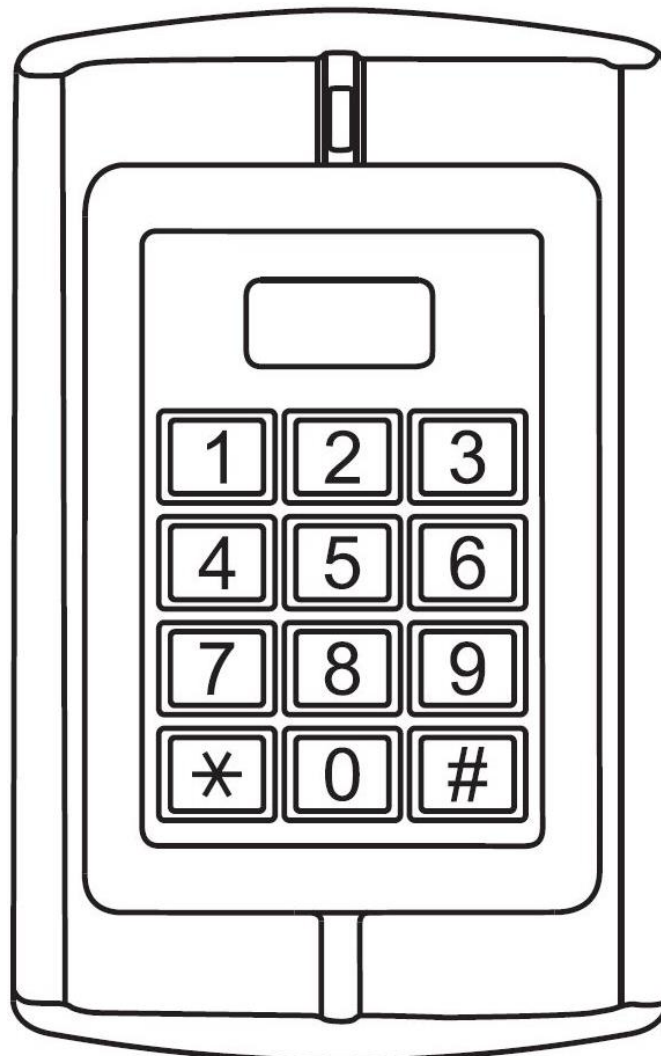# RICHMOND®
WHEEL & CASTOR CO

Metal Waterproof Access Keypad (GTR057)

Suits the Following Richmond Gate Motors:
GTR064, GTR207, GTR061, GTR156, GTR212, GTR099, GTR058

1. Description

The GTR057 is a two relays multifunction standalone access controller. It is suitable for mounting either indoor or outdoor in harsh environments. It is housed in a strong, sturdy and vandal proof zinc alloy electroplated structure. The electronics are fully potted, so the keypad is waterproof and conforms to IP65.

It supports up to 1200 users in either a card, pin, or a card + PIN option. The built-in card reader supports 125KHz EM frequency card, and the PIN length is 4-6 digits.

Both of the two relays on board can operate in Pulse Mode (suitable for access control) or Toggle Mode (suitable for arming/disarming alarms, switching lights, machines...etc)

The GTR057 is an ideal choice for door access not only for small shops and domestic households but also for commercial and industrial applications such as factories, warehouses, laboratories, banks and prisons.

2. Features

- Waterproof conforms to IP65.
- Strong zinc alloy electroplated anti-vandal structure.
- Two-relay operation
- Both relays can be programmed for 3 modes. (Card, PIN or Card + PIN)
- 1200 users
- Zone 1: up to 1100 PIN & Card holders
- Zone 2: up to 100 PIN & Card holders.
- PIN Length: 4-6 digits; Card type: 125KHz EM card
- Can be used as a standalone keypad.
- Pulse mode, Toggle Mode
- Block enrolment can enrol 1100 consecutive cards.
- Backlit keypad
- Adjustable door relay output time, alarm time, door open time
- Built in light dependant resistor (LDR) for anti-tamper.
- Built in buzzer.
- Two-relay output for door opening, door status detecting, open door by button
- Red, yellow and green LED display the working status
- Support doorbell connection (Zone 2)
- 12-24V DC/12-18V AC power input

3. Packing List

Please ensure that all the contents are correct. If any are missing, please notify the supplier.
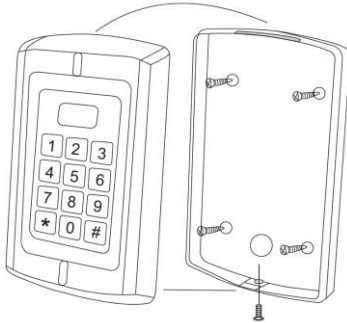
Name	Qty
Digital keypad	1
User Manual	1
Screwdriver	1
Rubber Bungs	4
Self-Tapping Screws	4

4. Specifications

Operating Voltage	12-24V DC
User Capacity	1200
Keypad	12 keys, 3 x 4 digits
Card Type	EM card
Card Reading Distance	3-6cm
PIN Length	4-6 digits
Active Current	60mA
Idle Current	25 ± 5 mA
Lock Output Load	Max 2A
Alarm Output Load	Max 20A
Operating Temperature	-40°C -60°
Operating Humidity	5% - 95% RH
Environment	Conforms to IP65
Adjustable Door Relay Time	1-99 seconds
Adjustable Alarm Time	0-3 minutes
Wiring Connections	Electric Lock, Exit Button, DOTL, External Alarm
Dimensions	128$^{(L)}$ x 82$^{(W)}$ x 28mm$^{(H)}$
Net Weight	650g
Gross Weight	800g

5. Installation

1. Remove the back cover from the keypad using the supplied security screwdriver.
2. Drill four holes on the wall for the screws and 1 hole for the cable.
3. Fix the back cover firmly on the wall with 4 flat head screws.
4. Thread the cable through the cable hole.
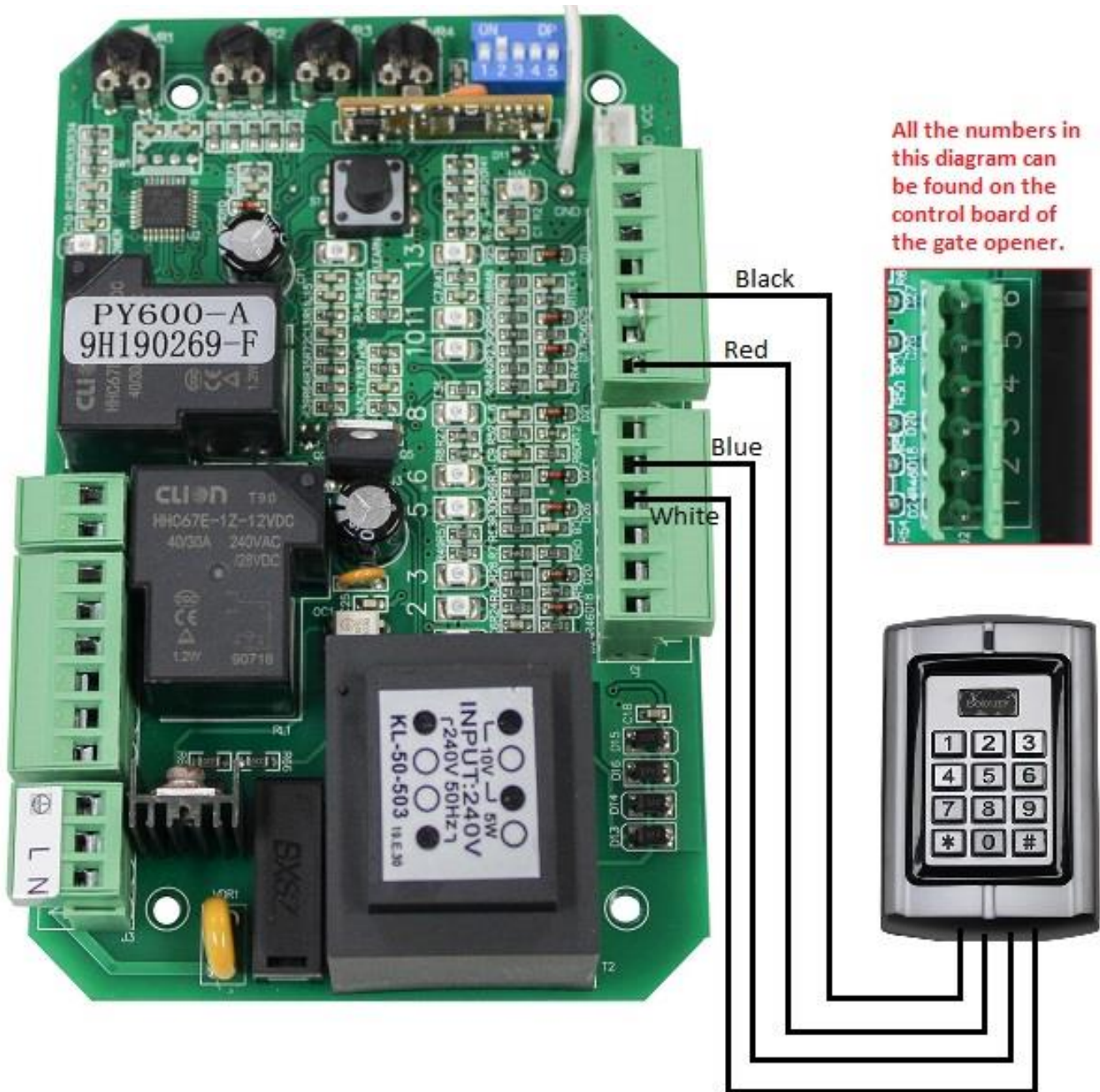5. Attach the keypad to the back cover.

6. Wiring

	Function	Description
Grey & Black	GND	Negative Pole
Grey	Alarm -	Alarm Negative
Yellow & Black	OPEN2	Request to Exit Button of Zone 2
Yellow	OPEN1	Request to Exit Button of Zone 1
Brown	D_IN	Door Status Detecting
Red	AC & DC	12-24V DC/12-18V AC Power Input
Black	AC & DC	12-24V DC/12-18V AC Power Input
Blue & Black	NO2	
White & Black	COM2	
Green & Black	NC2	
Blue	NO1	
White	COM1	
Green	NC1	

7. Quick Reference Programming Guide

To enter programming mode	✱ Master code # 888888 is the default factory master code
To exit programming mode	✱
To change the master code	0 New Code # New code # The master code is any 6 digits

Note: to undertake the following programming the master user must be logged in	
To add a PIN user The PIN is any 4-6 digits between 0000-999999 except for 1234 which is reserved.	For Zone 1: 1 User ID Number # PIN # For Zone 2: 1 User ID Number # PIN # The ID number is any number between 1-1100 for Zone 1 and any number between 1101-1200 for Zone 2. Users can be added continuously without exiting programming mode.
To add a card	For Zone 1: 1 Read Card # For Zone 2: 5 Read Card # Cards can be added continuously without exiting programming mode.
To delete a PIN or a card user	2 User ID number # for a PIN user 2 Read Card # for a card user

To unlock the door for Zone 1 or Zone 2	
To unlock the door for a PIN user	Enter the PIN then press #
To unlock the door for a card or fob user	Present the card

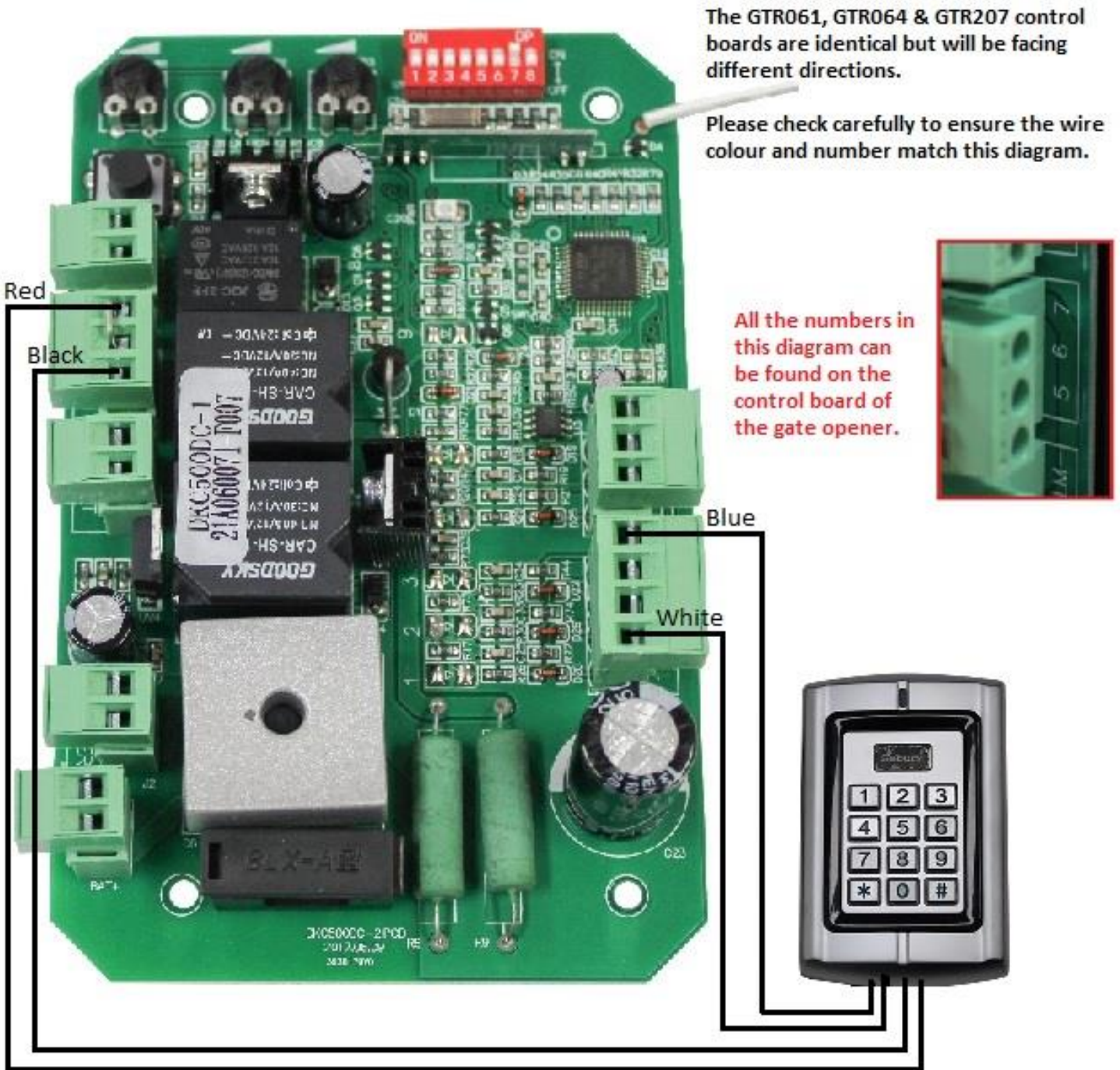# How to connect to the GTR156 & GTR212 control board:

The below diagram shows how to connect the wires from the GTR057 wired keypad to the GTR156 & GTR212 Automatic Slide Gate Opener.

All the numbers in this diagram can be found on the control board of the gate opener.

Black

Red

Blue

White

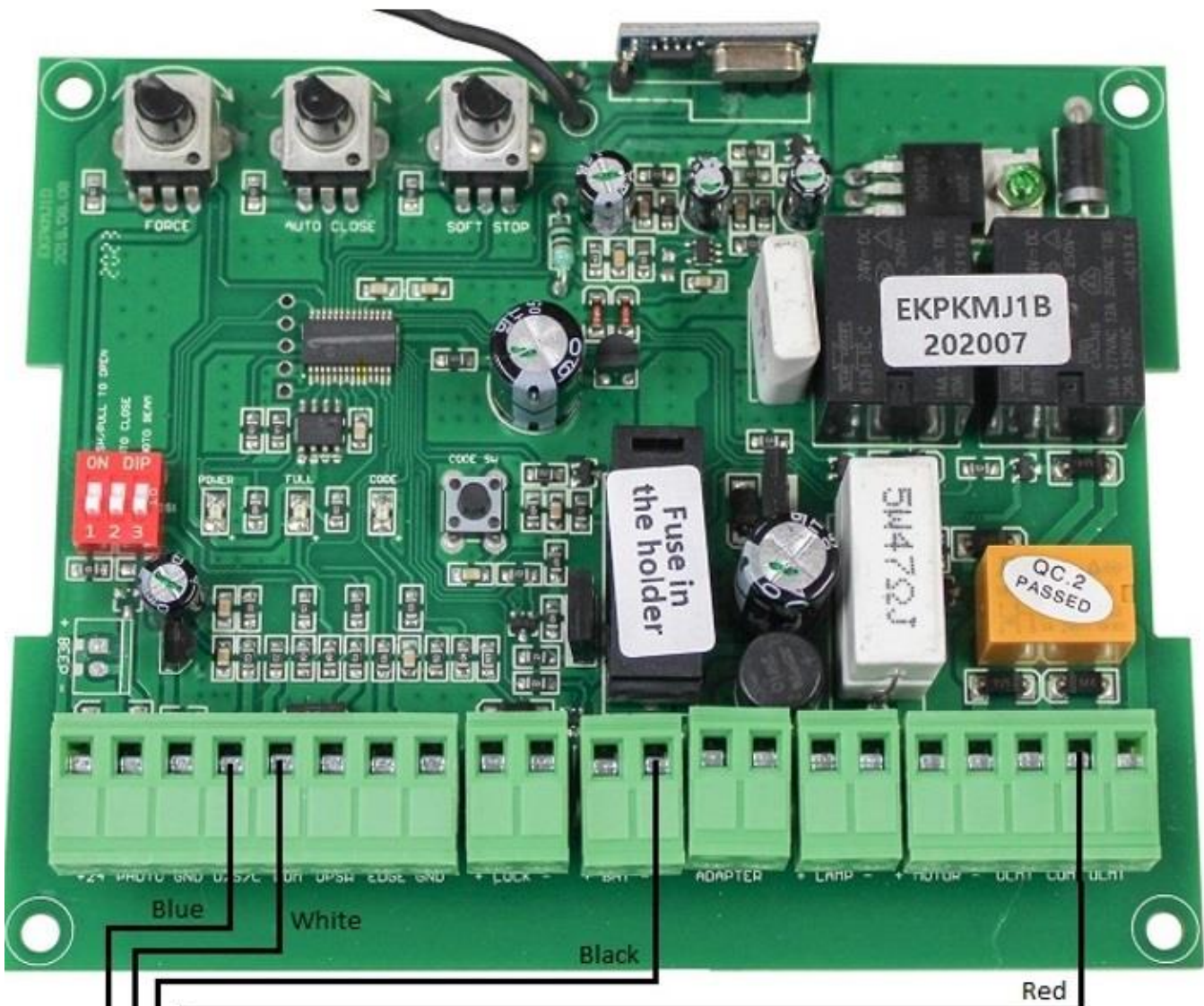| Function	Wire Colour	Terminal
AC/DC +	Red	7
AC/DC -	Black	9
NO1	Blue	5
COM1	White	4

How to connect to the GTR061, GTR064 & GTR207 control board:

The below diagram shows how to connect the wires from the GTR057 wired keypad to the GTR061, GTR064 & GTR207 Automatic Slide Gate Opener.

The GTR061, GTR064 & GTR207 control boards are identical but will be facing different directions.

Please check carefully to ensure the wire colour and number match this diagram.

All the numbers in this diagram can be found on the control board of the gate opener.

Function	Wire Colour	Terminal
AC/DC +	Red	7
AC/DC -	Black	9
NO1	Blue	5
COM1	White	4

How to connect to the GTR099 control board:

The below diagram shows how to connect the wires from the GTR057 wired keypad to the GTR099 Automatic Swing Gate Opener.

Function	Wire Colour	Terminal
AC/DC +	Red	COM (#20)
AC/DC -	Black	BAT - (#12)
NO1	Blue	O/S/C (#4)
COM1	White	COM (#5)

All terminals are labelled, but the numbers in brackets will show terminal numbers counted from left to right.

How to connect to the GTR058 control board:

The below diagram shows how to connect the wires from the GTR057 wired keypad to the GTR058 Automatic Swing Gate Opener.
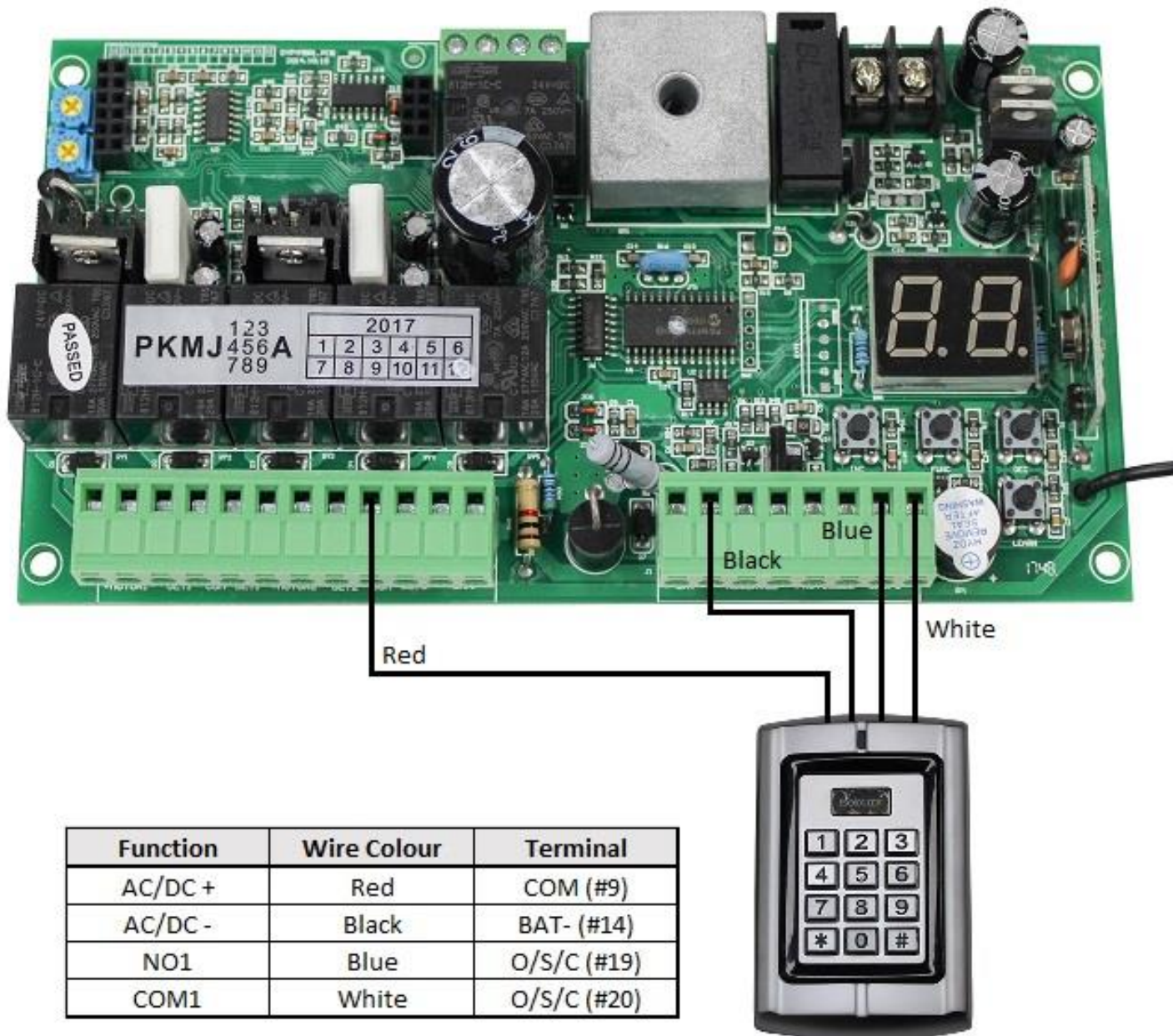

Function	Wire Colour	Terminal
AC/DC +	Red	COM (#9)
AC/DC -	Black	BAT- (#14)
NO1	Blue	O/S/C (#19)
COM1	White	O/S/C (#20)

All terminals are labelled, but the numbers in brackets will show terminal numbers counted from left to right.

8. Additional Functions

The Zone 2, it can be used to operate the doorbell when there is no need to operate a second door. The wiring is connecting the doorbell NO2 and COM2. Press #, the reader will send out a switching signal to the doorbell, as long as you press the "#", the door bell will continuously operate, it will stop until you release the "#"

9. Relay Operation (Pulse mode and Toggle mode)

The two on board relays can operate in either Pulse Mode (suitable for access control) or Toggle Mode (suitable for arming/disarming alarms, switching lights, machines…etc)

Every time a valid card/tag read or valid PIN input in Pulse Mode, the relay will operate, for the pre-set relay pulse time.

Every time a valid card/tag read or valid PIN input in Toggle Mode, the relay changes state, which will not turn back until read card or input PIN again.

10. Reset to Factory Default

To reset the keypad to factory default.
Remove power for 10 seconds.
Press and hold ✱ and reconnect power.
Hold ✱ until you hear three beeps (two short, one long). This means you have successfully reset to the factory default.

Please Note: If you reset to factory default the user's information is still retained

11. Anti-Tamper Alarm

The GTR057 uses a LDR (light dependent resistor) as an anti-tamper alarm. If the keypad is removed from the cover then an alarm will operate.

Sound and Light Indication

Operation Status	Red Light	Green Light	Blue Light	Buzzer
Zone1 unlock	-	Bright	-	Short Ring
Zone2 unlock	-	-	Bright	Short Ring
Power on	Bright	-	-	Long Ring
Stand by	Shines slowly	-	-	-
Press keypad	-	-	-	Short Ring
Operation successful	-	-	Bright	Long Ring
Operation failed	-	-	-	3 Short Rings
Enter programming mode	Bright	-	-	Long Ring
In the programming mode	Bright	Bright	-	-
Exit programming mode	Shines slowly	-	-	Long Ring
Alarm	Shines slowly	-	-	Alarm

GTR057 Detailed Programming Guide

User Settings

To enter programming mode	✱ Master code # 888888 is the default factory master code
To exit programming mode	✱
Note: All the steps below must be done after entering the keypad into programming mode	
To change the master code	0 New Code # New code # The master code is any 6 digits

Setting the working mode: Card, PIN or Card & PIN	
Set valid **Card** or **PIN** users	3 1 2 #, Zone 1 3 2 2 #, Zone 2 Entry is by either **Card or PIN** (Factory default setting)
Set valid **Card** and **PIN** users	3 1 1 #, Zone 1 3 2 1 #, Zone 2 Entry is by **Card and PIN** together
Please Note: When adding users, if the Card or PIN user has been enrolled already, you cannot add it again on the same zone, or the device will give a bleep as error. Same PIN for both Zone 1 and Zone 2 is not valid, if so, the PIN will be only valid for Zone 1.	
Factory default setting: Card or PIN mode	
To set user for Zone 1 (3 1 2 #)	

Adding Users

To add a PIN user(s)	1 User ID number # PIN # The ID number is any number among 1-1100. The PIN is any 4-6 digits between 0000 – 999999 except for 1234 which is reserved. Users can be added continuously without exiting programming mode as follows: 1 User ID number1 # PIN # User ID number2 # PIN #
To delete a PIN user	2 User ID number # Users can be deleted continuously without exiting programming mode.
To change the PIN of a PIN user (Note: This step must be done out of programming mode)	✶ User ID number # Old PIN # New PIN # New PIN #
To add a card user (Method 1) This is an easy way to enter cards with auto-generated ID numbers. The ID number will start from 1 if no user has been programmed.	1 Read Card # Cards can be added continuously without exiting programming mode.
To add a card user (Method 2)	1 User ID number # Card # The ID number can be any number between 1-1100
To add a series of cards users (Block Enrolment). The card numbers must be consecutive (This operation is only for Zone 1)	5 User ID number # 8 digits Card number # Card quantity # Card quantity is between 1-1100 of the 8 digits card number, it is the last 8 digits on the card (Maximum 1100 cards can be enrolled at a stretch within 1 minute).
To delete card users by cards Note: Users can be deleted continuously without exiting programming mode	2 Read Card # The device can automatically identify the card of Zone 1 or Zone 2
To delete card users by user ID This can be used if a user has lost their card	2 User ID #
To delete card users by card number	9 Input 8 digits card number # Cards can be deleted continuously without exiting from programming mode.
To set user for Zone 2 (3 2 2 #)	
To set **PIN user** for Zone 2 is the same as Zone 1, only the ID number is 1101 – 1200 for Zone 2. To set **Card user** for Zone 2 is the same as Zone 1, with the exception of adding card users with auto-generated ID numbers (Method 1) as below.	
To add card users (Method 1) Auto-generated ID numbers	5 Read Card # Card can be added continuously without exiting programming mode.

Card and Pin Mode

To set user for Zone 1 (3 1 1 #)

To add a card and PIN user (The PIN is any 4-6 digits between 0000-999999 except for 1234 which is reserved)	Add the card user Press ✱ to exit from the programming mode then allocate the card a PIN as follows: ✱ Read card 1234# PIN# PIN#
To **change a PIN** in card and PIN mode (Method 1) Note: this is done outside of programming mode so a user can undertake this themselves.	✱ Read card Old PIN# New PIN# New PIN#
To **change a PIN** in card and PIN mode (Method 2) Note: This is done outside of programming mode so a user can undertake this themselves.	✱ User ID number# Old PIN# New PIN# New PIN#
To delete a **Card and PIN** user just delete the card	2 Read card # or 2 User ID #

To set users for Zone 2 (3 2 1 #) the operation is the same as Zone 1

Card only Mode (in this mode, users can only be valid by card)

To set Card user only	3 1 0 # , Zone 1 3 2 0 # , Zone 2 With this setting entry is by Card only

To delete ALL users

Note: This is a dangerous option, so use with care	Delete al users of Zone 1: 2 0000 # Delete all users of Zone 2: 9 0000 #

To unlock the door (or change the relay state)

For a **PIN** user	Enter the PIN then press #
For a **Card** user	Read card
For a **Card and PIN** user	Read card then enter the PIN

Relay Setting (Pulse mode, Toggle mode)

Pulse Mode (Factory Default)

Pulse mode – Door relay time setting	For Zone 1: 4 1 1-99 # For Zone 2: 4 2 1-99 # The door relay time is between 1-99 seconds, the factory default setting is 5 seconds

Toggle Mode (Factory Default)

Toggle mode	For Zone 1: 4 1 0 # For Zone 2: 4 2 2 #

Door Detection, Alarm, Acoustic Signal, Doorbell Settings

Door Open Detection
Door Open Too Long (DOTL) warning. When used with an optional magnetic contact or built-in magnetic contact of the lock, if the door is opened normally, but not closed after 1 minute, the inside buzzer will beep automatically to remind people to close the door and continue for 1 minute before switching off automatically. Door Forced Open warning. When used with and optional magnetic contact or built-in magnetic contact of the lock, if the door is forced open, or if the door is opened after 120 seconds of the electro-mechanical lock not closed properly, the inside buzzer and alarm output will both operate. The Alarm Output Time is adjustable between 1-3 minutes with the default being 1 minute.

To disable door open detection (Factory default setting)	6 0 #
To enable door open detection	For Zone 1: 6 1 # For Zone 2: 6 2 # You can enable the door open detection of only one Zone.

Keypad lockout and alarm output options
If there are 10 invalid cards or 10 incorrect PIN numbers in a 10 minute period either the keypad will lockout for 10 minutes or the alarm will operate, depending on the option selected below

Normal status: No keypad lockout or alarm	7 0 # (Factory default setting)
Keypad Lockout	7 0 #

Alarm output	7 2 # (Alarm output time: 1 minute)
Adjust alarm output time	
To set the alarm output time (1 ~ 3 minutes) Factory default is 1 minute)	8 1~3 #

Keypad Tone
The keypad tone can be set to on or off. When on, the device will give the voice when the keys are pressed; when off, the device will be silent.

Enable the keypad tone	8 6 # (Factory default setting)
Disable the keypad tone	8 7 #

Change Zone 2 to Doorbell
When there is no need to operate a second door, Zone 2 can be set to operate the doorbell. The wiring is connecting the doorbell to COM2 and NO2. Press #, the keypad will send the signal to the doorbell.

Zone 2	8 8 # (Factory default)
Doorbell	8 9 #
Remove the alarm	
To remove the door forced open warning	Read valid card or Master code #
To remove the door open too long warning	Close the door or Read valid card or Master code #

Anti-Duress

1   When the same card is used in Zone 1 and Zone 2, this card will be an anti-duress card. Please note, you cannot set an anti-duress PIN.
2   When under forcing, use this card. Both doors are opened. In the meantime, the external alarm alarms.
3   You can set a max of 100 anti-duress cards (The users of Zone 2).