

# TMT Boxer 24v slider motor installation notes from EasyGate

## Stand-alone Transformer if supplied

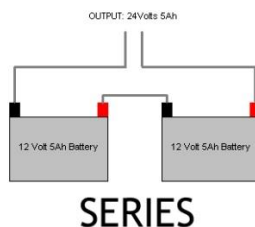
The Easy to use Stand-alone transformer will reduce the 240v input to a safer 24v output. It can be plugged directly into a 240v power outlet such as in your garage or home as close as possible to your gate installation. The distance between the transformer and the motor at the gate can be from 1 to 80m and in some cases longer with a larger cable thickness. As the power becomes 24v low voltage when exiting the transformer, you can place your cable safely under tiles, lawns and gardens, along fences, under the wheel track or into an expansion cut in your concrete driveway. Install a low voltage cable such as a 2-core garden lighting cable or 3-core 1.5mm or 2.5mm twin and earth cable. Connect the transformer cable to the **15 amp** blade fuse mounted under the battery box of the motor. It will not matter which configuration you connect as it is alternating current (AC). For optional devices such as wired keypad, infer-red safety beams, exit buttons etc. Use a network cable, or Cat-5 or cat.6 from their location back to the motor.



**WARNING:** The control board is 24V. You must use the transformer.

**Do not put 240v directly to the board!**

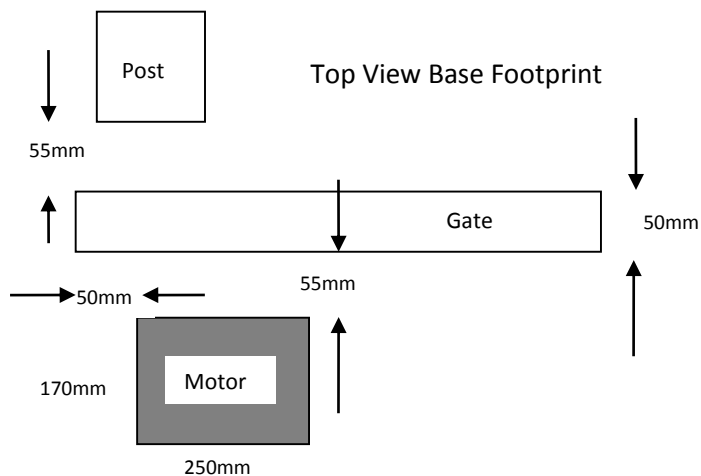
**Batteries:** 2 x 12VDC gel filled batteries are fitted above the motor. When connected in series they will produce 24VDC. Batteries are connected with a link cable between negative of one battery with positive of the second battery. The remaining positive and negative are connected to the control board using the clip on connector. Always check the correct position of the battery connector to the control board has red to +.



## Installing Motor

### **Preparation of the Concrete Ground Surface (Base) for Motor Mounting.**

Make sure that the ground surface for the motor installation is solid and level with a minimum of 100mm thickness. A good concrete base is paramount to the proper operation of the auto gate system. The motor mounting plate is 170mm deep x 250mm wide or roughly the size of an A4 page. If installing cables place these 250mm out from your wall/post and approx. 200mm in from the corner of the wall/post. Position the motor mounting plate (side nearest the gate) approx. 150-160mm from the wall/post and approx. 50mm in from your post driveway corner point.



NOTE: You may need to raise the motor to allow the gear rack to fasten properly to your gate bottom rail. Check this first by placing a gear rack length on top of the sprocket of the motor alongside the gate and allow for the fastener thickness after installation. Open/close the gate as the gate may have a bend in it.

There are 3 typical ways to fasten the motor to your concrete.

Option 1: If your gate is manufactured with 100 x 50 mm rectangular bottom rail such as the EasyGate low profile model and sits about 40-50mm off the ground, you can bolt the motor directly to the concrete without the need for motor plate risers.

Option 2: If the bottom of the gate is 50-80mm from the ground you can lift the motor using the (optional) 25mm high mounting blocks available from EasyGate. Position these under the left and right sides of the motor and fasten to concrete.





Option 3: If your gate is above 50-130mm off the ground you can use the mounting plate supplied with the Boxer motor and 4 threaded stainless rods in each corner to act as pylons. The rods have anchor pins that are drilled and hammered/pressed into your concrete pad. Thread the rod into the anchors and place a nut on each rod to the desired height. Place the mounting plate on next, followed by the motor, washers and fasten together with 4 more nuts.

Hint: Option 2 and 3 are good for raising the motor to allow cables to be installed freely under the motor so you do not need to be too accurate with your cable location.

### **Install “Physical Gate Stops”**

Physical Gate Stops **MUST** be installed at each end of your gate. If the Limit Switch on the boxer motor fails to stop a gate cycle, the Gate Stops will prevent gate falling off the guide rollers and causing possible injury or damage.

### **Installing the gear rack to the gate:**

For your gate to function smoothly you will need to install the gear rack correctly. The outcome is to have a 2mm gap between your sprocket and the valley of the gear rack throughout the length of the gate. Temporarily raise the motor by another 2mm using washer spacers or adjusting the motor plate height. Remove spacer washers or lower the mounting plate by 2mm once all the gear rack is installed and secure motor mounting nuts.

**NOTE:** We recommend you leave extra gear rack over hanging (approx. 100mm) until after you have mounted the “silver limit cams” and tested the operation of the automation. Only then cut off any extra with a hacksaw. The gear rack has a steel rod inserted in the nylon casting for strength. Do not fasten where wheels may be contacted as this will increase gate moving resistance dramatically. If the fastening screws of the gear rack contact the sprocket cover, it is more than likely due to an extra-long gate length, bend in the gate or a slight variation in the wheel track alignment. You can remove the sprocket cover without altering the performance of the opener.

**Step 1:** Release the auto gate to emergency release by rotating the clutch lever at the front of the motor so that the gear wheel rotates freely for the alignment and installation of the gear-rack.

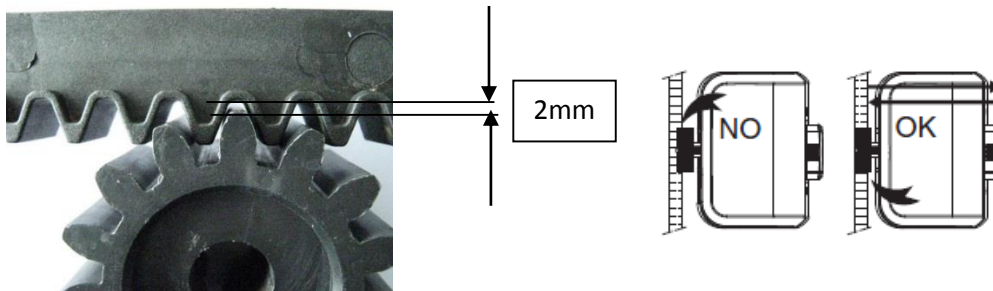
**Step 2:** Lay all gear rack (on the ground) along the length of the gate. Check end rack supports for best position of a gear rack lug each side of the sprocket at the fully open/close.

**Step 3:** Rest the first gear rack **on the motor sprocket** and ensure that the gear rack is level. Fasten the gear-rack onto the gate using the fastenings provided.

**Step 4:** Move the gate 1m or the length of the gear rack and repeat step 3 until all gear-rack have been installed.

**Step 5:** Remove the Washer / Spacer from the Motor, and the gap of 2mm between the gear wheel and the gear rack is automatically achieved.

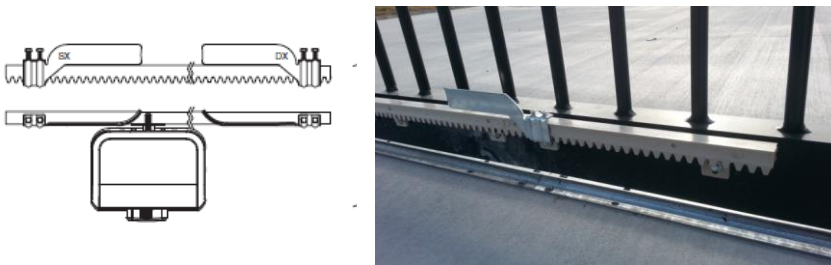
**Step 6:** Check to ensure consistent meshing between the gear racks with the gear wheel over the entire length of the gate. Loosen the screw on the gear-rack to adjust the position of the gear rack if necessary.



**Important Note:** Motor Sprocket and Gear Rack life depends almost entirely on their correct meshing.

#### **Installing “Limit Cams” a must do!**

Limit Cams (2 x silver brackets) **MUST** be installed at each end of your gate Gear Rack. Supplied is a right (SX) and a left (DX) when installed they are designed to trigger the Limit Switch spring pole to stop the gate cycle **BEFORE** contact with physical gate stops.



#### **Backup Batteries**

The system is fitted with 2 x 12v dc batteries wired to produce 24v. Between the batteries is a short cable connecting the positive of battery 1 with the negative of battery 2. There is a non-reusable fuse shaped like a disc in the middle of this cable to prevent shorting of the system if incorrectly wired. The Negative of battery 1 and the positive of battery 2 are cabled to a connector at the bottom left side of the control board.

#### **Removing control board plastic protective cover**

The grey plastic cover that helps protect the control board from water and insects. Remove using your left hand index finger to pull back and away the tab in on the left top corner. The cover is semi-hinged on the right side. Be careful not to dislodge the antenna wire at the bottom.

## **QUICK SET UP**

The board is factory programmed for a standard gate setup with the motor positioned on the left of the driveway looking at the gate from inside your property. If your motor is on the left of the driveway you may only need to tune your remote and complete "System learning" and away you go. If it is on the right then you will need to set up the programme functions below to change motor direction. You will need to remove the control board protective cover to access the LED screen.

### **How to use the LED Screen to set functions of the motor**

To adjust the functions such as motor speed, strength of motor, auto close time, you can programme the system using the LED screen found in the top right of the control board. At standby mode the screen is blank to save energy if the batteries are only operating the board. There are 3 segments to the screen of which can be controlled by the use of the lower 3 buttons down the right side UP (2nd from top) SET (3rd from top) and DOWN (bottom). When changing functions the first segment is generally a letter and segments 2 and 3 are numbers. When power is first connected to the board you will see "N-L" on the screen for 10 seconds then turns blank which is *standby*. To start the programming you must first decide what function you want to change. Let us use the sprocket direction for motors installed on the right of the driveway F10 as an example.

**Step 1:** Press and HOLD the SET button for a few seconds (N-L) and release when the screen shows F1 in segment 1 and 2

**Step 2:** Press the SET button once more and segment 3 will show a "0 or 1"

**Step 3:** To change between "0 or 1" press the UP or DOWN button until F10 is displayed for right side installations and clockwise rotation.

**Step 4:** Wait about 6-7 seconds and the screen will revert to standby again. Programme completed.

### **To change the Auto Close function to NO Automatic closing**

**Step 1:** Press and HOLD the SET button for a few seconds (N-L) and release when the screen shows F1 in segment 1 and 2

**Step 2:** Press the UP button to change from F1 to F2 for auto close function.

**Step 3:** Press the DOWN button until F20 is displayed for NO Automatic closing

**Step 4:** Wait about 6-7 seconds and the screen will revert to standby again. Programme completed.

### **Programme Gate "Opening Direction"**

There are 2 locations that you can install your gate motor. Looking at your gate from inside your property is the motor to be installed on your left or right of the driveway? The Left Side (factory set) F1-1 is the most popular with the motor sprocket rotating counter-clockwise (looking from the control board side of the motor at the sprocket) opening the gate from right to left.

Right Side install has the motor sprocket rotating clockwise opening the gate from left to right. You will need to change the programme “Opening Direction” to “F1-0”

NOTE: Gate opener will always do an open cycle when first powered up.

Hint: If you highlight the settings you want to change you can quickly add these by entering each setting change and completing by pressing SET then move onto the next setting change.

#### **Quick guide to LED screen:**

N-L	The systems learning process has not been completed.
RUN	The system is in its normal operating mode.
LEA	The system is in its learning mode and awaiting learning instructions.
ARN	The system is currently learning a new process.

#### **Tuning remotes**

Locate the “RF LEARN” button which is the top button on the control board.

Step 1: Press and hold RF LEARN button until the blue LED light shines then release the button.

Step 2: On your remote press the top LEFT button for 2 seconds. This is called button A.... Blue light flashes on the control board to confirm tuning of remote.

Hint: You can add more remotes and keypads while the blue light shines.

#### **Pedestrian mode using your remote**

Your control board is pre-set with SW2 (black Switch) to ON and activating the pedestrian mode or partial opening cycle using ONLY your remote button B. You can adjust the time the gate opens using the LED screen F6 function. To change button B to Button D on your remote...place switch 5 to OFF.

To remove the pedestrian function turn SW2 located at the bottom right corner of the board to OFF and place SW6 white switch #4 and 5 to OFF.









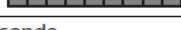
#### **Removing all tuned remotes and wireless keypad activation numbers**

Press and hold down the RF-learn button for 10 seconds

#### **Using an optional stand-alone receiver.**

Use button A (open-stop-close) & B (partial open) for first gate opener, connect the stand alone receiver to the second gate or garage door and use button C (open-stop-close) on the same remote.

### 3.4 PROGRAMMABLE FUNCTION SETTINGS

LED Display	Definition	Function	Value	Description
F1	Options of Gate Opening direction	F1-0	Clockwise Opening	1. The function can adjust the direction of gate opening. 2. The factory setting is "F1-1".
		F1-1	Counterclockwise Opening	
F2	Automatic Closing	F2-0	No automatic closing	1. This function can cause the gate to close automatically after the paused time. 2. The factory setting is "F2-3": 30secs as the pause time.
		F2-1	5 seconds	
		F2-2	15 seconds	
		F2-3	30 seconds	
		F2-4	45 seconds	
		F2-5	60 seconds	
		F2-6	80 seconds	
		F2-7	120 seconds	
		F2-8	180 seconds	
F3	The reactions of the photocells/ safety edge/ loop detector when they detecting obstacles	F3-1	Please refer to page 9, F3 settings	1. The factory setting is "F3-1".
		F3-2		
		F3-3		
F4	Motor Speed	F4-1	Slow	1. The function can adjust the running speed of motor. 2. The factory setting is "F4-4".
		F4-2	Medium	
		F4-3	Fast	
		F4-4	Very Fast	
F5	Motor Over Current Setting	F5-1	Light  Heavy	1. The function can adjust the running force of motor to be compatible with the gate weight. 2. The factory setting is "F5-4". 3. The motor force value: F5-1: 2A      F5-6: 7A F5-2: 3A      F5-7: 8A F5-3: 4A      F5-8: 10A F5-4: 5A      F5-9: 13A F5-5: 6A 4. As over current setting
		F5-2	Light  Heavy	
		F5-3	Light  Heavy	
		F5-4	Light  Heavy	
		F5-5	Light  Heavy	
		F5-6	Light  Heavy	
		F5-7	Light  Heavy	
		F5-8	Light  Heavy	
		F5-9	Light  Heavy	
F6	Pedestrian Mode	F6-0	3 seconds	1. The function can adjust the time of opening partially. 2. The factory setting is "F6-1". 3. Press button B on the remote to operate the pedestrian mode.
		F6-1	6 seconds	
		F6-2	9 seconds	
		F6-3	12 seconds	
		F6-4	15 seconds	
		F6-5	18 seconds	
F7	Pre-flashing	F7-0	The flashing light blinks when the gate starts to move.	1. The factory setting is "F7-0".
		F7-1	The flashing light blinks 3 seconds before the gate starts to move.	
F8	Deceleration point programming of total travel distance	F8-1	75%	1. The factory setting is "F8-1".
		F8-2	80%	
		F8-3	85%	
		F8-4	90%	
F9	Deceleration Speed	F9-1	100% System learning speed	1. The factory setting is "F9-1".
		F9-2	80% System learning speed	
		F9-3	50% System learning speed	
		F9-4	30% System learning speed	
FA	Auto - Reverse when object impacted	FA-0	No Auto - reverse	1. The factory setting is "FA-3".
		FA-1	1 second	
		FA-2	3 seconds	
		FA-3	Reverse to the end	

## **MUST DO: Systems Learning**

“Systems learning” will allow the Control board to register your gate factors such as operational resistance, opening/closing cycle times, speed etc.

NOTE: Gate must be closed!

**Warning:** Check that both fully open and full closed “silver steel limit cams” are in place on the gear rack and are functioning correctly. Check both fully open and fully closed physical stops are securely in place at each end of the gear rack.

Before starting system learning you must first have a working transmitter. On the control board press the RF **Learn** button (top black button on control board) once until the blue LED light shines. On your remote press the top LEFT button once.... Blue light flashes to confirm tuning of remote.

Step 1: Make sure the gate is not fully open or closed and gear box clutch is locked in before starting system learn (move the gate manually backwards and forwards to check).

Step 2: Simultaneously press the “Set” and the “Down” button (bottom two buttons on control board) for up to 5 seconds until the LED display shows **LEA**

Step 3: You now have less than 5 seconds to press the remote top left button to activate the motor opening cycle and systems learning will commence. LED display shows **ARN**

**Warning:** Gate will start moving so keep clear of moving parts.

Step 4: If you have set up the control board correctly the gate will cycle 2-3 times and finish in the closed position. “System-Learning” is now complete.

### **HINTS:**

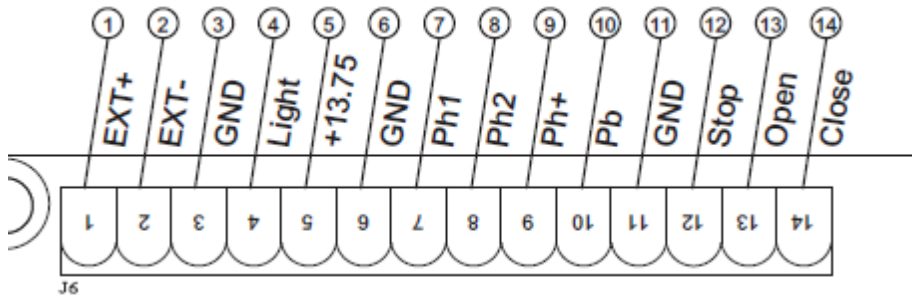
Test the gate opener is working correctly before connecting option devices.

If the gate loads up on your physical stops and stops this will affect the reliability of the gate operation. Adjust the limit cams so the gate stops BEFORE the safety stopper/ end catcher on completion of a cycle.

Reduce the speed of medium to heavy gates. Add a deceleration to the program. Increase the amps to the motor if the gate stops mid-point in a cycle. The dip switches on the right of the panel should be all to the right which is ON.

You can now connect optional devices by removing the terminal block (pulls off) first and inserting your wires in the correct location as per the labels. This is so you do not blow the system up accidentally.





**Connecting Exit Button:** Terminal 10 (Pb) and 11 (GND) to activate open/stop/close

**Connecting Intercom and keypads:** Terminal 10 (Pb) and 11 (GRD) to activate open/stop/close. Terminal 5 (+13.75) is positive 13v and 6 (GND) is the negative.

**Connecting probes and loop detectors:** The control board terminal 13 (OPEN) and 11 (GND) are used to activate an open only cycle. Power is available from the control board terminal 5 (+13.75) is positive and 6 (GRD) is the negative.

Note: You must have a ground connection with the control board.

Wiring VMD 202 Probe; Terminal 13 (Open) use the Brown wire or the probe and Terminal 11 (GND) the Green wire of the probe. Terminal 5 use the red wire and terminal 6 will be the black wire.

Wiring Ultra II D-Tek Vehicle Loop Detector; Control board Terminal 13 (Open) use the Detector terminal 5. Control board Terminal 11 (GND) use the Terminal 6 of the detector. Control board Terminal 5 use the Detector terminal 3 (12v positive). Control board terminal 6 use the detector terminal 4 (negative).

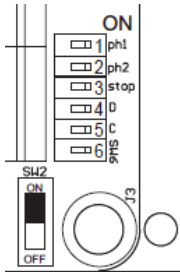
**Connecting the IR beams:**

Important Note: Once beams are installed you must also SW6 DIP white switch 1 to OFF (top switch found in the bottom Right corner of the board). We recommend you install an earth wire from GND terminal 3 to the base of the motor housing to increase the performance of the beam and reduce interruption of the photo beam frequency.



The system is factory set to be used without the beams fitted so there is no need to “loop” terminal 7 (PH1) to ground as this is done electronically. To Install IR Beams you will need power to the IR beams. Terminal 6 (GND) is negative and terminal 9 (PH+) is positive 12-13v DC. Connect the NC of

the IR Beam to Terminal 7 (Ph1) and the COM of the IR Beam to terminal 6 (GND). When the beam is broken you will have a green LED on the control board. Gate will stop and re-open but will not be able to close until the green Led goes out.



### **Antenna**

The Boxer is fitted with a tuned antenna positioned on top of the control board mounting plate. Be careful not to damage the antenna wire that passes through the control board cover and connects to the terminal block in the bottom right corner of the control board. You can remove the antenna when working on the control board and replace when finished. Position the earth wire to the GRD and the centre core wire to ANT (top connector).

### **Boxer Troubleshooting**

<b>Issue:</b>	<b>Solution:</b>	<b>Parts to look at:</b>
No power on the board.	<ul style="list-style-type: none"> <li>- Check that the power cable is connected through the fuse.</li> <li>- Power at the connection point is on.</li> <li>- Fuses are both working.</li> <li>- There is 24V+ flowing to the board.</li> <li>- The batteries are 24V+</li> <li>- Both battery and power clips are connected to the board.</li> <li>- Try removing optional extras such as beams to see if they are faulty (Test this by simply removing the top bar and resetting the power).</li> <li>- Make sure you have removed the cover from the board.</li> <li>- Hit the "set" button on the far right to make sure it hasn't gone into standby mode.</li> </ul>	<ul style="list-style-type: none"> <li>- Fuse</li> <li>- Battery</li> <li>- Transformer</li> </ul>
Board will not programme	<ul style="list-style-type: none"> <li>- Check the transformer is connected and power is switched on at the power point.</li> <li>- Check you have enough power to the board (24V+). Check you have enough power in the batteries 24V+ plus.</li> <li>- Check the fuse under the batteries.</li> <li>- Check you have the limit switch cams installed on the gear rack and only they stop the gate in the</li> </ul>	Board Power sources

	<p>fully open and close position. (not the end stop or catcher)</p> <ul style="list-style-type: none"> <li>- Other optional extras can sometimes drain too much power from the board and cause power to be lost to the screen.</li> <li>- The dip switches on the right of the panel are set to the wrong position. They should be all to the right which is ON unless using other devices.</li> </ul> <p>1. Place all DIP switches to "ON" position.  2. Remove all any external accessories: photo beam, and exit button etc by removing the connector plug from the board.  3. Redo the system learning : N/L means the system is unlearnt  Once the system learning is completed  Re-connect optional devices such as photo beam and etc and test after each is installed. (the corresponding DIP switch have to be changed once connected)</p>	
Remotes not working	<ul style="list-style-type: none"> <li>- Re program remotes by pressing the RF learn button until a blue light next to it comes on. Press the remote ONCE and it should flicker. Now wait until the light goes off and try again.</li> <li>- You can only program in one remote or device at a time.</li> <li>- Push the button fairly solid and hold it in for a few second.</li> <li>- When programming remotes press the top left button ONLY. The rest of the buttons will program themselves in with it.</li> </ul>	RF Learn button
Control board Locked -up	<ul style="list-style-type: none"> <li>- If you change the speed of the motor after you have done "Systems Learning" you may find the control board will "lock-up". You will need to repeat "systems learning"</li> <li>- The replacement FUSE for the control board fuse is 20A250V and can be found in the middle of the board under the black fuse cover.</li> <li>- The stand-alone transformer needs a fuse 15 amp approx.</li> </ul>	Transformer fuse. Board fuse.
Auto-close not working.	<ul style="list-style-type: none"> <li>- Make sure you don't have any extras such as beams or probes that are keeping the gate open. Remove then retest.</li> <li>- Ensure the programming for the auto close has been done correctly.</li> <li>- Check to see if anyone or anything is sending the gate a signal from either remotes, keypads, exit buttons etc.</li> </ul>	Optional devices

## Wireless Keypad Manual

**Warning:** This product has been designed to control door openers, gate openers and similar mechanisms. Any other use of the product will be considered improper.

### 1) Product Description:

The wireless keypad is a dual transmitter that activates an open cycle of your gates once correct combination is entered.

- Can be installed on a wall either indoor or an outdoor location. It has an IP54 rating.
- The estimated transmission range is 40m plus in open space and 15m indoors.
- The units are designed to ensure battery life equivalent to an estimated 2 years of operation considering 10 activations a day.
- The unit has a frequency of 433.9
- The backlight will only work when any buttons on the unit are pushed.
- Unit is Oval Shaped, 80.5mm tall, 70.5mm at its widest point and 30.5mm deep
- Battery replacement 1 x lithium CR 2032 3V (- to front and + to rear of keypad)

#### Signals:

#### Status:

1 Short Beep	Keypad Tone
1 Long Beep	Correct combination is entered
3 Beeps	Modification of combination confirmed
5 Short Beeps	Error during combination edit operation
10 Rapid Beeps	Battery low warning signal

### 2) Installation:

Before physically installing the unit in the mounting position it is good practice to perform a practical test of its functionality and range. Consider that range may be up to 25% or 30% less when battery power is low.

### 3) Positioning

For greater signal/range, try to position the unit where there is open space from the keypad back to the control board. Having metal, wood or concrete structures etc blocking the path could decrease the signal/range.

### 5) Operation

The use of the keypad is based on combinations up to 8 digits long between numbers of 1 to 9. Once the combination has been entered the user then presses the confirm key < or > to activate an open cycle of the gate.

- Receiver channel 1 if the user presses <
- Receiver channel 2 if the user presses >

The command will be transmitted only when a valid combination has been entered, If an incorrect combination has been entered the unit will beep 5 times once the confirm key has been pressed. The combination entered must be exact, for example – if the correct combination is 0422, the following attempts will be interpreted as errors: 422, 10422 and 104222. Therefore, if the user accidentally presses the wrong key when entering a combination < or > should be pressed immediately to generate the error tone, after which the correct combination can be entered starting from the beginning again.

While entering the combination no more than 6 seconds can be allowed to elapse between keystrokes, after which interval the combination must be re-entered starting from the beginning.

The units are factory programmed with a standard combination to activate channel one (<) and two (>).

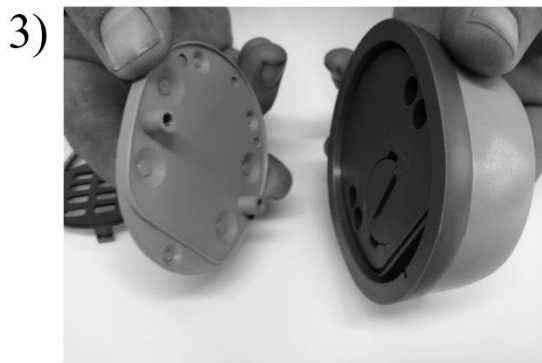
**The factory set combinations are as follows:**

- Combination to transmit the code associated with the < key.
- When the unit is used for the first time the combination is **11<** key
  
- Combination to transmit the code associated with > key.
- When the unit is used for the first time the combination is **22>** key

**4) Fitting**

Dis-assemble keypad to allow fastening to the wall.

1. Remove the front blue face carefully so as not to damage the paint. Use a small flat head screwdriver and insert into the gap at the base of the outer housing.
2. Use the special key provided, to remove the 2 screws either side of the key buttons.
3. The front keypad housing can then be separated from the back mounting position of the keypad.
4. Drill suitable holes to allow fastening to the wall.
5. Reassemble keypad.



## 6) Changing a combination: (You can have max 2 different combinations)

### Changing the combination associated with channel 1 (<)

1. Press the "0" key and hold it down while pressing and releasing <
2. Release the "0" key.
3. Type in the current (original) combination and press < eg. 11<
4. Type in the new combination of your choice (up to 8 digits) and press <
5. Type in the new combination again and press <
6. Now when you type in new combination and press < there will be a long beep which will activate an open cycle on gate.

### Changing the combination associated with channel 2 (>)

1. Press the "0" key and hold it down while pressing and releasing >
2. Release the "0" key.
3. Type in the current (original) combination and press > eg. 22>
4. Type in the new combination of your choice (up to 8 digits) and press >
5. Type in the new combination again and press >
6. Now when you type in new combination and press > there will be a long beep, which will then activate an open cycle on gate.

**NOTE 1:** If the two combinations you have entered are identical, once you have entered the combination you can press either < or >

**NOTE 2:** If combinations are set without entering any number, the system is effectively overridden and the command can be transmitted simply by pressing < or > without first have to enter a combination.

## 5) Connecting to Control Board

Locate the Learn code button on your gate control board. Push the learn code button once (see below) then on the keypad type in your combination and push < or >. The gate control board will remember your code. This action must be performed within 8 seconds or the control board will revert back to normal mode and remote transmission will not learn.

Now once you type in your combination on the keypad, it should activate a gate cycle.

### Technical data:

Motor	boxer 500
Gear type	Worm gear
Peak thrust	5500N
Nominal thrust	5000N
Engine RPM	3800 RPM
Absorbed power	60W

Power supply	24VDC
Nominal input power	3A
Maximum gate weight	500kg
Maximum gate length	6M
Maximum operating current	5.5A for maximum 10 seconds
Operating temperature	-20C - +50C
Dimensions L x W x H	250 x 170 x 265
Weight	8kg
Speed	21.9cm / sec