

R6 SWING GATE INSTALLATION MANUAL



R6 SWING



Company Profile



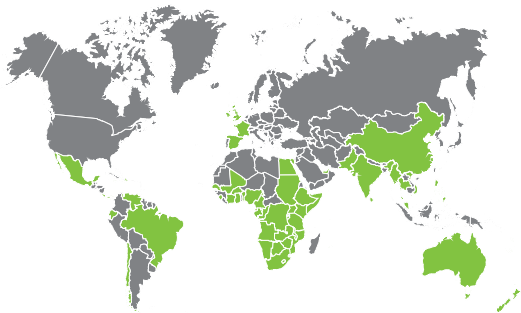
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Icons used in this manual



This icon indicates tips and other information that could be useful during the installation.



This icon denotes variations and other aspects that should be considered during installation.



This icon indicates warning, caution or attention! Please take special note of critical aspects that MUST be adhered to in order to prevent injury.

1. Introduction

The **R6** rotary swing gate system is designed to open and close swing gates. The CP77 controller is capable of handling both single and double swing gates and offers many features to suit almost any application.

The unit employs a battery-driven DC motor for low-duty domestic applications, which provides automatic backup protection in the event of a power failure. The unit can also be fitted with a high-duty power supply in addition to the battery to allow for more frequent operation of the gate.

The **R6** is fitted with an internal electronic limit switch system, which provides reliable and accurate positioning of the gate. This system allows the operator to smoothly slow the gate down at the fully-open or -closed positions.

A fail-safe and highly reliable collision sensing system is built into the controller, which will cause the motor to stop while the gate is opening, and stop and reverse when closing the gate if obstructed in any way.

Gate movement is transmitted to the gate by means of articulated arms.

1.1. Important Safety Information



ATTENTION!

To ensure the safety of people and possessions, it is important that you read all of the following instructions.

Incorrect installation or incorrect use of the product could cause serious harm to people.

The installer, being either professional or DIY, is the last person on the site who must ensure that the operator is safely installed and that the whole system can be operated safely.

Warnings for the Installer

CAREFULLY READ AND FOLLOW ALL INSTRUCTIONS before installing the product.

- All installation, repair, and service work to this product must be carried out by a suitably-qualified person
- This operator is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety
- Do not activate your gate unless it is in view and you can determine that its area of travel is clear of people, pets, or other obstructions
- **NO ONE MAY CROSS THE PATH OF A MOVING GATE —**
always keep people and objects away from the gate and its area of travel
- **NEVER LET CHILDREN OPERATE OR PLAY WITH THE GATE CONTROLS**
- Secure all easily-accessed gate opener controls in order to prevent unauthorised use of the gate
- Do not in any way modify the components of the automated system
- Do not install the equipment in an explosive atmosphere: the presence of flammable gases or fumes is a serious danger to safety
- Before attempting any work on the system, turn off electrical power to the operator and disconnect the batteries
- The Mains power supply of the automated system must be fitted with an all-pole switch with contact opening distance of 3mm or greater; use of a 5A hydraulic breaker with all-pole circuit breaker is recommended
- Make sure that an earth leakage circuit breaker with a threshold of 30mA is fitted upstream of the system
- Never short-circuit the battery and do not attempt to recharge the batteries with power supply units other than that supplied with the product, or manufactured by Centurion Systems (Pty) Ltd

- Make sure that the earthing system is correctly constructed and that all metal parts of the system are suitably earthed
- Safety devices must be fitted to the installation to guard against mechanical movement risks such as crushing, dragging and shearing
- Always fit the warning signs visibly to the inside and outside of the gate
- The installer must explain and demonstrate the manual operation of the gate in case of an emergency and must hand over the User Guide/Warnings to the user
- The installer must explain these safety instructions to all persons authorised to use this gate, and be sure that they understand the hazards associated with automated gates
- Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger
- Dispose of all waste products like packing materials, worn-out batteries, etc., according to local regulations
- Always check the obstruction detection system, and safety devices for correct operation
- Neither Centurion Systems (Pty) Ltd, nor its subsidiaries, accepts any liability caused by improper use of the product, or for use other than that for which the automated system was intended
- This product was designed and built strictly for the use indicated in this documentation; any other use, not expressly indicated here, could compromise the service life/operation of the product and/or be a source of danger
- Everything not expressly specified in these instructions is not permitted



1.2. Lightning Protection

The electronic controller utilises the same proven surge protection philosophy that is used in all our products. While this does not guarantee that the unit will not be damaged in the event of a lightning strike or power surge, it greatly reduces the likelihood of such damage occurring. The earth return for the surge protection is provided via the mains power supply earth and/or earth spike located next to the operator.



In order to ensure that the surge protection is effective, it is essential that the unit is properly earthed.

2. Specifications

2.1. Physical Dimensions

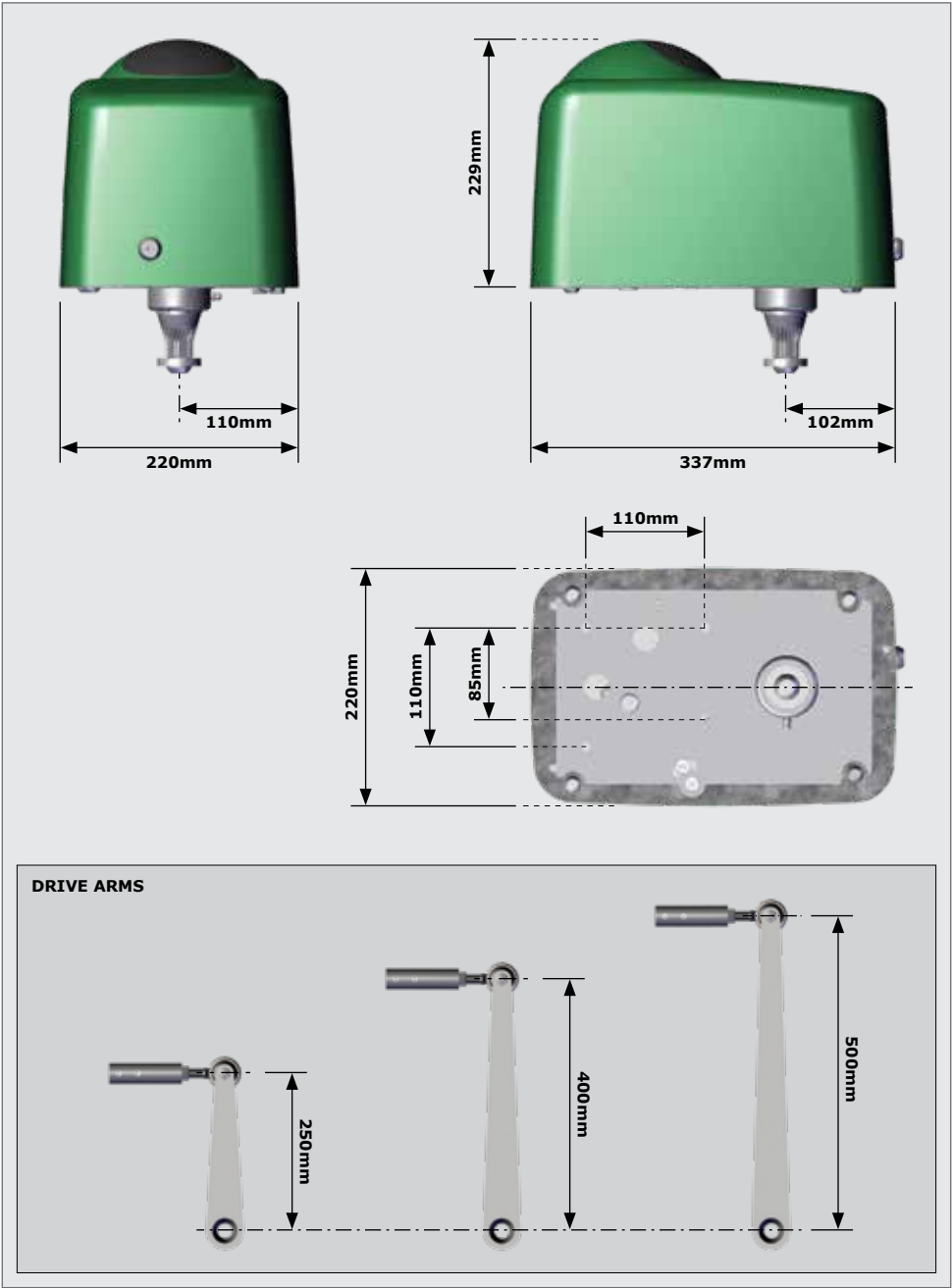


FIGURE 1. R6 PHYSICAL DIMENSIONS

2.2. Technical Specifications

R6					
Input Voltage	CP13E		CP84SM		
	220V - 240V AC +/-10% @ 50Hz ¹		90V - 240V AC +/-10% @ 50Hz ¹		
Motor Voltage	12V DC				
Current Consumption (mains)	CP13E - 80mA				
	CP84SM - 170mA				
Maximum DC Current Draw	16A				
Maximum Output Torque	Standard-torque operator	300Nm			
	High-torque operator	390Nm			
Power Supply	Domestic	0.8A CP13E, 7.2Ah Battery			
	Light-industrial	1.8A CP84SM, 7.2Ah Battery			
	Industrial	1.8A CP84SM, 33Ah Battery			
Maximum Daily Operations DL = Double Leaf SL = Single Leaf		Mains present		Back-up ²	
		DL	SL	DL	SL
	Domestic	20	30	20	30
	Light-industrial	250	250	40	60
	Industrial	250	250	250	250
Maximum Daily Continuous Operations DL = Double Leaf SL = Single Leaf		Mains present			
		DL		SL	
	Domestic	20		30	
	Light-industrial	50		50	
	Industrial	100		100	
Typical Gate Operating Time	Standard-torque operator	12s			
	High-torque operator	15s			
Mass of Motor Kit ³ (excluding pedestal or wall bracket)	15kg				
Collision Sensitivity	Electronic - Adjustable				
Temperature Range	-15°C to +50°C				
Housing Protection	IP55				
Packaging Dimensions	255mm wide x 375mm deep x 320mm high				

TABLE 1

1. Can operate off a solar supply, please consult Centurion Systems (Pty) Ltd for assistance.
2. These values are based on fully-charged batteries, derate accordingly based on connected ancillaries.
3. The weight of an operator kit (regardless of Master or Slave).

2.2.1. Gate Specifications

R6 Standard-Torque Operator								
Gate Length (m)	1.5	2	2.5	3 ²	3.5 ²	4 ²	4.5 ²	5 ²
Gate Height (m)	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Max Mass (Kg)	500	500	480	330	240	185	145	120
Allowable Wind Speed for 25% Clad (Km/h) ¹	114	84.7	67.3	56.9	49.2	43.2	38.6	34.8
Allowable Wind Speed for 100% Clad (Km/h) ¹	57	42.4	33.6	28.5	24.6	21.6	19.3	17.4

TABLE 2

1. No wind opening time ~ 12s. Gate opening and closing times will increase as wind speed increases.
2. Fit an electric gate lock if the leaf width is greater than 3 metres.

R6 High-Torque Operator								
Gate Length (m)	1.5	2	2.5	3 ²	3.5 ²	4 ²	4.5 ²	5 ²
Gate Height (m)	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Max Mass (Kg)	750	750	620	430	315	240	190	155
Allowable Wind Speed for 25% Clad (Km/h) ¹	128.4	95	76.3	64.6	55.9	49.2	43.9	39.6
Allowable Wind Speed for 100% Clad (Km/h) ¹	64.2	47.5	38.1	32.3	27.9	24.6	21.9	19.8

TABLE 3

1. No wind opening time ~ 15s. Gate opening and closing times will increase as wind speed increases.
2. Fit an electric gate lock if the leaf width is greater than 3 metres.

3. Product Identification

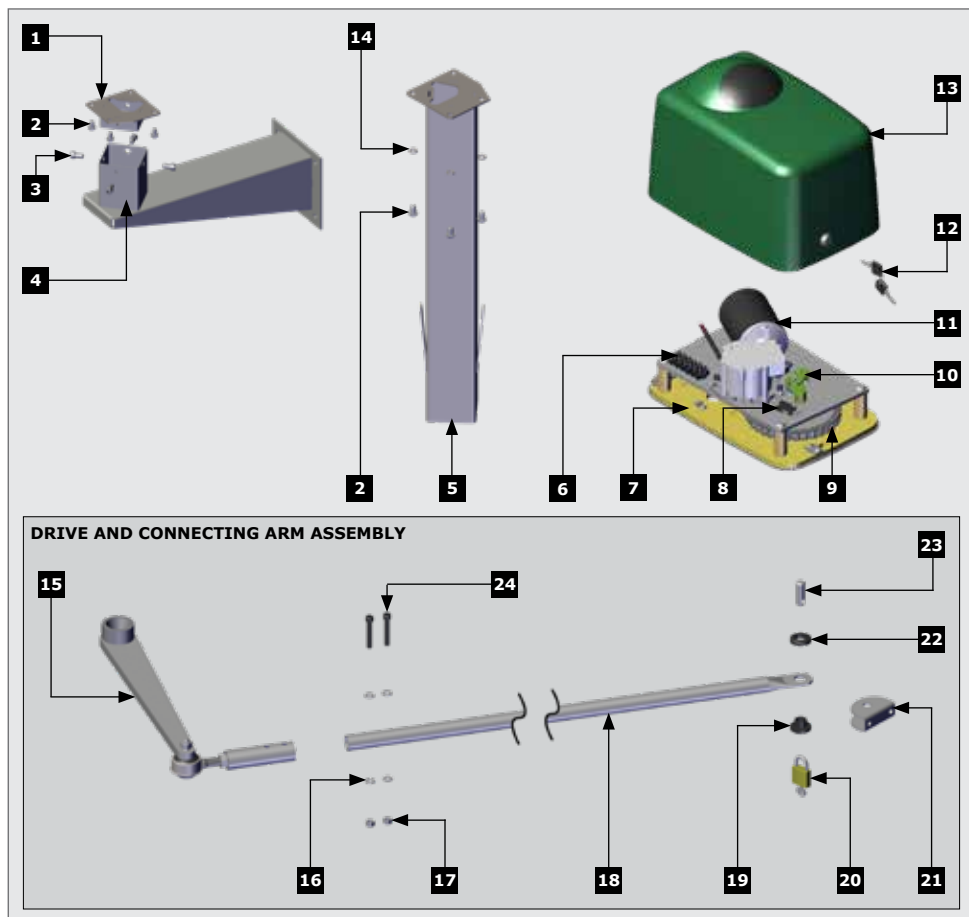


FIGURE 2. PRODUCT IDENTIFICATION - R6

- | | |
|--------------------------------|--------------------------------------|
| 1. Pedestal Adapter | 13. Cover |
| 2. M8x16 Button Head Bolt | 14. M8 Washer |
| 3. M10x20 Bolt | 15. Drive Arm |
| 4. Wall Mount Pedestal | 16. M8 Washer (x4) |
| 5. Pedestal | 17. M8 Nut (x2) |
| 6. Electrical Connection Block | 18. Connecting Arm |
| 7. Base Plate | 19. Connecting Arm Bush (Bottom) |
| 8. Limit Switch | 20. Padlock and Key |
| 9. 08B Drive Chain | 21. Gate Bracket |
| 10. Limit Arm | 22. Connecting Arm Bush (Top) |
| 11. 12V DC Electric Motor | 23. Clevis Pin |
| 12. Keys | 24. M8x50 Socket Head Cap Screw (x2) |

4. Required Tools and Equipment

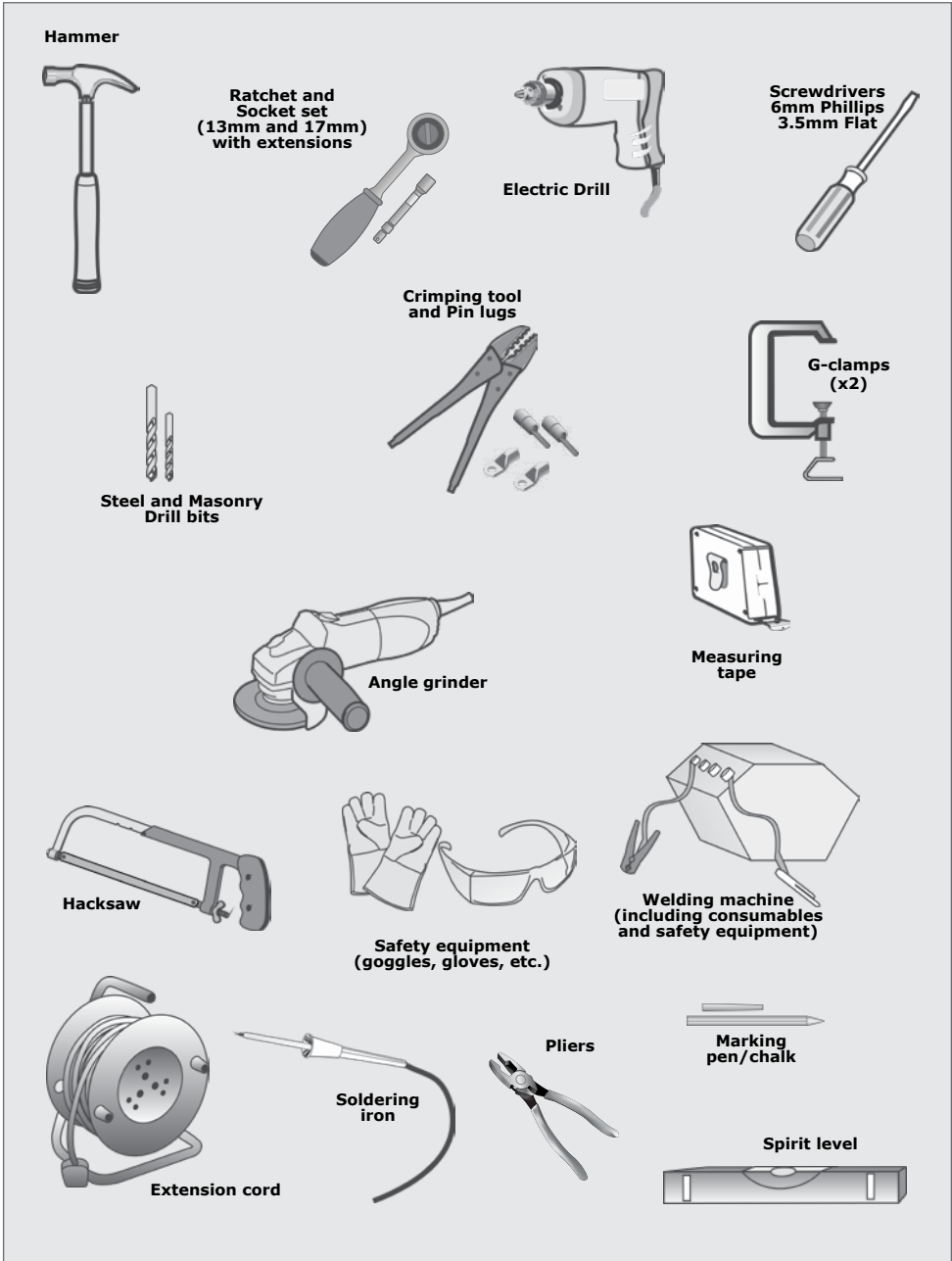


FIGURE 3. REQUIRED TOOLS AND EQUIPMENT

5. New Site Installation Preparation

5.1. General Considerations for the Installation

It is always recommended to fit additional safety equipment such as safety edges and safety beams, for additional protection against entrapment or other mechanical risks.

Check that no pipes or electrical cables are in the way of the intended installation.

Check that enough space is available for the gate operator.

Check for loose, sandy soil if installing the operator on a pedestal, as the soil condition may require a larger foundation.

Never fit the operator on the outside of the gate, where the public has access to it.

Install the gate operator only if:

- It will not pose a hazard to the public
- There is sufficient clearance to a roadway and/or public thoroughfares
- The installation meets all municipal and/or local authority requirements once completed
- The gate mass and application are within the operator specifications
- The gate is in good working order, meaning:
 - that it opens and closes freely;
 - does not move on its own if left in any position;
 - it can be installed to have sufficient clearance between moving parts when opening and closing to reduce the risk of personal injury and entrapment;
- Pushbuttons or key-switches, when required, can be positioned so that the gate is in line-of-sight of the user

5.2. Cabling Requirements

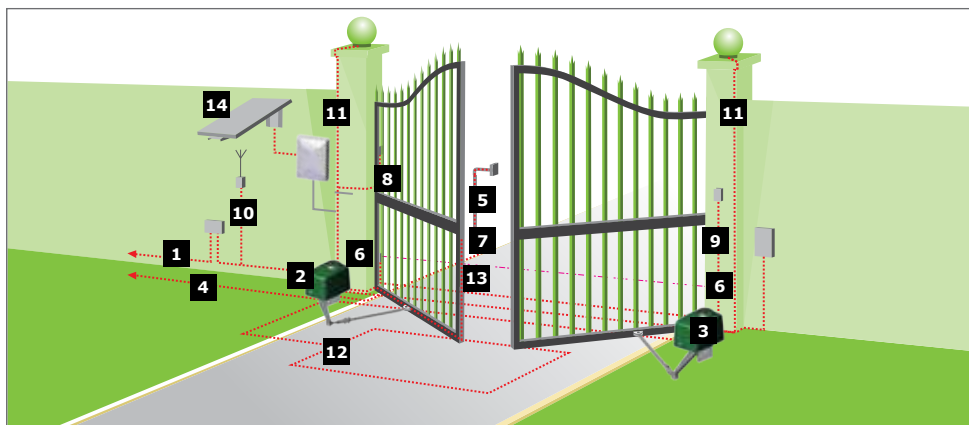


FIGURE 4. CABLING REQUIREMENTS

Legend

1. **MAINS SUPPLY CABLE:** 90V - 240V AC mains cable via double-pole mains isolator-switch (3 core L.N.E. 1.5mm² SWA)^{1,2} OR **15V AC TRANSFORMER SECONDARY** (3 core L.N.E. 1.5mm² Cabtyre in Conduit)
2. **Master Motor (Motor)** (3 core 2.5mm² G.P. in Conduit or Norsk) AND **Master Motor (Limit Switch)** (3 core 0.2mm² Intercom/Cabtyre/G.P. in Conduit)
3. Optional **Slave Motor (Motor)** (3 core 2.5mm² G.P. in Conduit or Norsk) AND **Slave Motor (Limit Switch)** (3 core 0.2mm² Intercom/Cabtyre/G.P. in Conduit)
4. Optional **intercom** cable from motor to dwelling (n1 + 6 core³ 0.22mm² multi-strand shielded cable)
5. Optional **intercom** cable from motor to entry panel (n2 0.22mm² multi-strand shielded cable)
6. Optional but recommended **infrared safety beams** (3 core 0.22mm² multi-stranded)⁴
7. Optional **access control device** (3 core 0.22mm² multi-stranded)
8. Optional **pedestrian key-switch** (2 core 0.22mm² multi-stranded) OR
9. Optional **keypad** (3 core 0.22mm² multi-stranded)⁴
10. Optional **external radio receiver** (3 core 0.22mm² multi-stranded)⁵
11. Optional **pillar lights** (3 core LNE SWA, size according to power requirements)⁶
12. Optional **ground loop for free-exit** (1 core 0.5mm² multi-stranded – silicone coated)⁷
13. Optional **solenoid strike**⁸ (2 core 0.5mm² cable (ripcord) or G.P. in Conduit)
14. Optional **solar panel** (2 core 1.5mm² Cabtyre or G.P. in Conduit)

n1 means the number of cores required by an intercom.

n2 means the number of cores required by an intercom.

1. Possibly increase cable thickness if pillar lights are installed.

2. Type of cable must adhere to municipal bylaws but typically SWA (steel wire armoured) cable is recommended.

The armouring provides excellent screening, which gives better protection against lightning – earth one end of the screening).

3. Allows for all features such as pedestrian opening, status LED, etc., to be operated from the intercom handset inside the dwelling. Number of cores and type of cable could vary depending on brand of access control system being used.

4. Wireless accessories are available. Please refer to www.centsys.com for further information.

5. For optimum range, an external receiver can be mounted on the wall.

6. Requires an external relay.

7. Consult manufacturer of loop detector for specific details.

8. For distances greater than 5m, use cable with a thickness of at least 1mm².

For distances greater than 10m, use cable with a thickness of 1.5mm².

6. Operator Installation

6.1. Simplified Pedestal Mounting Position (Gate Inward-Opening)



These tables can be used as a quick alternative to the setup procedures shown on pages 16 to 23.

GATE OPEN ANGLE = 90°			
Arm Length	A	B	C
250	235	385	354
400	340	700	565
500	410	915	705

GATE OPEN ANGLE = 100°			
Arm Length	A	B	C
250	300	325	320
400	440	615	520
500	540	810	650

GATE OPEN ANGLE = 110°			
Arm Length	A	B	C
250	360	265	300
400	540	525	485
500	670	700	605

TABLE 4

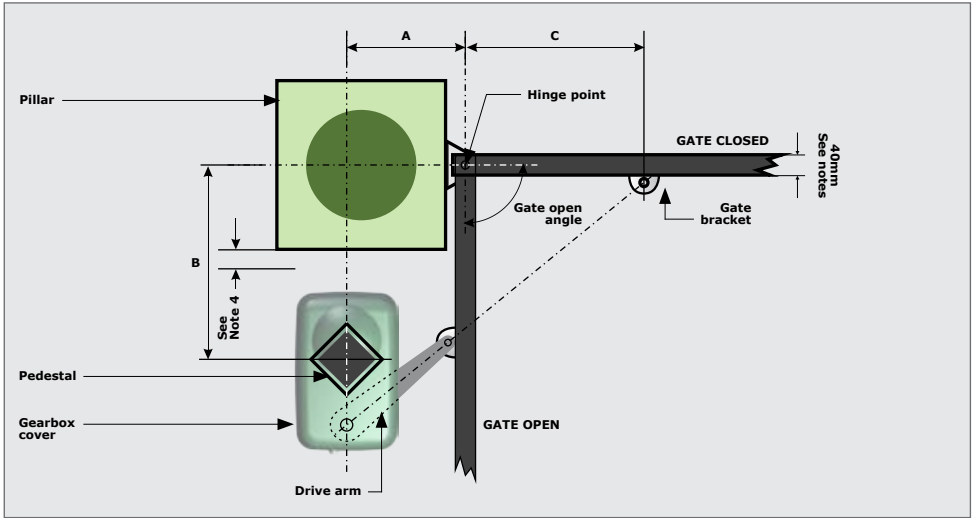


FIGURE 5



1. All dimensions shown in millimetres.
2. All dimensions referenced to hinge point.
3. Gate thickness assumed to be 40mm.
4. Distance depends on pillar size. Check carefully before installation.

6.2. Mounting the Control Box

1. Remove chassis plate.
2. Mount enclosure to wall.
3. Drill cable entry holes.
4. Replace chassis plate and wire equipment.
5. Use cable glands to protect the cables passing through the box.



Control Box preferably mounted at eye level.

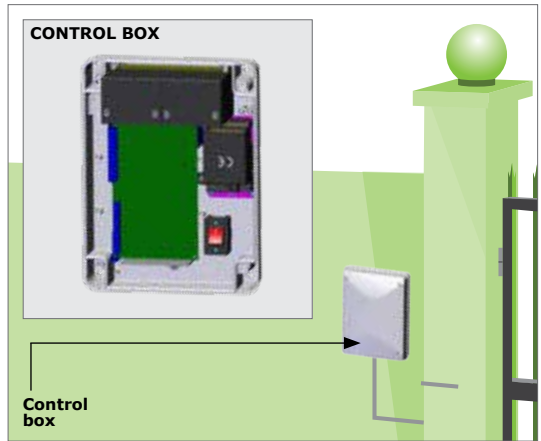


FIGURE 6. MOUNTING CONTROL BOX

6.3. Standard Pedestal Positioning (Gate Inward-Opening)

Step 1

Measure 1 metre along gate and mark "S1" on the ground.

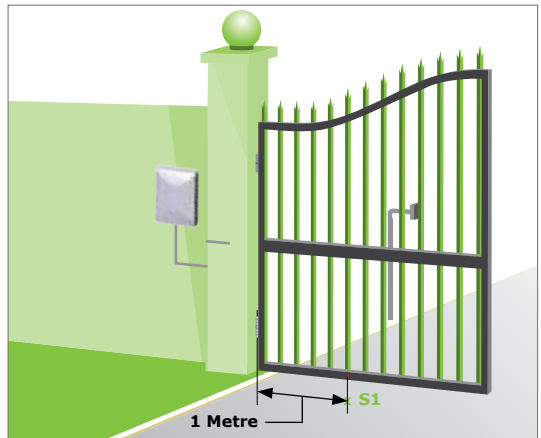


FIGURE 7. DETERMINE GATE OPENING ANGLE

Step 2

Swing the gate to the desired opening position (70 - 120 degrees) and make the second mark "S2" on the ground.

Step 3

Measure the distance "Z", between "S1" & "S2" in mm, then using "Z", look up gate opening Angle and dimension C for size of Drive Arm supplied (see Table 5).



Say "Z" is measured as 1482mm, then the closest Z value in table = 1486mm. Dimension "C" for a 400mm Drive Arm is therefore 538mm.

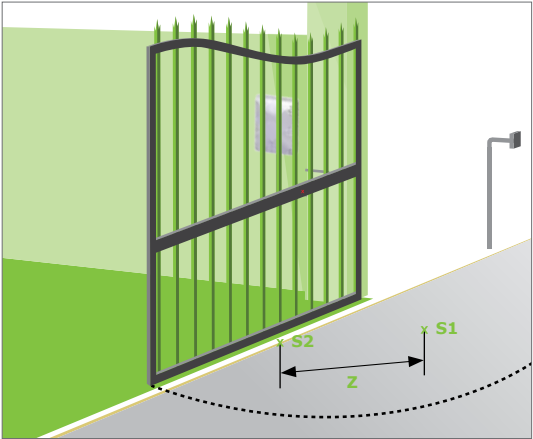


FIGURE 8

6.3.1. Pedestal Positioning (Gate Inward-Opening)

Z	GATE OPENING ANGLE	DIMENSION C FOR DRIVE ARMS		
		250mm	400mm	500mm
1147	70°	436	697	872
1161	71°	431	689	861
1176	72°	425	681	851
1190	73°	420	672	841
1204	74°	415	665	831
1218	75°	411	657	821
1231	76°	406	650	812
1245	77°	402	643	803
1259	78°	397	636	795
1272	79°	393	629	786
1286	80°	389	622	778
1299	81°	385	616	770
1312	82°	381	610	762
1325	83°	377	604	755
1338	84°	374	598	747

TABLE 5

Z	GATE OPENING ANGLE	DIMENSION C FOR DRIVE ARMS		
		250mm	400mm	500mm
1351	85°	370	592	740
1364	86°	367	587	733
1377	87.0	363	581	726
1389	88°	360	576	720
1402	89°	357	571	713
1414	90°	354	566	707
1426	91°	351	561	701
1439	92°	348	556	695
1451	93°	345	551	689
1463	94°	342	547	684
1475	95°	339	543	678
1486	96°	336	538	673
1498	97°	334	534	668
1509	98°	331	530	663
1521	99°	329	526	658
1532	100°	326	522	653
1543	101°	324	518	648
1554	102°	322	515	643
1565	103°	319	511	639
1576	104°	317	508	635
1587	105°	315	504	630
1597	106°	313	501	626
1608	107°	311	498	622
1618	108°	309	494	618
1628	109°	307	491	614
1638	110°	305	488	610
1648	111°	303	485	607

TABLE 5 CONTINUED

Z	GATE OPENING ANGLE	DIMENSION C FOR DRIVE ARMS		
		250mm	400mm	500mm
1658	112°	302	482	603
1668	113°	300	480	600
1677	114°	298	477	596
1687	115°	296	474	593
1696	116°	295	472	590
1705	117°	293	469	586
1714	118°	292	467	583
1723	119°	290	464	580
1732	120°	289	462	577

TABLE 5 CONTINUED



Select value of Z in table closest to that measured.



Drive Arm Length Application

- 250mm - Limited space or outward-opening applications.
- 400mm - Standard double **R6** kits.
- 500mm - Standard **R6** or single **R6** kits.

Step 4

Position the Gate Bracket at dimension “C” and weld or bolt the bracket to the gate, then mark “S4” on the ground (gate closed).

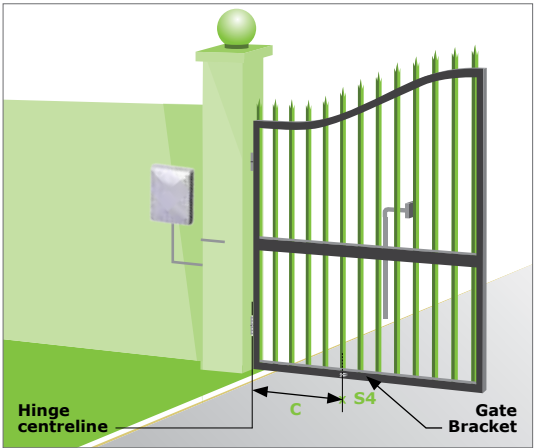
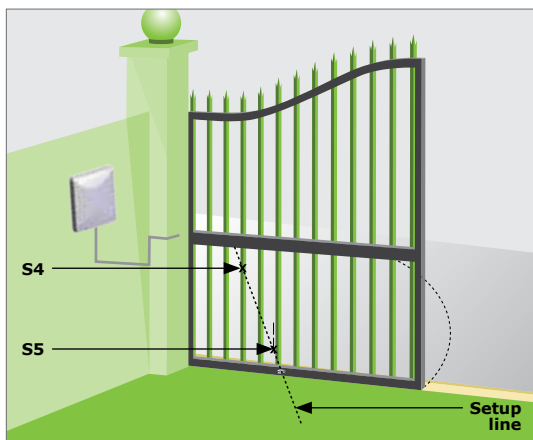


FIGURE 9. POSITIONING GATE BRACKET

Step 5

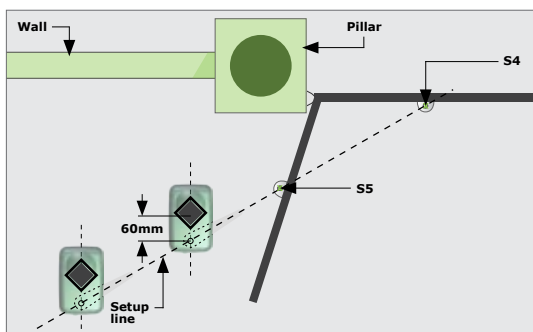
Swing the gate to the open position, (same position as step 2) and mark "S5" on the ground, then draw the setup line through "S4" & "S5" and extend it away from the driveway.

**FIGURE 10. MARKING SETUP LINE****Step 6**

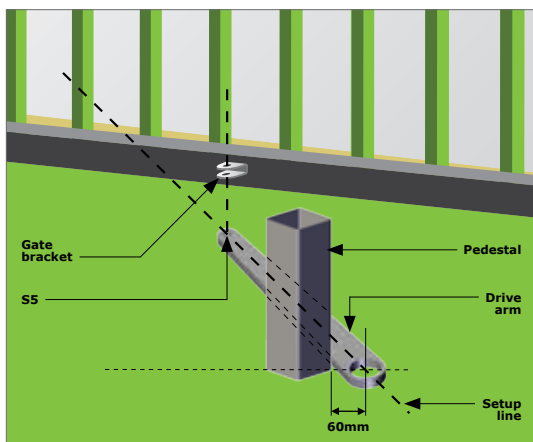
Pedestals can be mounted anywhere along a line 133mm away from the setup line towards the pillar.

**Recommended position**

Drive Arm end just touches the gate (see Step 7).

**FIGURE 11. LOCATE POSITION OF PEDESTAL****Step 7**

Lie the Drive Arm over the setup line so that the end of the Drive Arm lies directly over mark "S5". The Pedestal position lies 60mm closer to the wall from centre line of the Drive Arm mounting hole.

**FIGURE 12. RECOMMENDED LOCATION OF PEDESTAL**



This shows an alternative position of the pedestal if space is limited.



The Gearbox just clears the gate in the fully-open position.

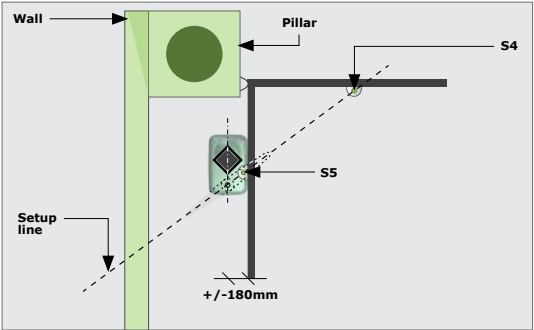


FIGURE 13. LIMITED SPACE



This shows an alternative position when there is absolute minimum space between the wall and the gate in the open position.



Absolute limit (not recommended).

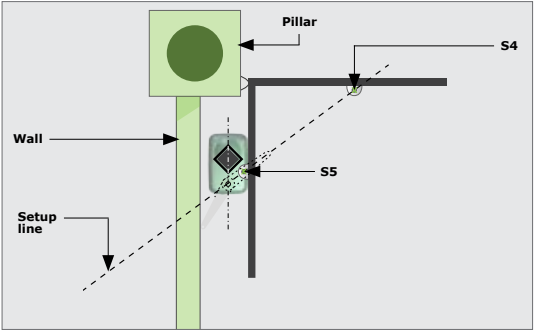


FIGURE 14. ABSOLUTE LIMIT

Step 8

Dig a hole for the pedestal and install conduit to the pedestal from the Control Box. The concrete pedestal is in place as shown.



Ensure the pedestal is vertical and oriented correctly.

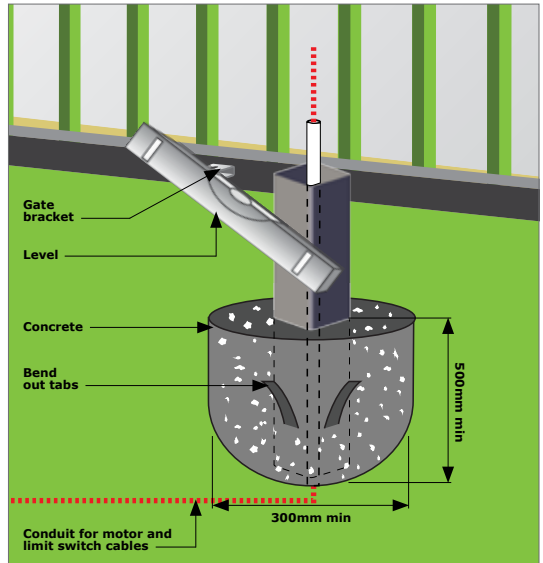


FIGURE 15. INSTALL PEDestal AND DETERMINE CORRECT HEIGHT

Step 9

Loosely fit the Drive Arm to the Connecting Arm so that it can be cut to the correct length once the Drive Arm and Connecting Arm are colinear and with the gate in the closed position. Ensure that the Connecting Arm has sufficient length within the connecting tube so that both cross-bolts can be used.

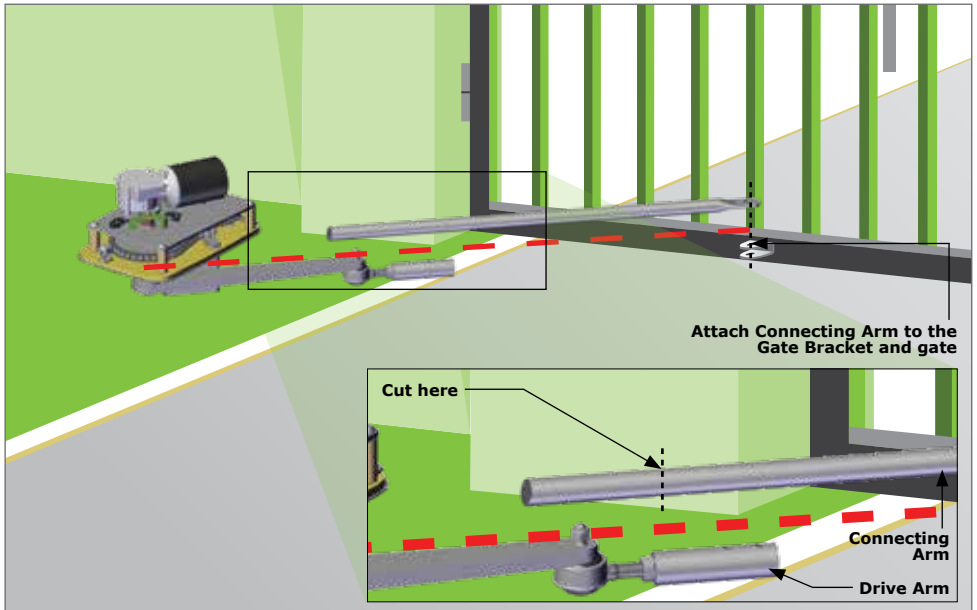


FIGURE 16

Step 10

Drill 2 x Ø8mm fixing holes in the Connecting Arm.



Holes bigger than Ø8mm will result in unwanted play in the Connecting Arm.

Step 11

Fit the Bolts and Nuts through the fixing holes in the Connecting Arm Adaptor and the Connecting Arm.

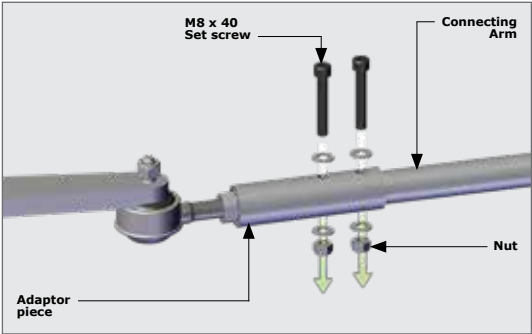


FIGURE 17

Step 12

Align the gate end-points.

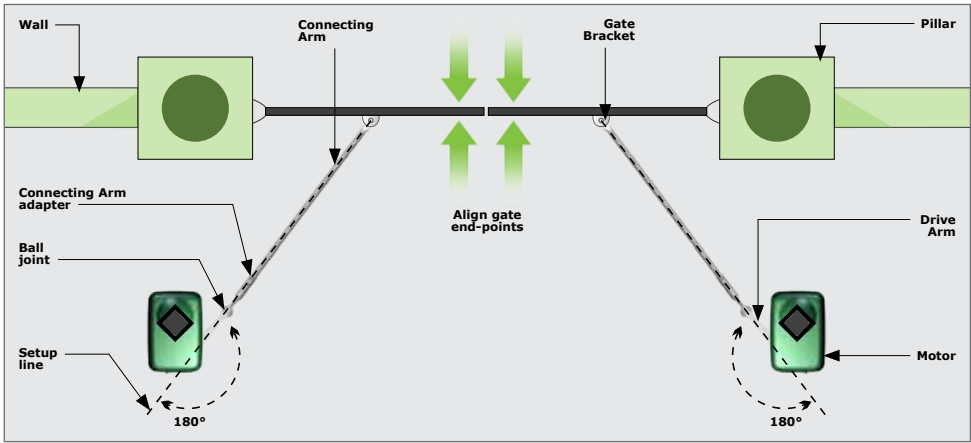


FIGURE 18

6.4. Standard Pedestal Positioning (Gate Outward-Opening)

Critical Dimensions



- The Gate opens outwards but motor remains inside property
- 250mm Drive Arm must be used

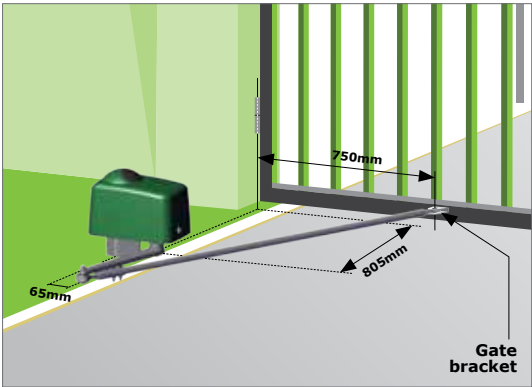


FIGURE 19. OUTWARD-OPENING - DRIVE ARM SHOWN IN GATE CLOSED POSITION

6.4.1. Outward-Opening Mounting Locations

Gate Opening Angle	X (mm)	Y (mm)	C (mm)	Driveway Envelope (mm)
70°	-40	900	750	192
80°	-70	855	750	161
90°	-65	805	750	167
100°	20	540	750	252
110°	70	350	750	302

TABLE 6



The term “Driveway Envelope”, as presented in Figure 20, refers to the distance that the operator will protrude over the edge of the driveway, reducing the overall usable width of the driveway. This installation requires additional caution when driving into or out of the property to ensure that vehicles do not collide with the operator.

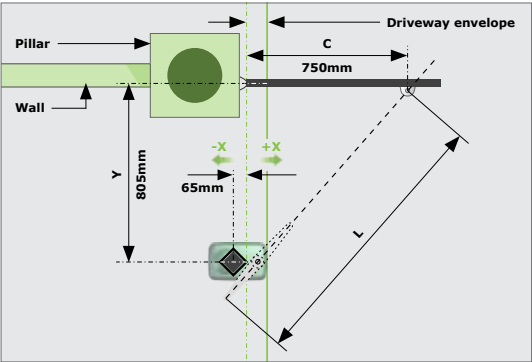


FIGURE 20



It is strongly recommended that the operator is installed perpendicular to the driveway, as shown in Figure 20. Installing it parallel to the driveway will significantly reduce the range of motion over which the gate can swing.

6.5. Wall Mount Pedestals (Gate Inward-Opening)

Step 1 - 3

To determine the gate opening angle and dimension "C" for positioning the Gate Bracket, refer to page 16 to 17 (steps 1-3).

Step 4

Affix the Gate Cracket to the gate using Dimension "C" from the hinge centre line, then mark "S4" on the ground using a plumb bob.

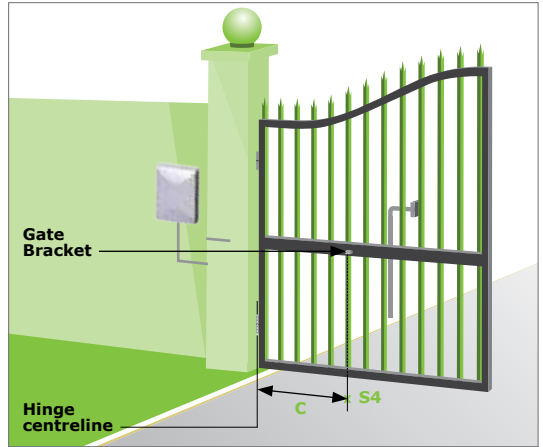


FIGURE 21. POSITIONING GATE BRACKET

Step 5

Mark point "S5" on the ground using a plumb bob.

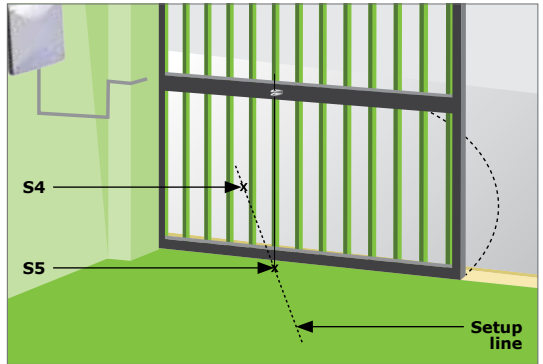


FIGURE 22. MARKING SETUP LINE

Step 6

Mark horizontal line shown on pillar 100mm below the top of the Gate Bracket.

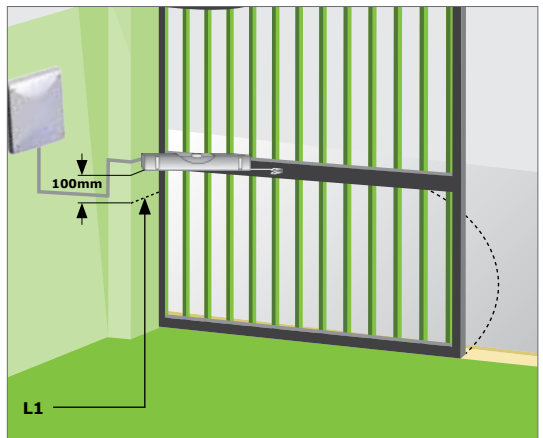


FIGURE 23. DETERMINE HEIGHT OF PEDESTAL

Step 7

Move the Wall Bracket left or right along line "L1" until the plumb bob is 60mm back from the setup line.

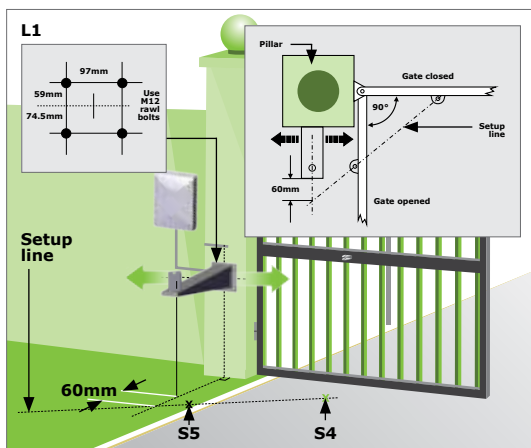


FIGURE 24. LOCATE PEDESTAL

Step 8

Install the cable and bolt the Wall Bracket to the wall using at least M12 rawl bolts.

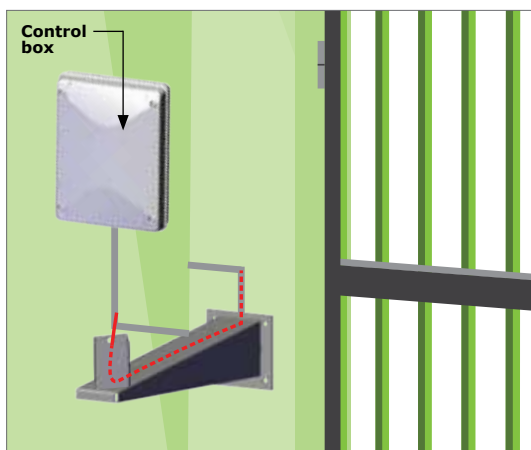


FIGURE 25. MOUNT PEDESTAL

Step 9

Bolt the Pedestal Adaptor onto the base of the Motor.

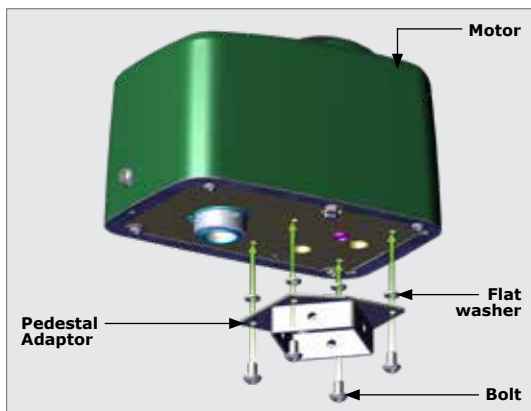


FIGURE 26

Step 10

Bolt the Pedestal Adaptor onto the Wall Mount.

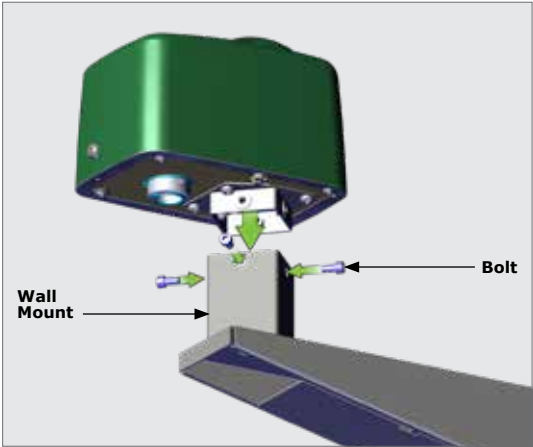


FIGURE 27

Step 11

Loosely fit the Drive Arm to the Connecting Arm so that it can be cut to the correct length once the Drive Arm and Connecting Arm are collinear and with the gate in the closed position. Ensure that the Connecting Arm has sufficient length within the connecting tube so that both cross-bolts can be used.

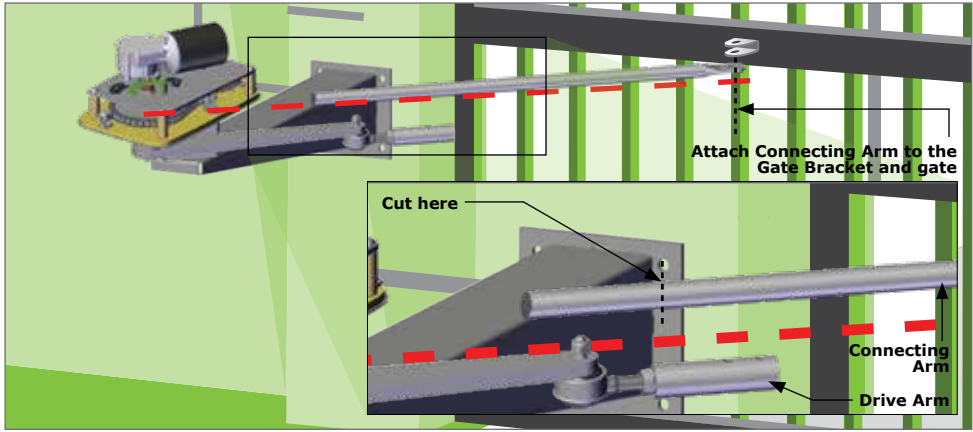


FIGURE 28

Step 12

Drill 2 x Ø8mm fixing holes in the Connecting Arm.



Holes bigger than Ø8mm will result in unwanted play in the Connecting Arm.

Step 13

Fit the Bolts and Nuts through the fixing holes in the Connecting Arm Adaptor and the Connecting Arm.

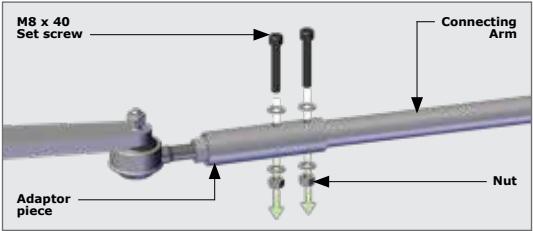


FIGURE 29

Step 14

Align the gate end-points.

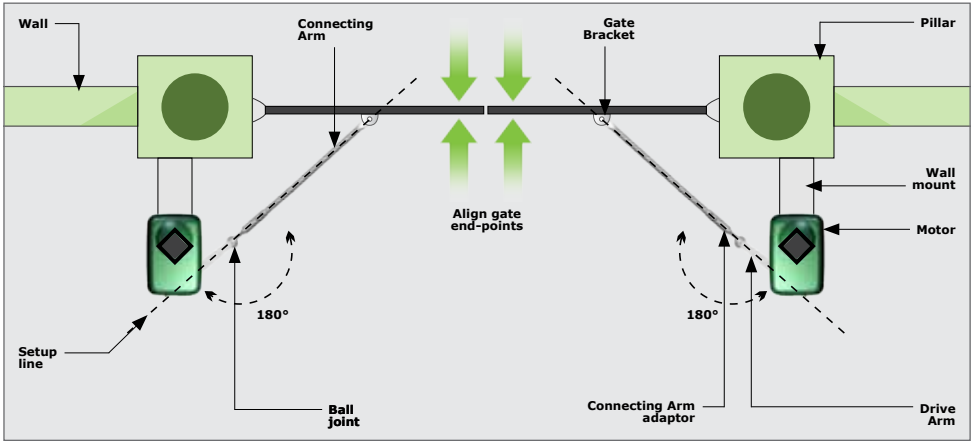


FIGURE 30

7. Electrical Connections

7.1. CP77 Controller

Double/single swing controller with multiple features.

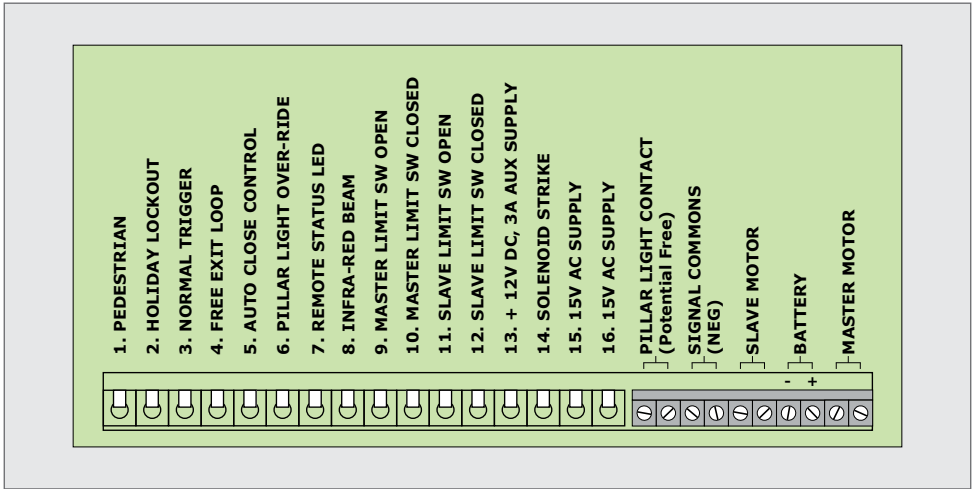


FIGURE 31

7.2. Motor and Limit Switch Connections



MOTOR FUSE RATING - 8A Slow Blow.

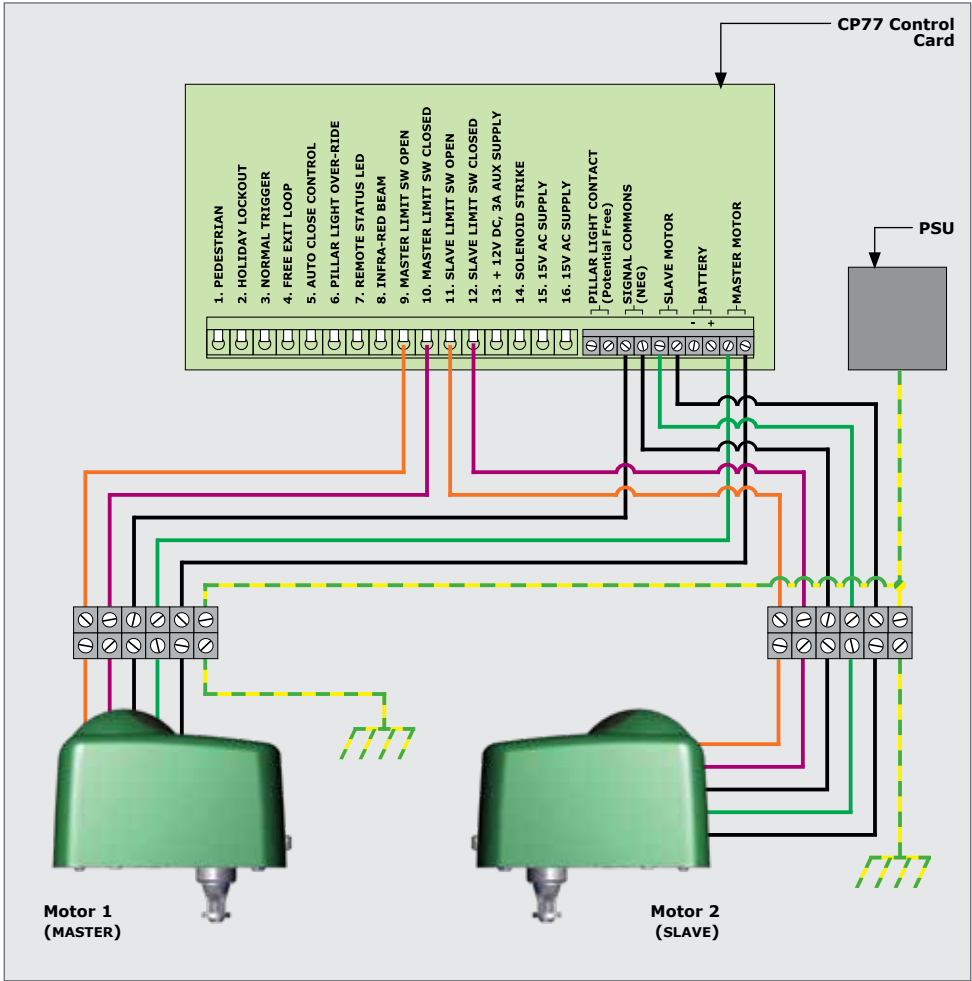


FIGURE 32. CP77

7.3. Radio Connections

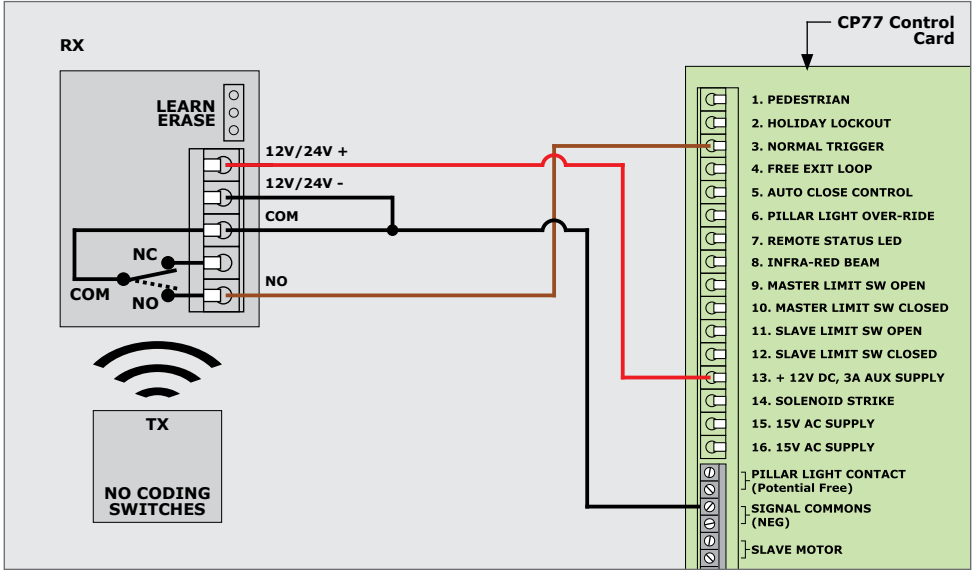


FIGURE 33. EXAMPLE 1

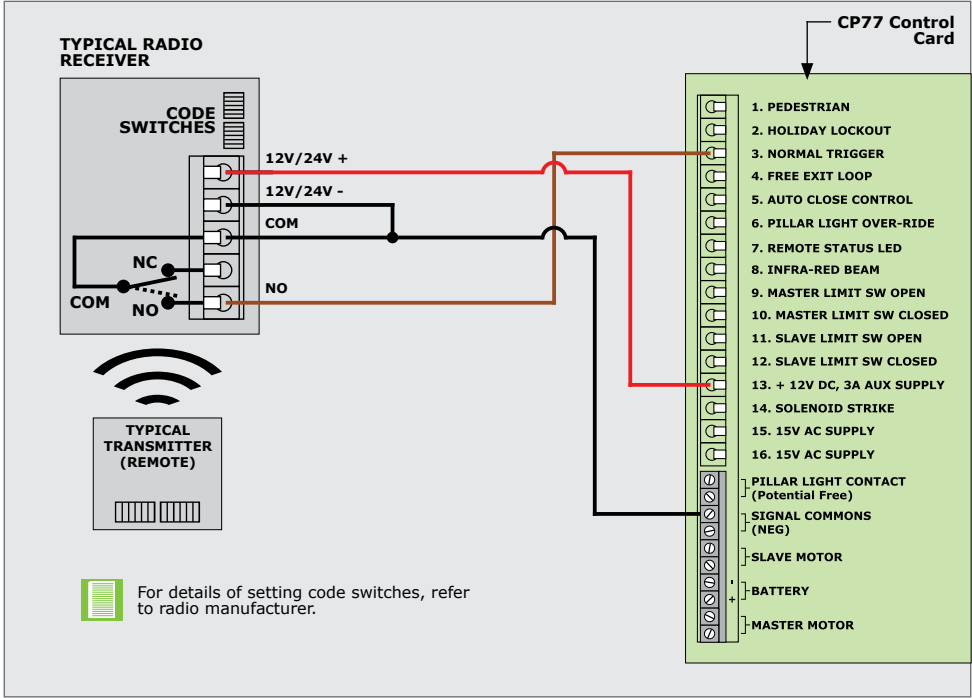


FIGURE 34. EXAMPLE 2

7.4. Intercom Connections



- Many different intercom types are available
- Only signals necessary to interface intercom to the CP77 controller are shown
- Consult intercom manufacturer for full wiring diagrams

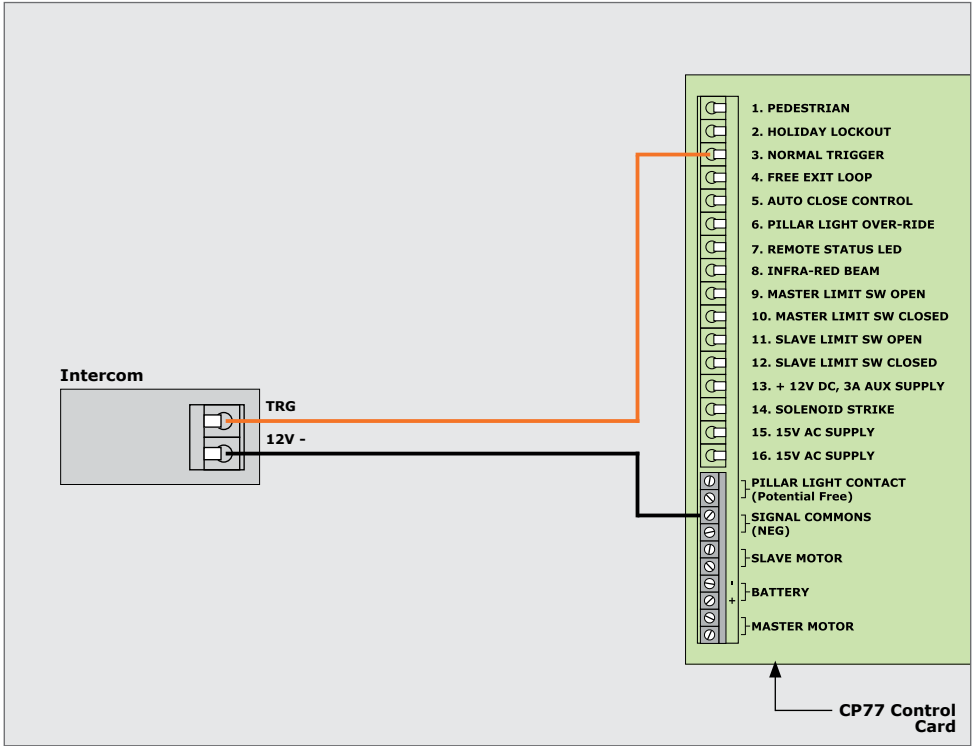


FIGURE 35

7.5. GLX900 Electronic Gate Lock / Solenoid Lock



A Solenoid lock is used typically on single- and double-swing gates.

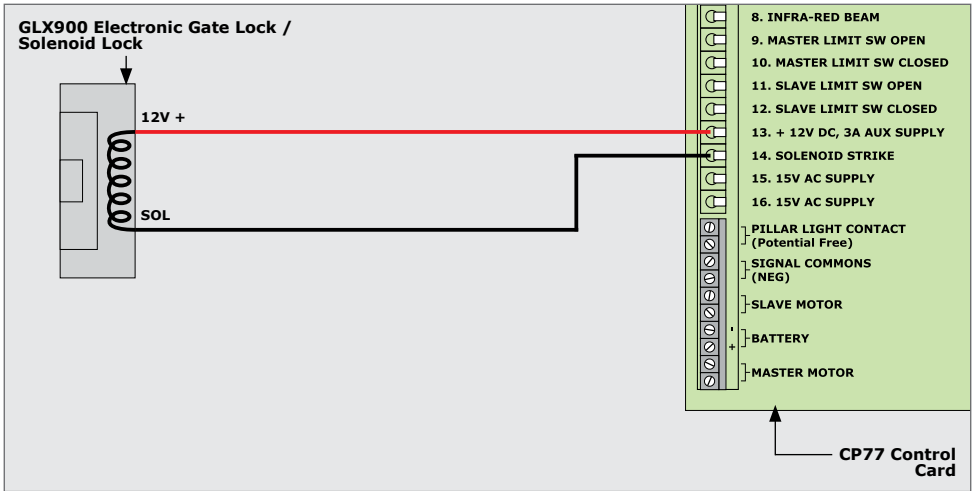
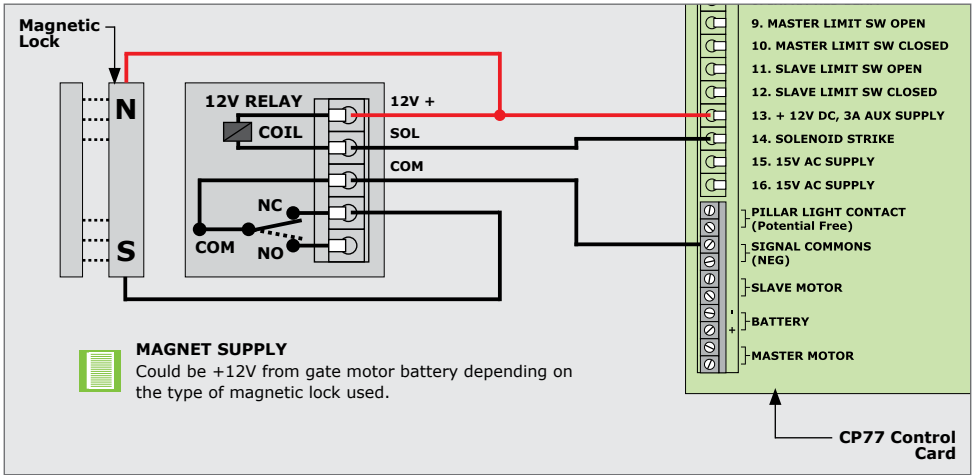


FIGURE 36. OPTION 1

7.6. Magnetic Lock



MAGNET SUPPLY

Could be +12V from gate motor battery depending on the type of magnetic lock used.

FIGURE 37. OPTION 2

7.7. Infrared Beams

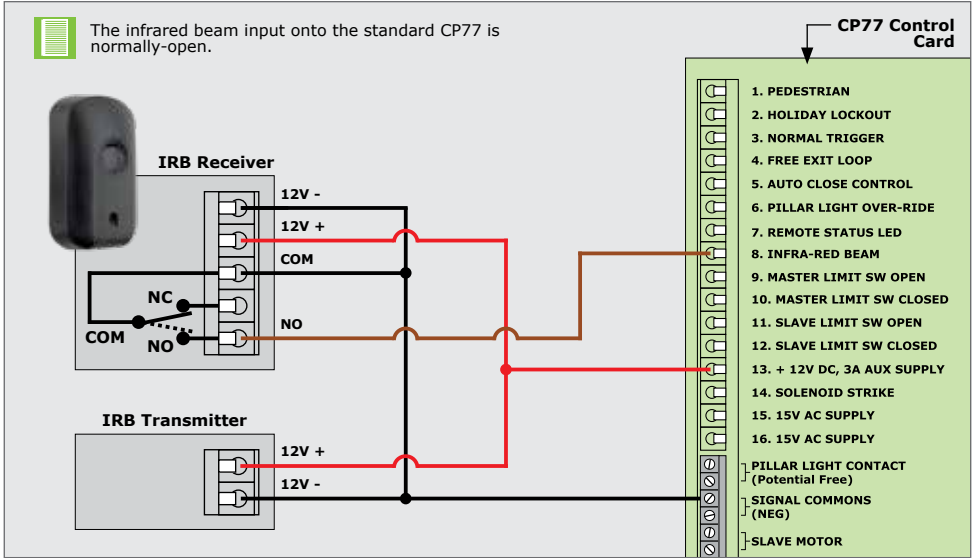


FIGURE 38

7.8. Closing Infrared Beams (Photon Infrared Beams)

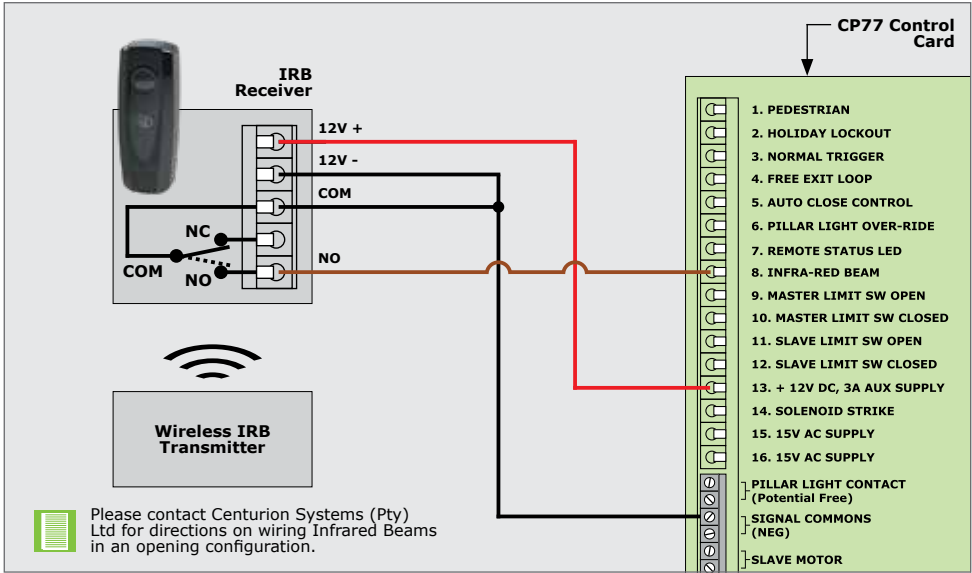


FIGURE 39

7.9. Pedestrian Keyswitch

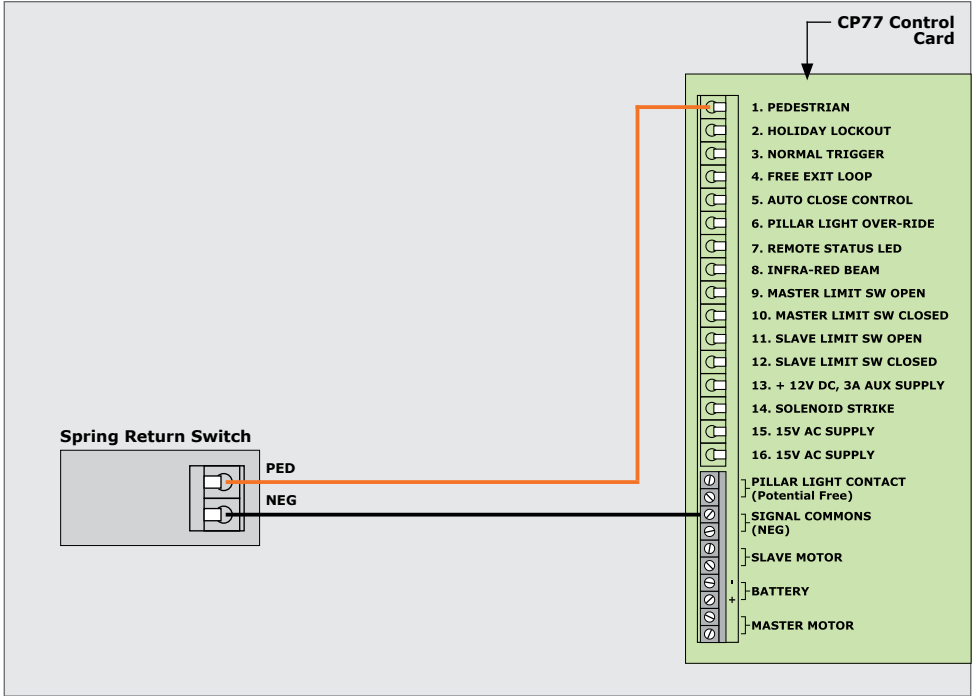


FIGURE 40

7.10. Holiday Lockout

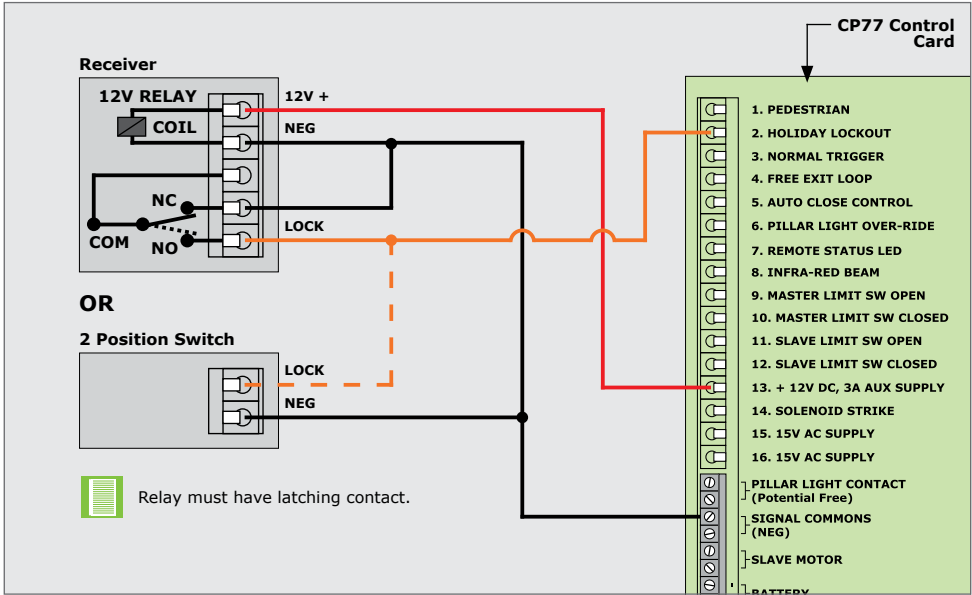


FIGURE 41

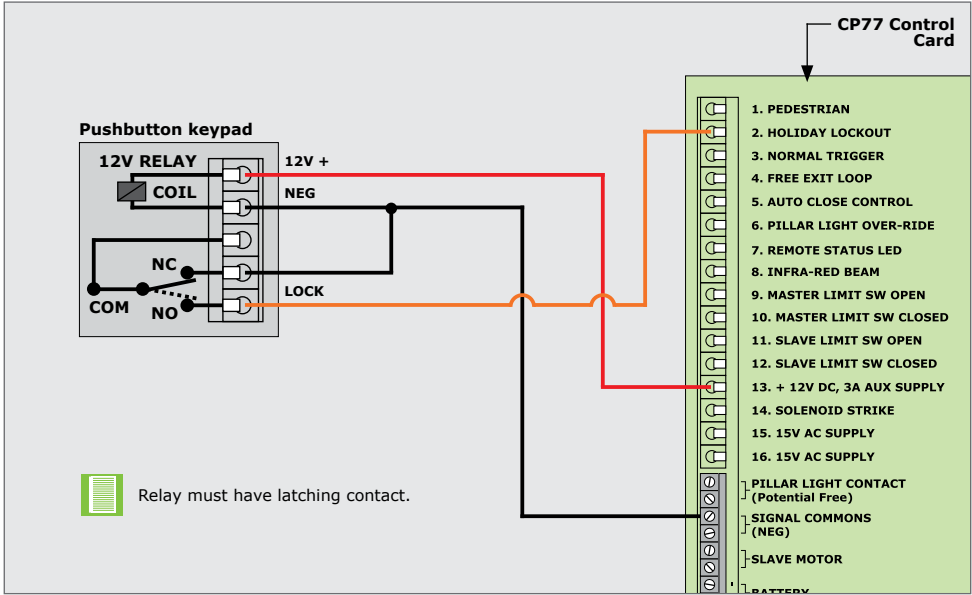


FIGURE 42

7.11. Free-Exit Loop

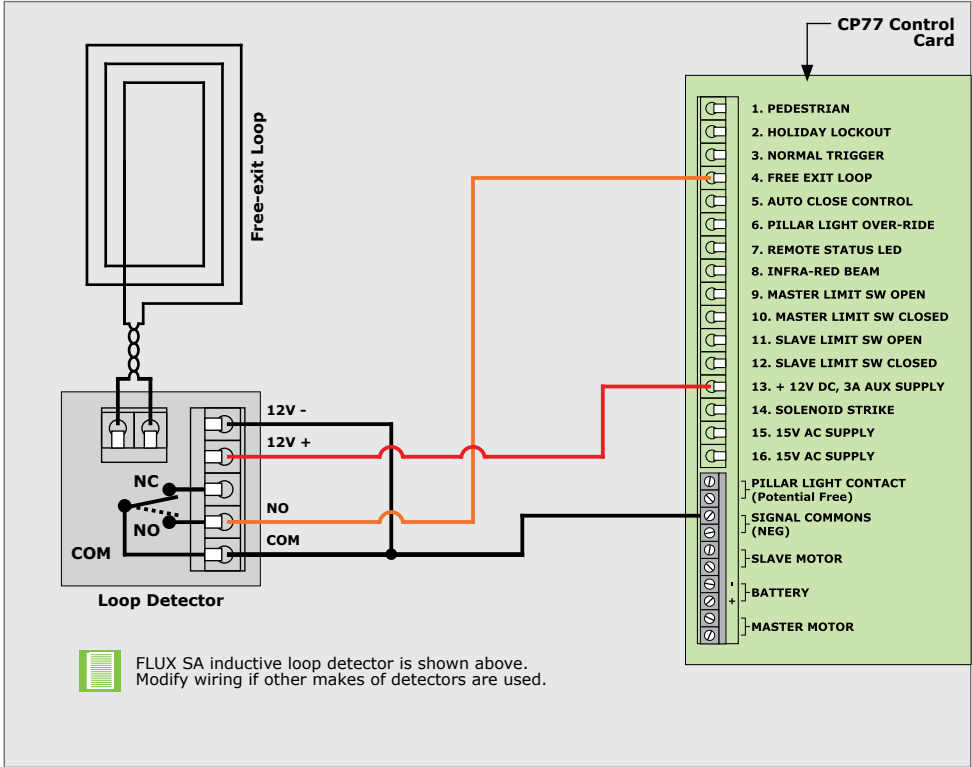


FIGURE 43

7.12. Remote Autoclose Switch

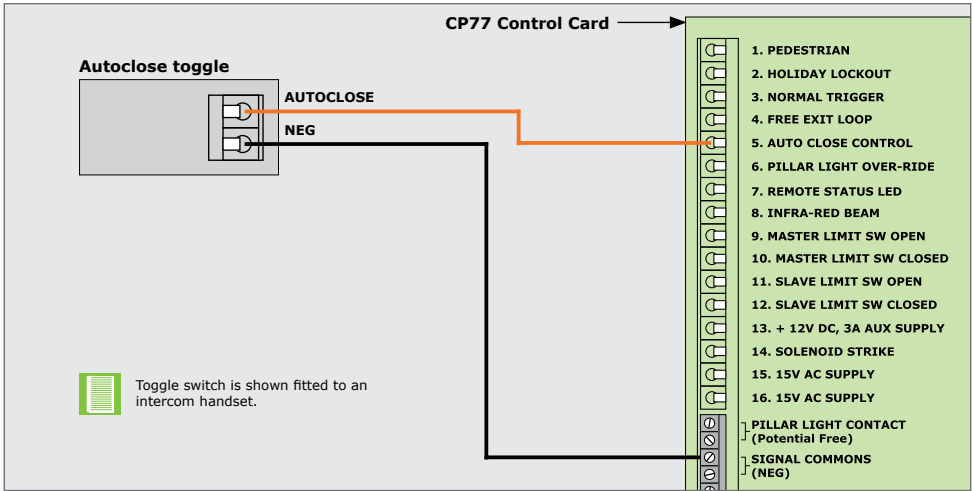


FIGURE 44

7.13. Status LED

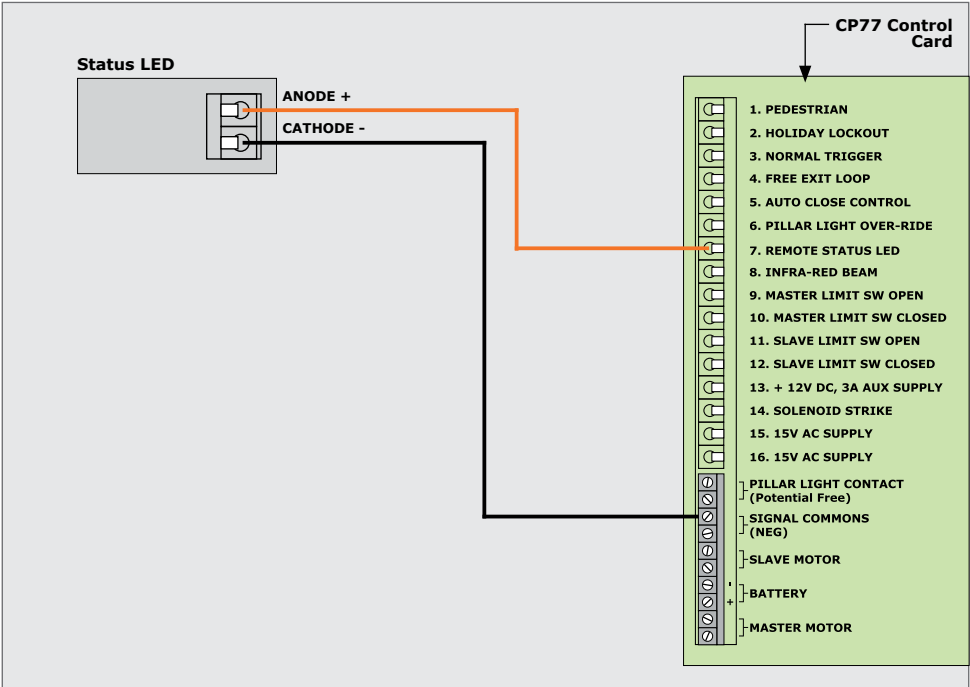


FIGURE 45

Gate Status	LED Indication
Mains Loss	2 flashes / 2 sec
Battery Low	3 flashes / 2 sec
Collision Detection	4 flashes / 2 sec
Gate Closed	Off
Gate Open	On
Gate Opening	Slow even flash
Gate Closing	Fast even flash

TABLE 7

7.14. Pillar Lights

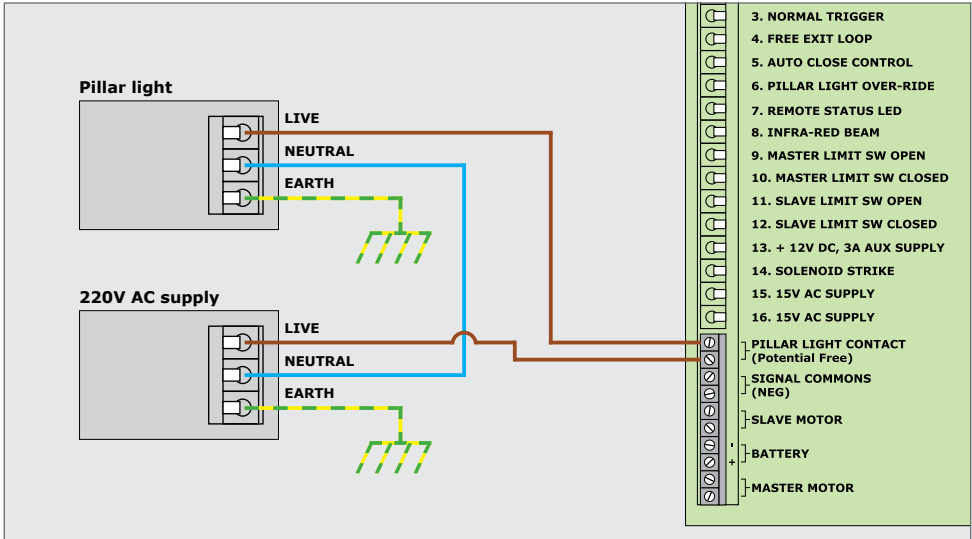


FIGURE 46

7.15. Remote Pillar Light Control

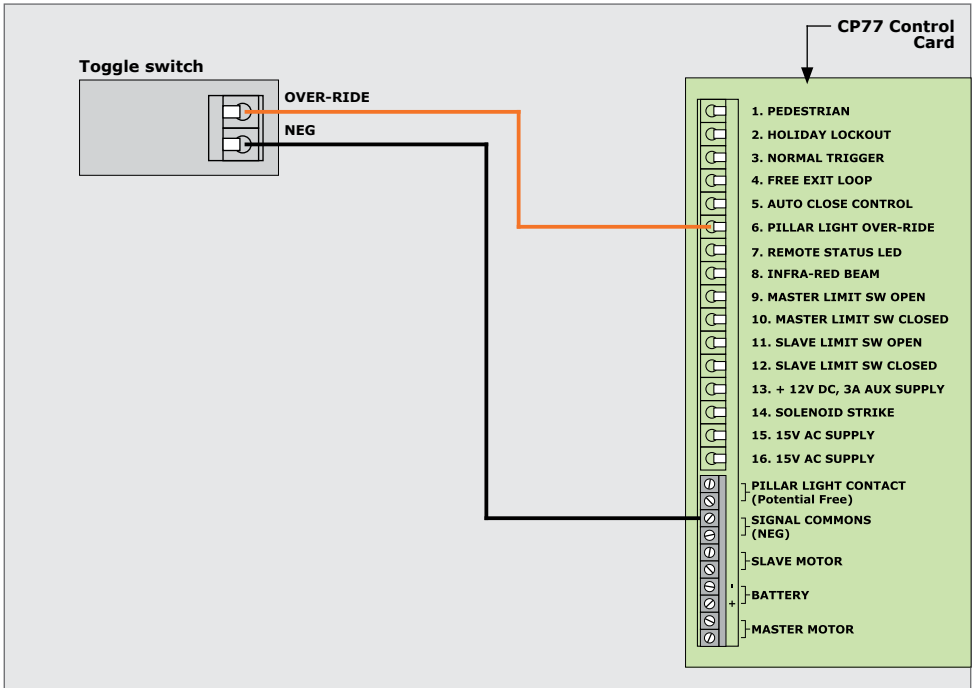


FIGURE 47

7.16. Battery Charger Transformer Supply

7.16.1. Option 1

Plug-in transformer in the residence.

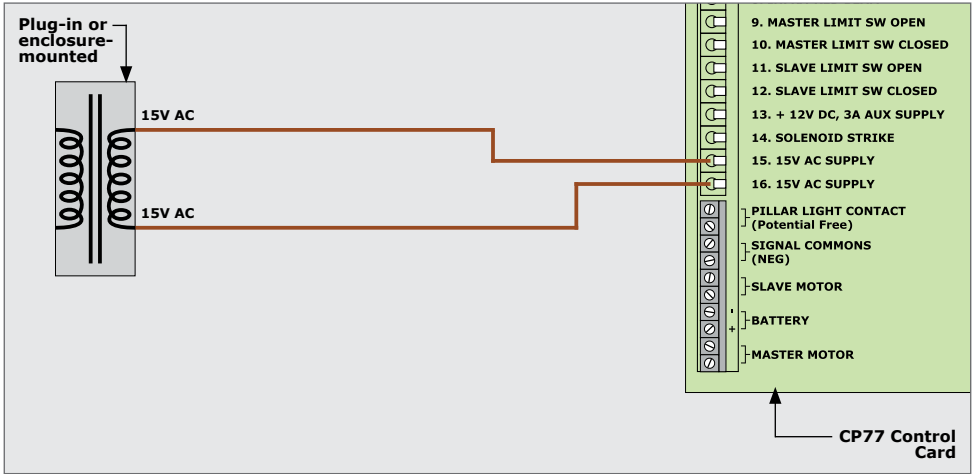


FIGURE 48. OPTION 1

7.16.2. Option 2

Enclosure-mounted charger transformer mounted at the gate.

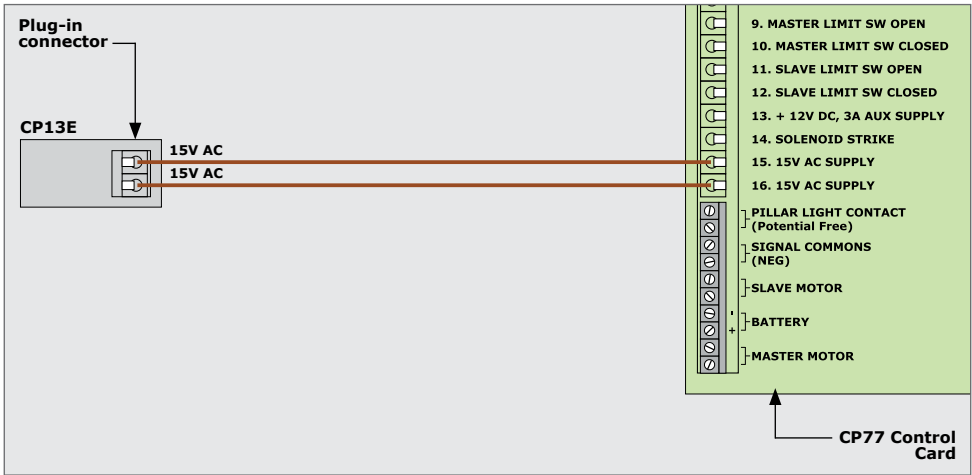


FIGURE 49. OPTION 2

7.17. Solar Panel

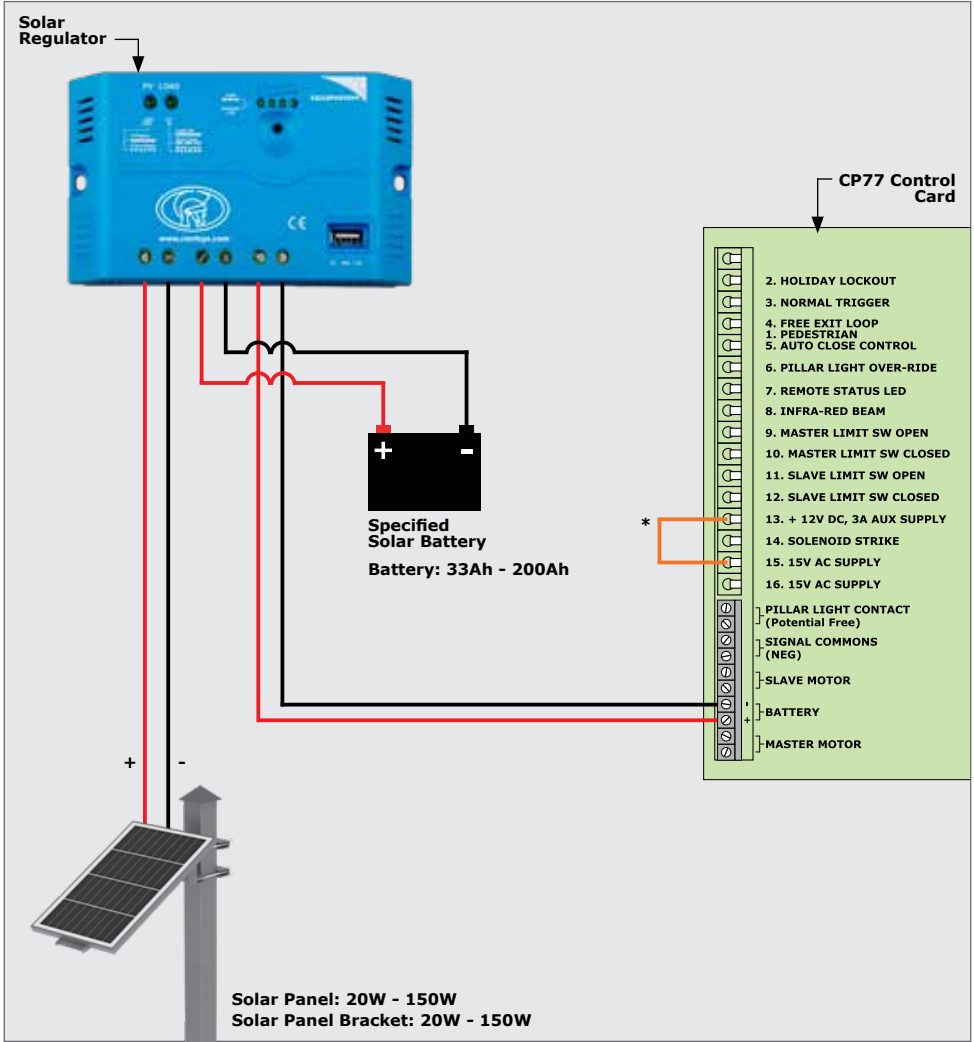


FIGURE 50

* In a Solar application if the **R6** statuses need to be monitored, the Mains Fail 2 Flash indication can be suppressed by linking the +12V DC output to one of the 15 V AC Supply inputs as indicated in the image.

Angle ¹	Location
30°	Johannesburg
40°	Gqeberha (Port Elizabeth) & East London
45°	Cape Town

TABLE 8

1. Solar Panels should be north-facing and tilted to these angles.

7.18. Light-Industrial and Industrial Harness Connection

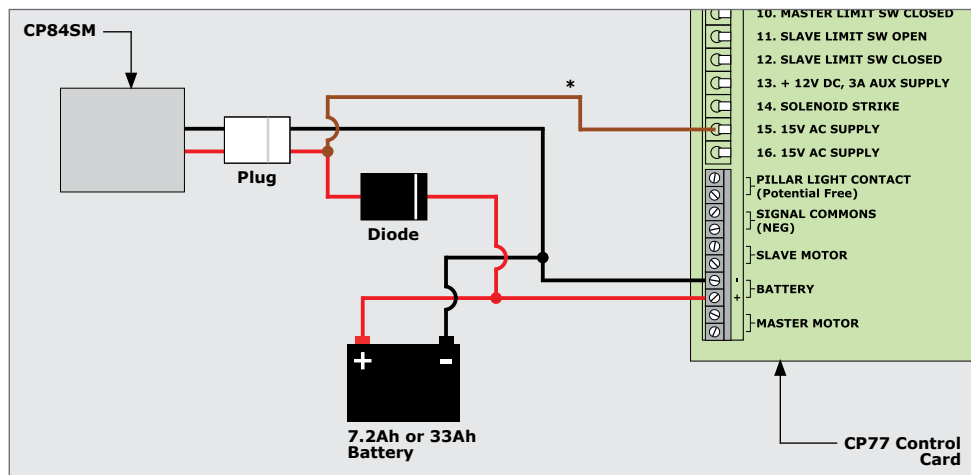


FIGURE 51

* If Mains Failure monitoring is required, please wire a link from before the Diode to one of the 15 V AC inputs.

Please ensure that connection is correctly insulated to ensure reliability.

If no Mains Failure monitoring is required but suppression of the 2 Flash Mains Fail indication is required, connect only 12V DC to 15V AC as indicated on page 40.

7.19. Earthing For Lightning Protection

- Earth system at the gate using a copper earth spike
- Ensure that system is connected to the local energy provider or main earth
- Cabling from earth rod to PSU must be as heavy as possible ($\pm 4\text{mm}$)

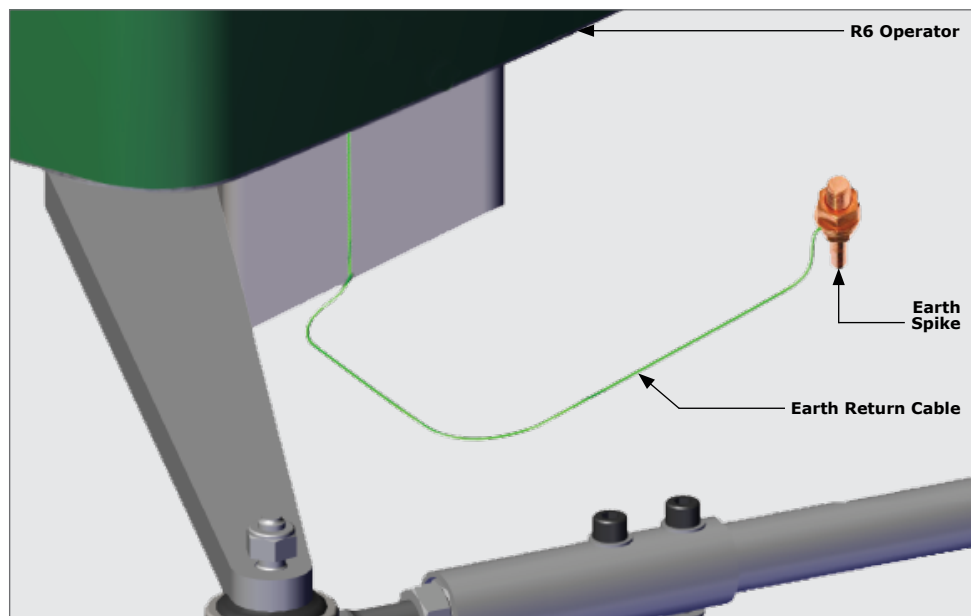


FIGURE 52

8. Commissioning

8.1. Control Card Setup

- Identify status LED, which will give information on gate status (e.g. whether gate should be open or closed)
- Select dipswitch settings to give required Mode of Operation (CP77 only)
- Select “Autoclose” if required (e.g. using sw1 on CP77)
- Set autoclose timer potentiometers to minimum initially and adjust time to suit after commissioning
- Set collision sensitivity potentiometers to mid-position (see page 46 for correct final adjustment)



Limit switch LEDs only on version 1.1 cards and above.

8.1.1. CP77 Controller

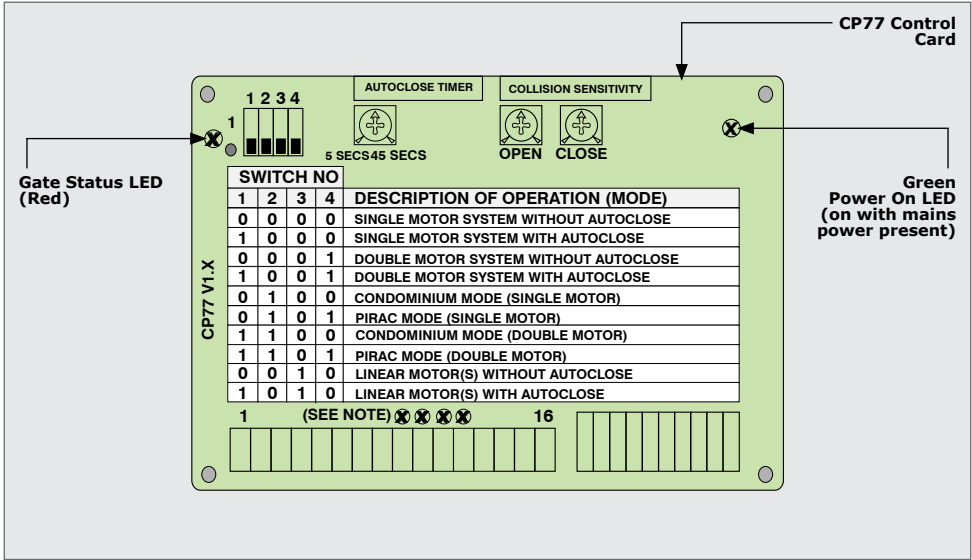


FIGURE 53. CP77

LED	GATE STATUS
LED Off	Gate Closed
LED On	Gate Open
Fast Flash	Closing
Slow Flash	Opening
2 Flash/2 Secs	Mains Failure
3 Flash/2 Secs	Battery Low

TABLE 9

8.2. Connecting the battery

Loosen or remove the Drive Arms then connect the battery.



If a large battery is used, the cables connecting the battery to the CP77 card should be between 6 & 10 mm² for cable lengths less than 5 metres. Centurion Systems (Pty) Ltd offers a specially made 2m long cable for this instance (Part number: WH1215M730).

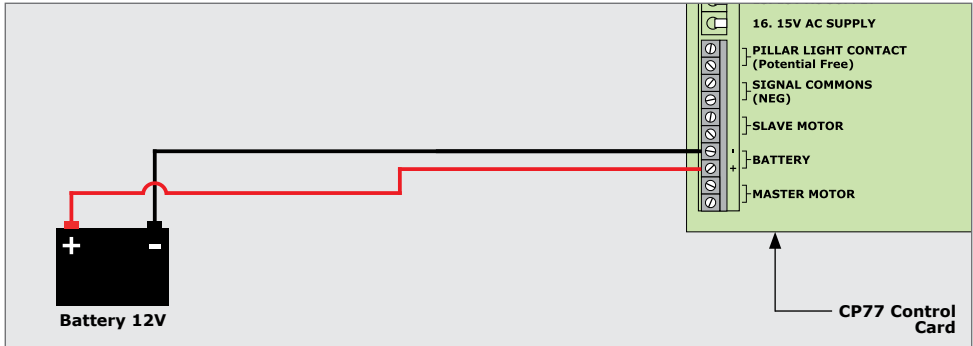


FIGURE 54

8.3. R6 Limit Setup

The open and closed limit system for the **R6 Swing** operator is comprised of two plastic limit arms and two limit switches. One Limit Arm and switch will be used for the gate open limit and one Limit Arm and switch will be used for the gate closed limit. Which switch will be the open limit and which will be the closed limit will depend on the orientation in which the operator is installed.

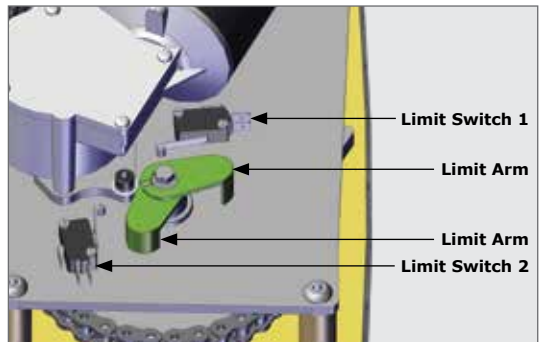


FIGURE 55

For maximum security when using an **R6 Swing** operator, the Drive Arm and Connecting Arm must be collinear (in a straight line) when the gate is in the closed position with the Connecting Arm attached to the gate. To ensure that this condition is met, the position of the Drive Arm will need to be rotated by connecting the motor directly to a battery.



Care must be taken when connecting the motor directly to a battery that the plastic arms do not come into contact with other components and break.

Ensure the gate is closed with the Connecting arm securely attached and with the Drive Arm and Connecting Arm collinear. With reference to Figure 56 and in an instance where the Drive Arm rotates anti-clockwise when the gate closes, Limit Switch 1 will be the closed limit.

To set the closed limit position, loosen the clamping bolt that is holding the plastic arms to the shaft and gently rotate the plastic arm until the switch clicks. The closed limit is now set and can be adjusted later.

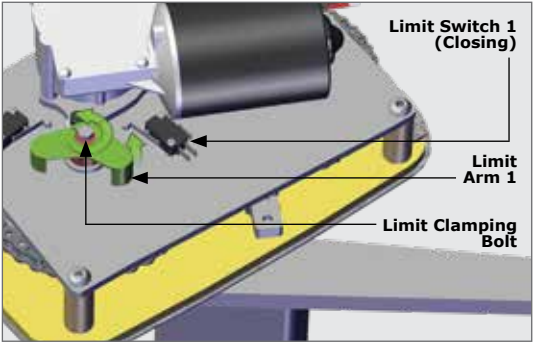


FIGURE 56

To set the open limit of the gate, the motor will need to be connected directly to a battery and the gate moved to the desired open position. Once again, take care that the plastic limit arms do not come into contact with other components of the operator. Rotate the second plastic arm until Limit Switch 2 clicks. The open limit has now been set and can be adjusted later.

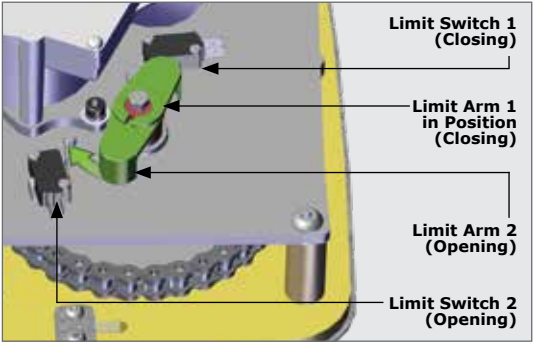


FIGURE 57

Gently tighten the fastener that clamps the plastic limit arms so that they are held in place.

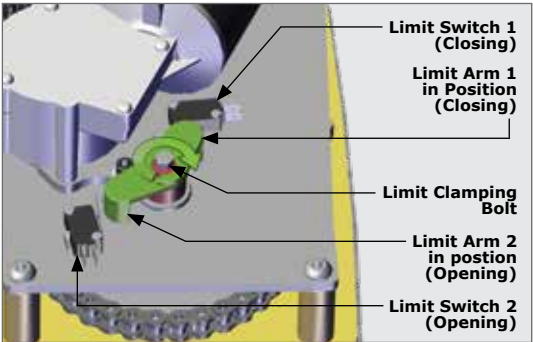


FIGURE 58

Fit the motor wires back into the terminal block and run a gate cycle using the CP77 control card. The open and closed limits may need to be finely adjusted in order to account for the ramp-up and ramp-down of the control card when triggered.

With reference to Figure 56 and in an instance where the Drive Arm rotates clockwise when the gate closes, Limit Switch 2 will be the closed limit and Limit Switch 1 will be the open limit. The user will need to swop the wiring of these two limit switches on the terminal block.

8.4. Collision Sensing Adjustment

Adjust the settings on the control card such that the gate(s) will open and close reliably, but not cause damage to persons or objects in the path of the gate.

Note the difference during closing (Figure 59) and opening (Figure 60) directions.



On closing, the Motor stops and reverses on hitting an obstruction.

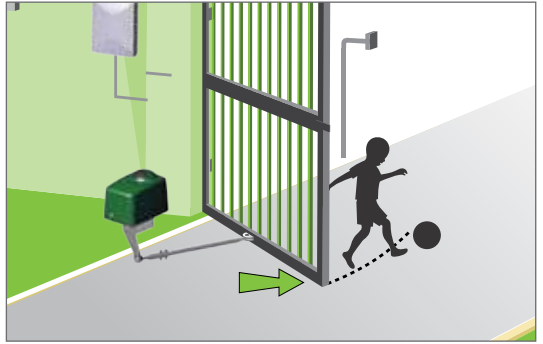


FIGURE 59. GATE CLOSING



On opening, the Motor stops (does not reverse) on hitting an obstruction.

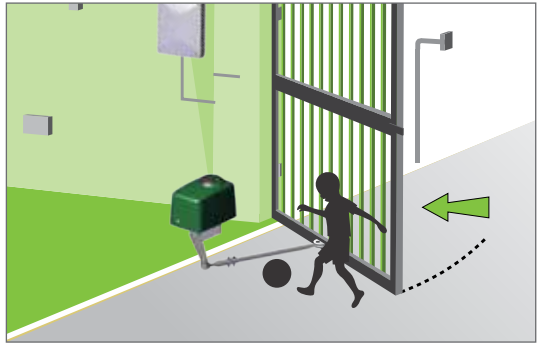


FIGURE 60. GATE OPENING

9. Installation Handover

Once the installation has been successfully completed and tested, it is important for the installer to explain the operation and safety requirements of the system.

NEVER ASSUME THE USER KNOWS HOW TO SAFELY OPERATE AN AUTOMATED GATE!

Even if the user has used one before, it does not mean they know how to SAFELY operate it. Make sure that the user fully understands the following safety requirements before finally handing over the site.

The following needs to be understood by the user:

- How to operate the gate manually
(Show them how by demonstration)
 - How the obstruction detection and all other safety features work
(Show them how by demonstration)
 - All the features and benefits of the Operator, i.e. Beams, etc
 - All the safety considerations associated with operating an automated gate. The user should be able to pass this knowledge on to all other users of the automated system and must be made aware of this responsibility
-
- Do not activate the Gate Operator unless you can see it and can determine that its area of travel is clear of people, pets, or other obstructions
 - DO NOT CROSS THE PATH OF A MOVING GATE. Always keep people, pets and objects away from a moving gate and its area of travel
 - NEVER LET CHILDREN OPERATE OR PLAY WITH THE GATE CONTROLS, and do not allow children or pets near the gate area
 - Avoid close proximity with moving parts where fingers, hands or clothing could be pinched and caught
 - Secure all easily-accessible gate operator controls in order to prevent unauthorised use of the gate
 - Keep the automated gate system properly maintained, and ensure that all working areas are free of debris and other objects that could affect the gate operation and safety
 - On a monthly basis, check the obstruction detection system and safety devices to ensure correct operation
 - All repair and service work to this product must be done by a suitably qualified person
 - This product was designed and built strictly for the use documented herein. Any other uses not included herein, could compromise the operating condition of the product and/or be a source of danger!



Centurion Systems (Pty) Ltd does not accept any liability caused by improper use of the product, or for use other than that for which the automated system was designed. **Ensure that the customer is in possession of the User Guide and that you have completed the installation details in the back of the User Guide.**

10. Warranty Information



You can register your product(s) online at www.centsys.com, which will assist you in keeping a record of your date of purchase or installation, serial numbers, etc.

All of our products are manufactured with extreme care, thoroughly inspected and tested.

The goods supplied by us shall be subject to the provisions of sections 55 to 57 of the Consumer Protection Act (68/2008) except where the provisions of the warranty contained in our product documentation are more favourable to the purchaser.

Subject to the warranty contained in our product documentation, if applicable, our products are warranted for a period of twenty-four months after delivery.

However, it is expressly noted that batteries carry a six month warranty due to the nature of these products being such that they are subject to possible misuse. Please note that warranties will be honoured on a carry-in basis; in other words, the product in question must be taken in to one of our branches, or to the authorised reseller that the product was purchased from, for assessment and, if necessary, repair. For equipment not of our manufacture, the warranty as supplied by the original manufacturer will apply if such warranty is more favourable to the purchaser than the relevant provisions of the Consumer Protection Act (Act 68/2008 of South Africa), or any other applicable law as so required in different countries in which the product was sold.

Such warranty is valid only once full payment has been received for such goods.

Australian customers:

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure

Any warranty may be voidable on any equipment which:

1. Has not been installed in accordance with the installation instructions provided.
2. Has been subject to misuse or which has been used for any purpose other than that designed for by the manufacturers.
3. Has damage caused as a result of handling during transit, atmospheric conditions (including lightning), corrosion of metal parts, insect infestation, power surges or other forces outside of the control of the manufacturer.
4. Has been repaired by any workshop and / or person NOT previously authorised by the manufacturer.
5. Has been repaired with components not previously tested, passed or authorised by Centurion Systems (Pty) Ltd, South Africa or one of its subsidiary companies.

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