GREEN LED signal from the Access Control Panel for the Card Reader.
- The BUZZ terminal is the Buzzer signal from the Access Control Panel for the Card Reader.
- The TMPR terminal is the Tamper signal from to the Access Control Panel from the Card Reader.

2.2.4 Auxiliary Inputs/Outputs (TB3)

Out1 and Out2 are auxiliary outputs. They are capable of suppling 12VDC at up to 50mA, supporting a maximum load of 0.6W. The two auxiliary outputs share a common return signal which is referenced to the isolated ground on the pc-board.

In1 and In2 are auxiliary inputs. They can be used to detect a simple contact closure (a short or an open) to monitor the state of a relay. In1 and In2 are also capable of monitoring end-of-line resistance values between 0Ω and 20kΩ. This allows the two auxiliary inputs to be utilized for more advance purposes such as zone monitoring. The two auxiliary inputs share a common return signal which is referenced to the isolated ground on the pc-board.

2.2.5 Card Reader Connection (TB4)

- The D0/D- and D1/D+ terminals have two functions. They can be used as either a Wiegand Data Input or an OSDP Input from a Card Reader.
- The GND terminal is the ground for Wiegand communication from Access Control Panel to the Card Reader.

- The +V terminal is DC power from the Access Control Panel to the Card Reader.
- The RED terminal is the RED LED signal from the Access Control Panel to the Card Reader.
- The GRN terminal is the GREEN LED signal from the Access Control Panel to the Card Reader.
- The BUZZ terminal is the Buzzer signal from the Access Control Panel to the Card Reader.
- The TMPR terminal is the Tamper signal from the Card Reader for the Access Control Panel.

3 Specifications

3.1 Dimensions
7.750" (196.85mm) x 4.125" (104.78mm) (Board only foot print)

3.2 Ambient Operating Temperature
32°F (0°C) - 120°F (49°C)

3.3 Ambient Operating Humidity
0-85%RH, non-condensing
Environmental Grade 1, Indoor dry conditions

4 Agency Approvals
UL 62368-1
CSA C22.2 No.62368-1   UKCA CE

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with part 15 of the FCC Rules and ICES-003 for Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Warning: Operation of this equipment in a residential environment could cause radio interference.

Technical Support
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