

**1) Warranty Coverage**

MAG warrants each new product manufactured and sold by it or one of its authorized distributors only against defects in workmanship and/or materials under normal service, proper installation and use. THIS WARRANTY IS LIMITED TO REPAIR OR REPLACEMENT OF VERIFIED DEFECTIVE PRODUCTS AND EXCLUDES ANY AND ALL RISK AND LIABILITY WHATSOEVER RESULTING FROM ANY USE OF SAID PRODUCTS, INCLUDING INCIDENTAL AND CONSEQUENTIAL DAMAGES. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE THEREOF. The provisions of this warranty and limitation of liability shall not be modified in any respect except by written document signed by MAG.

**2) Warning** 

- a) In case of emergency, isolate power from the power supply.
- b) Operate your barrier from suitable AC220 volts.
- c) Improper installation can create danger (such as electric shock or fire). Please engage specialist for the proper installation work.
- d) Do not install Barrier Gate in a potentially explosive atmosphere.
- e) If abnormal condition (burnt smell, etc...) occurs, switch off the power supply immediately.

**3) Production Type**

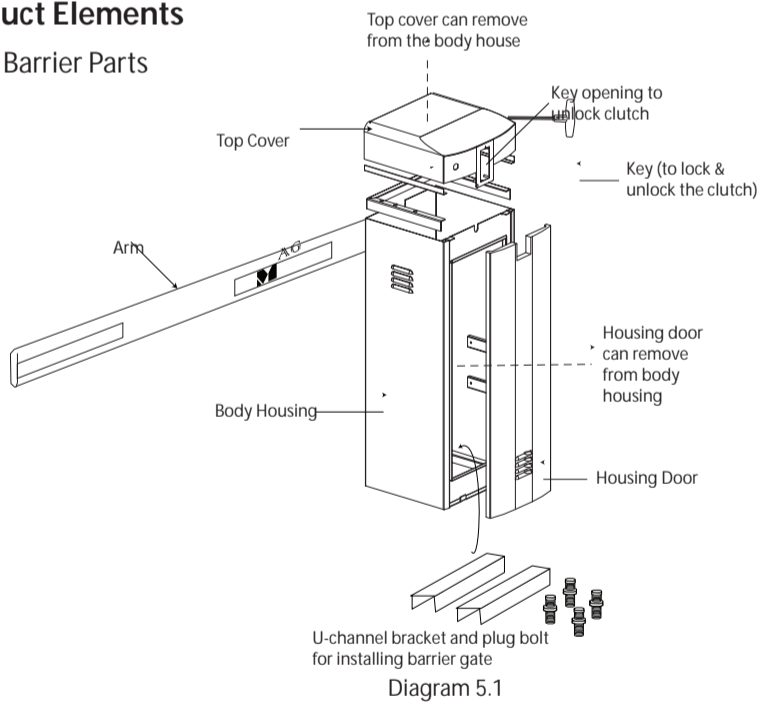
Model No.	Feature	Open/close speed	Max straight arm	Arm swing out
BR618T		1.8 sec	4 meter	Yes
BR630T		3 sec	4 meter	Yes
BR660T		6 sec	6 meter	No
BR630T_90		3 sec	4 meter	No
BR660T_FE		6 sec	4.5 meter	No

**4) Technical Specification**

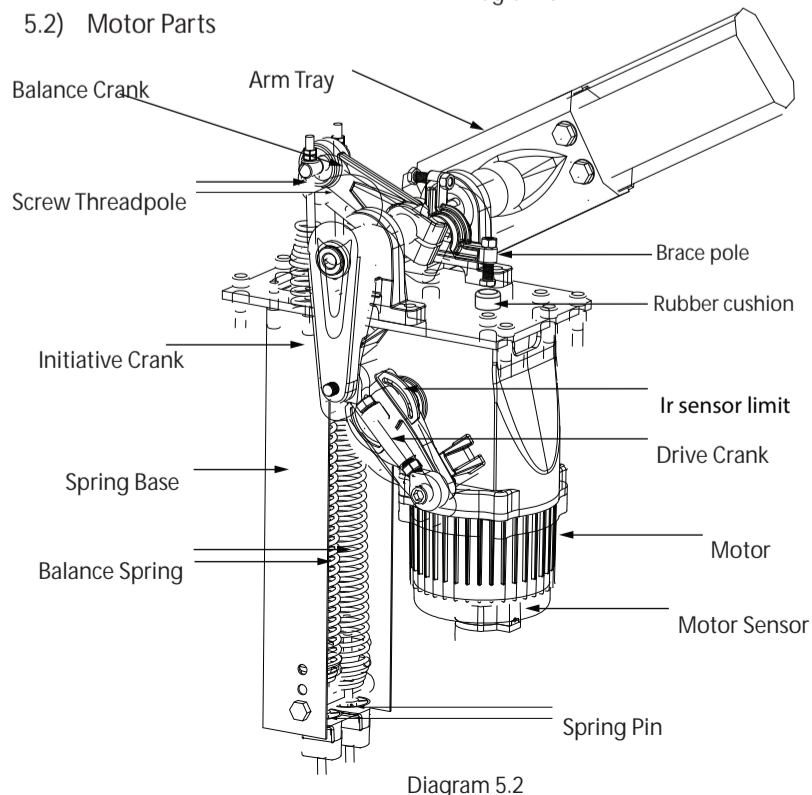
Description	Parameter
Mechanical temperature	-40° to 75 C
Electrical temperature	-10° to 75 C
Power supply input	220V ± 10% AC, 50/60Hz
Power consumption	80 watt
Relative humidity	< 90 %
Arm speed	1.8 , 3 , 6 second
Internal lubrication	Grease
Max starting torque	1.8 second : 1.4±0.2 N.M 3 / 6 second : 0.87±0.1 N.M
AC rotation speed	1.8 second : 440±40 RPM 3 / 6 second : 900±50 RPM

**5) Product Elements**

5.1) Barrier Parts

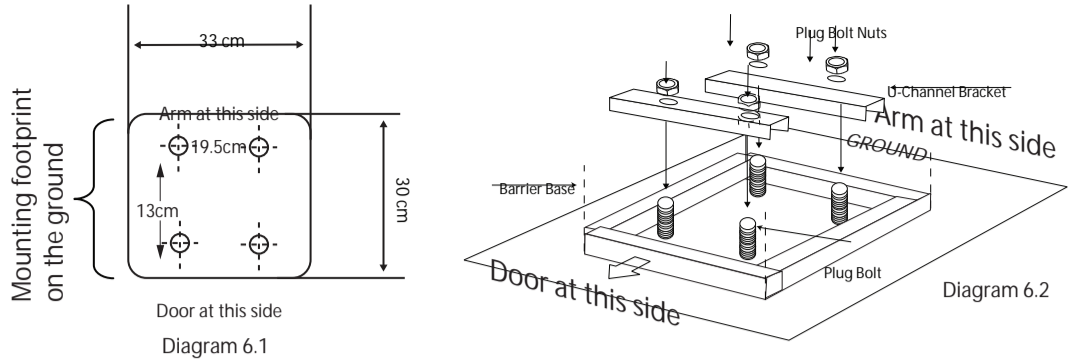


5.2) Motor Parts



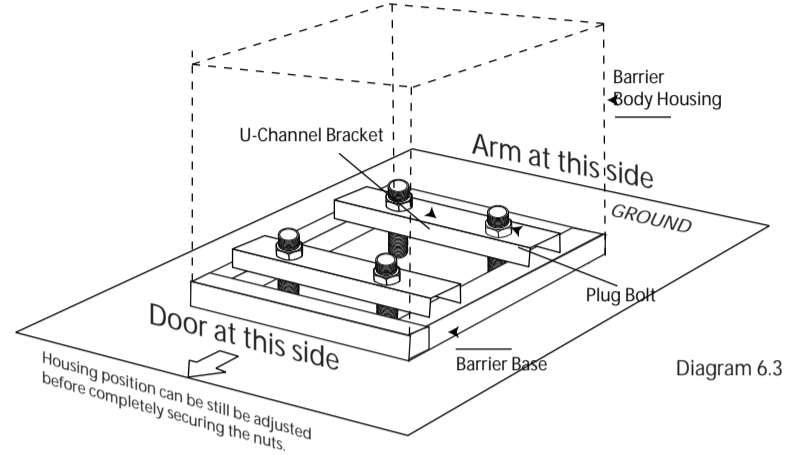
**6) Base Installation**

6.1) Mount the barrier base on the ground with screws. Refer to diagram below :



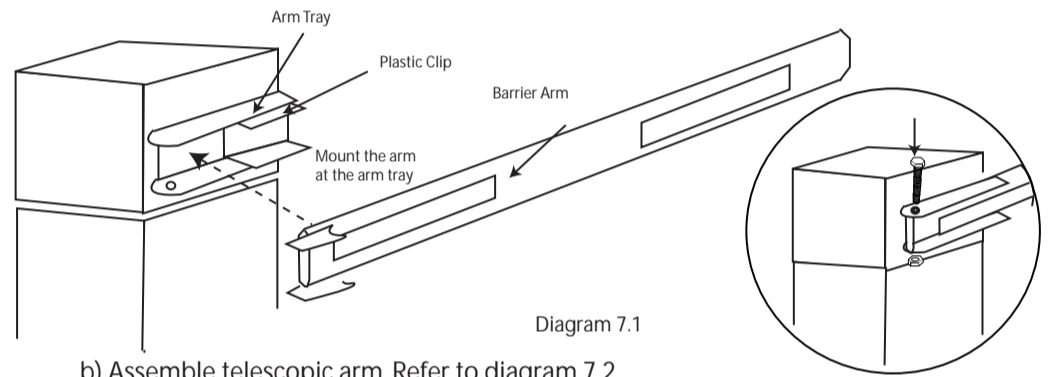
6.2) Do marking on the ground base on plug bolt distance (refer to diagram 6.2)

6.3) Screw U-Channel Bracket on the ground (refer to diagram 6.3)

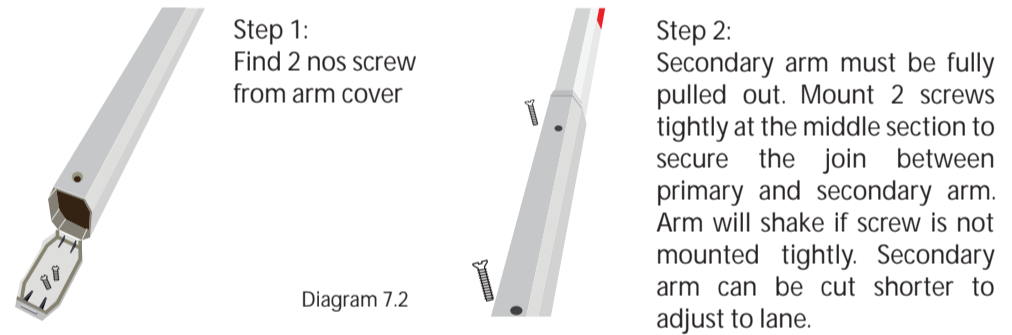


**7) Arm Installation**

a) Mount the arm at the arm tray by screw. Refer to diagram 7.1



b) Assemble telescopic arm. Refer to diagram 7.2

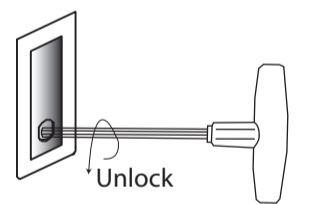


**8) Manual release arm by releasing clutch.**

Arm can be move manually after unlocking the clutch. This is useful during power failure where user can manually lift the arm allowing traffic to pass through.

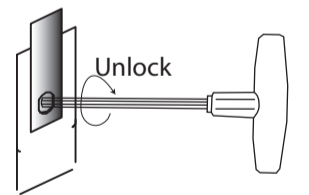
**8.1) During power failure :**

- Step 1 : Turn key anti-clockwise to unlock the clutch
- Step 2 : Lift arm vertical 90 degree
- Step 3 : Turn key clockwise to lock the clutch



**8.2) After power resume :**

- While arm still lift up
  - Step 1 : Press push button "UP" button one time
  - Step 2 : Press push button "DOWN" button.
- Barrier arm will resume back to normal operation.



**9) Counter - Weight spring adjustment**

9.1) Selection of the spring

Model	Features	Meter	Green Spring (4.0mmØ)	Red Spring (4.5mmØ)	Blue/Yellow spring (5.5mmØ)
BR618T		3 to 4	2		
BR630T		3 to 4	2		
BR660T		4.5	1	1	
BR630T_90		4		2	
BR660T		5		2	
BR660T		6		1	1
BR660T_FE		4.5		0	2

\*For motorway lane barrier gate need to remove all spring - arm length 1m to 1.5m

9.2) Calibrating counter-weight spring tension

Tension of counter weight spring needs to be calibrated according to arm length and weight to achieve minimum burden on the motor. This will ensure maximum life time on the motor.

Step 1 :

Turn the key clockwise to unlock the clutch. Refer diagram 9.2a

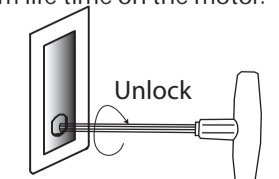
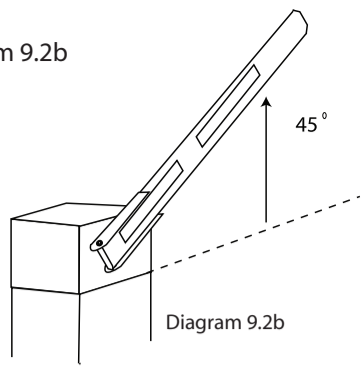


diagram 9.2a

Step 2: Move arm up to 45 degree and release. Refer diagram 9.2b

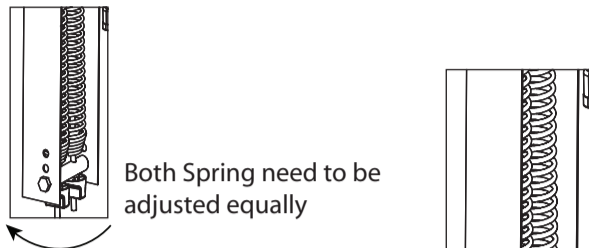
2.1 If the spring tension is in balance, arm will stay at 45 degree. No further calibration is required. Move arm back to horizontal position and lock the clutch.

2.2 If the counter-weight spring is NOT balanced, arm will either move up or down from 45 degree. In this case, the counter-weight spring needs to be calibrated.



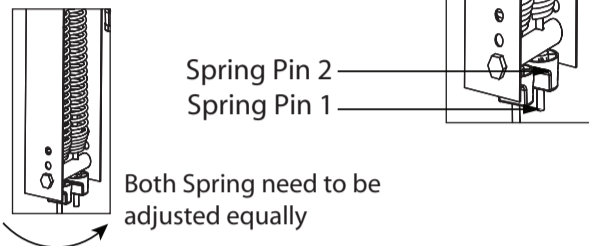
**If arm move up more than 45 degree, then the spring tension is too tight and needs to be loosen.**

Turn spring pin 1 & 2 clockwise few times (3 to 4 times) to loosen the spring until the arm will stay at 45 degree



**If arm drop below than 45 degree, then the spring tension is too loose and need to be tighten.**

Turn spring pin 1 & 2 anti-clockwise few times (3 to 4 times) to tighten the spring until the arm will stay at 45 degree

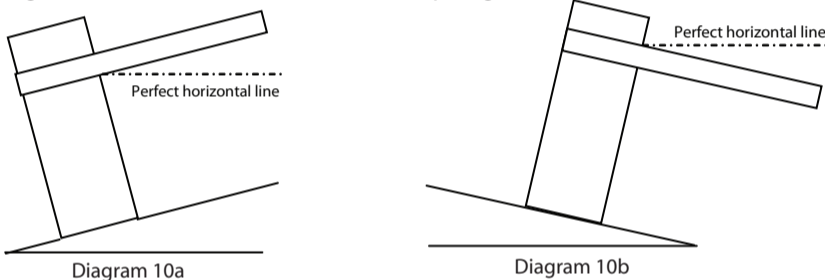


9.3) Spring replacement

- Step 1 : Unlock the clutch
- Step 2 : Move arm vertical 90 degree and release
- Step 3 : Turn the spring pin clockwise to loosen the spring until the spring fell out
- Step 4 : Replace with a new spring
- Step 5 : Turn the spring pin anti clockwise to tighten the spring
- Step 6 : Recalibrate the spring tension
- Step 7 : Lock back the clutch upon finish calibration work

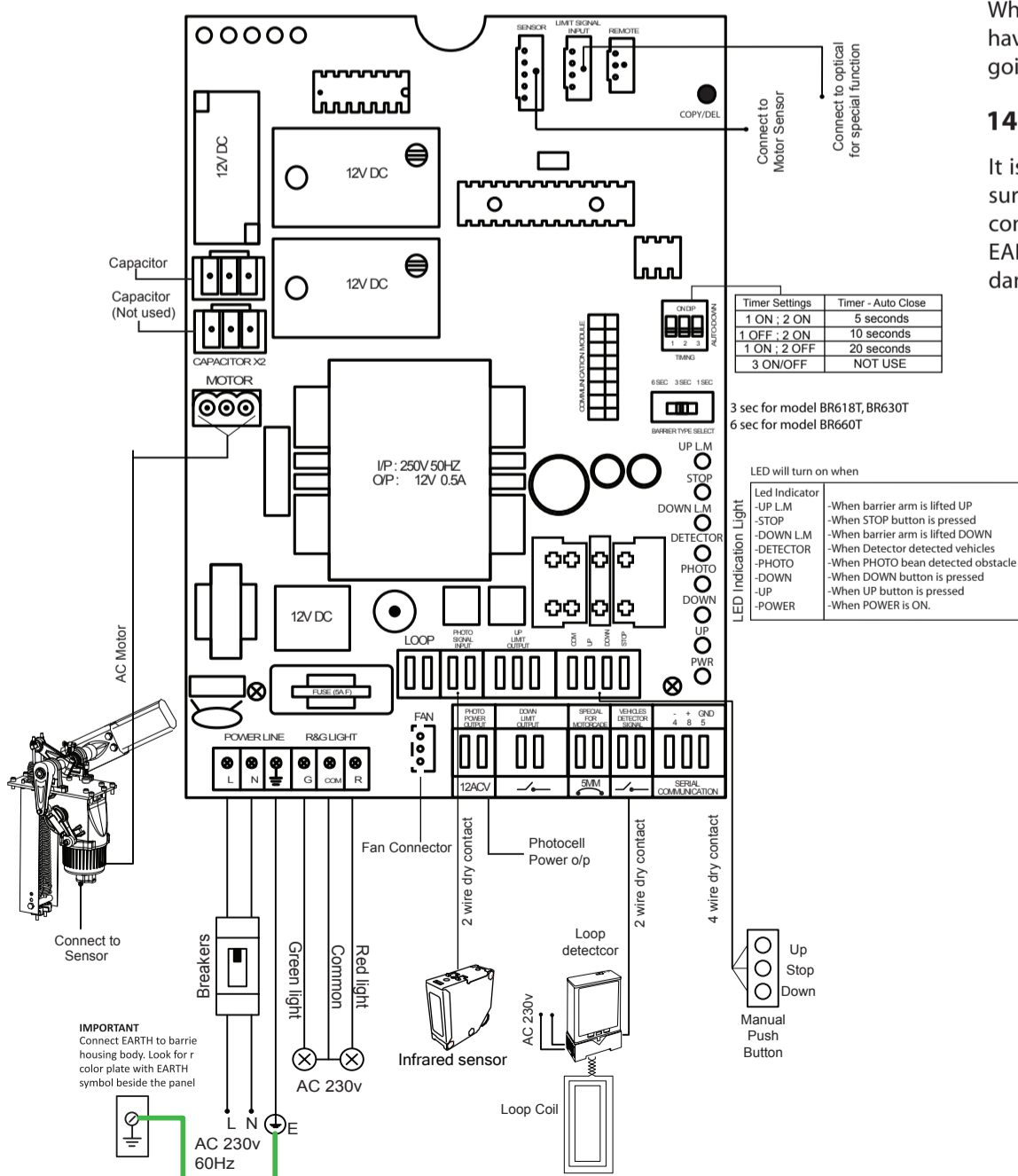
### 10) Adjust arm angle

Sometimes the arm might be not perfect horizontal due to improper adjustment usage wear and tear or installation at sloped ground.

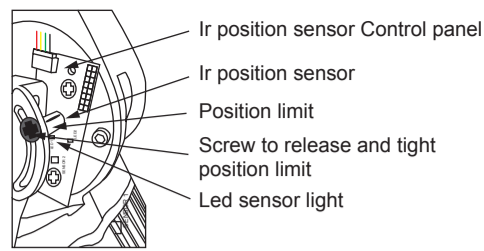


Arm operating angle can be changed by adjusting the drive crank

### 13) Control Panel



### 10.1) Arm not at horizontal position



Step 1: Loosen the screw position limit then adjust the position until barrier arm align with sensor  
 Step 2: Tighten back the screw position limit after done complete adjustment.

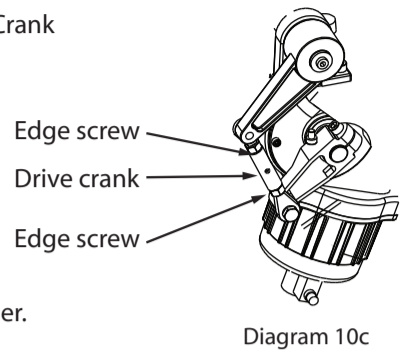
Step 3: Testing barrier open close operation. Re-adjust the position limit.

### 10.2) If arm still not at desired position, please adjust Drive Crank

Step 1: Turn the Edge-screw anti clockwise to loosen drive crank for adjustment.

Step 2:

- 2.1) If arm above the horizontal line (diagram 10c), turn drive crank clockwise to adjust the arm lower.
- 2.2) If arm below the horizontal line (diagram 10c), turn drive crank anti-clockwise to adjust the arm higher.

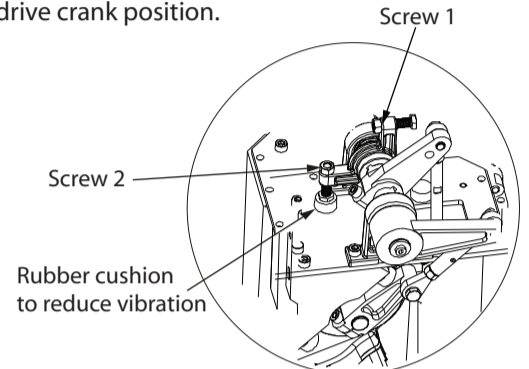
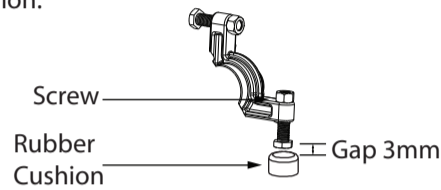


Step 3:

Turn the screw back to hold the newly adjusted drive crank position.

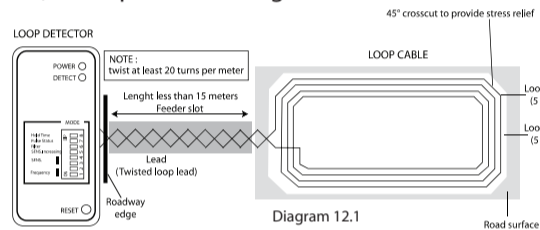
### 11) How to reduce arm jerking?

Adjust screw to maintain 3mm gap with rubber cushion.



### 12) Loop detector installation guide

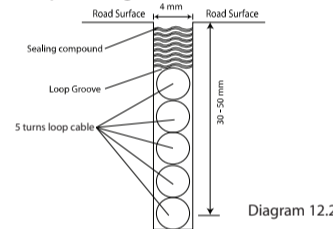
#### 12.1) Loop wire winding



Nominal groove width : 4mm  
 Nominal groove depth : 30mm to 50mm

Refer to diagram 12.1, you can use 1.5mm<sup>2</sup> or 16awg stranded wire and wind minimum 5 turns inside the groove. Then "TWIST" the wire back to Loop Detector.

#### 12.2) Depth of groove



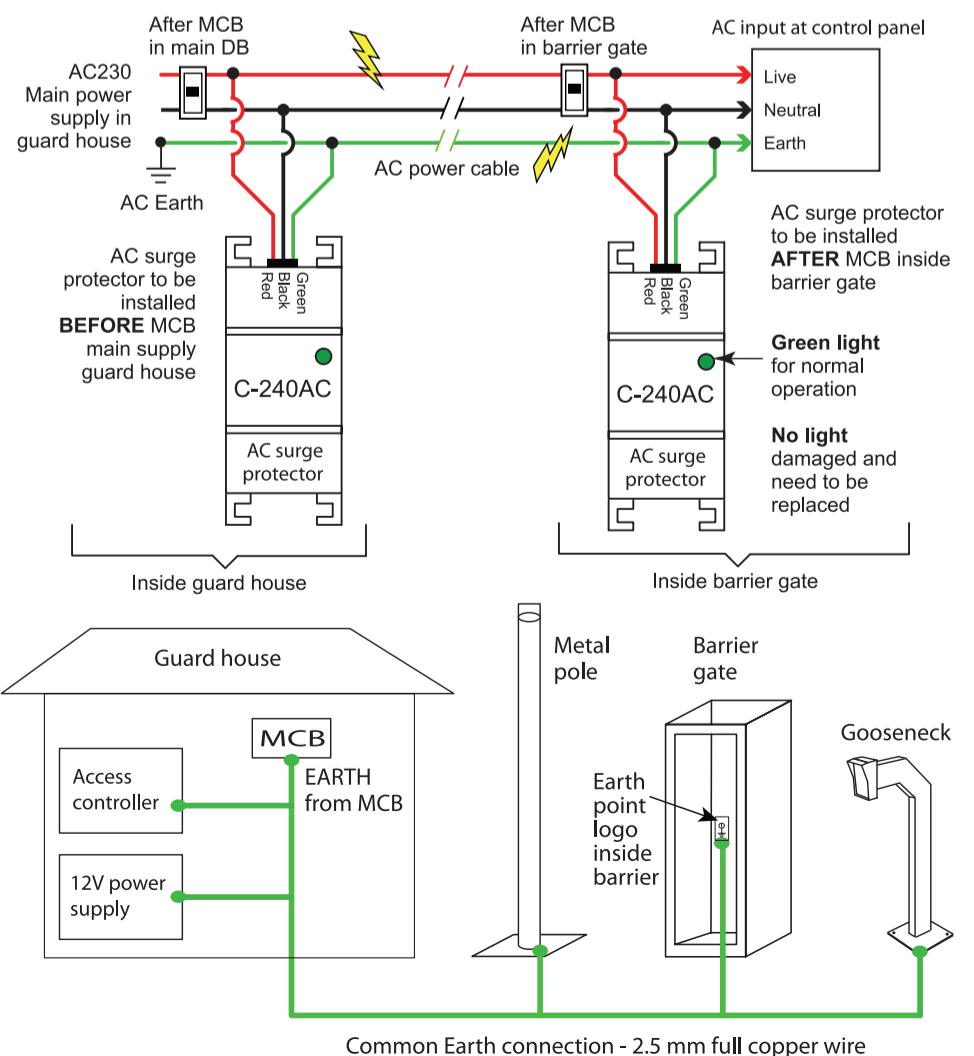
Caution:

When you put silicon to fill up the groove, make sure you press tightly downward. This is to ensure that there is all wire is pressed down together and no space for them to move inside the groove. This caution is to ensure reliability, if loop wire can move inside the groove due to vibration when pass through, it will be unstable.

When winding the wire inside the loop please make sure is not twisted. All wire in the groove have to run almost perfect parallel with each other. Only twist the wire then wire when wire going back to Loop Detector.

### 14) Surge protector installation

It is COMPULSORY to install surge protector when installing barrier gate outdoor. All installed surge protector must be connected to EARTH. All metal housing of equipments also must connected together to EARTH to achieve Common Earth. Please use at least 2.5mm wire for EARTH connection wiring. All these are important steps to protect barrier gate from being damaged by lightning surge. **Waranty does not cover damages by lightning surge.**



MAG BR CTRL Control Panel Compatible with BR618T, 630T, 660T Connection layout