



# SLG600 Installation Manual

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2 x Remotes

SLG600 Motor Unit

## Description

The SLG600 is a domestic grade sliding gate motor that is suitable for usage in residential areas.

A toothed rack fixed to the gate engages with a pinion on the motor. Drive is delivered through a worm drive gearbox. The gate cannot be moved while the gearbox is engaged. A key override disengages the motor from the drive pinion. Used in exceptional circumstances, such as power failure.

Two four button rolling code remotes are included. The 2<sup>nd</sup> button can open another gate. Up to 30 remotes can be registered. Optional photo beam is available to detect vehicles. Further safety devices may be added.

## Operation

Through input from remote or external control, the gate will open and close fully. The open and closed positions are determined by limit switches which act as 'skis' fitted to the rack. If the remote input is activated while the gate is running, it will stop, and conversely restart in the opposite direction upon next activation.

For safety, the gate slows at ends of travel. If the automatic close function is enabled, the gate will reclose after a delay.

If the photobeam is interrupted during closing, the gate stops then re-opens. The gate will stay open while the beam is interrupted. The motor has a stall sensor to detect physical blocks in the gate's path. If an obstacle is detected in either direction. The gate will stop and reverse direction.

## Safety Warnings



Automatic gates can be hazardous. It is the responsibility of the home owner to be aware of the risks and provide, adequate warning of hazards. Users should be given instruction on the safe use of the automatic gate.

This manual is written for engineers aware of construction criteria for automatic gates and accident prevention criteria in force in the automation industry. Only qualified persons may do installation or maintain work on this barrier that may change its risk assessment.

Turn off the power before working on the gate. We recommend signage to warn users and members of the public of risk of injury to pedestrians. Do not permit public access to the gate area. Do not use remotes when out of sight of the gate. Do not let children or untrained people use remotes.

## Specifications

<b>Power Supply (Vac)</b>	110V/220V~240V
<b>Max Gate Weight (KG)</b>	800
<b>Max Torque (Nm)</b>	22
<b>Rated Power (W)</b>	450
<b>Tooth Number of Gear</b>	15
<b>Overheat Protection (°C)</b>	120
<b>Protection Class</b>	IP44
<b>Speed (m/min)</b>	12
<b>Temperature (°C)</b>	-45~+65
<b>Noise (dB)</b>	≤56
<b>Certification</b>	CCC/CE

## Physical Protection

Gates must be of a robust construction to be automated without attendance. Wheels on which the gate roll must be free running and well maintained on clean level ground tracks. Support rollers must be adjusted and maintained for smooth operation. Gates must have physical stops at both ends to prevent derailment hazards.

Cables must be sufficiently protected against abrasion that could lead to a hazard due to exposure of electrical conductors. Electrical supplies must be protected by an earth leakage device. There must be a disconnect switch outside the gate area.

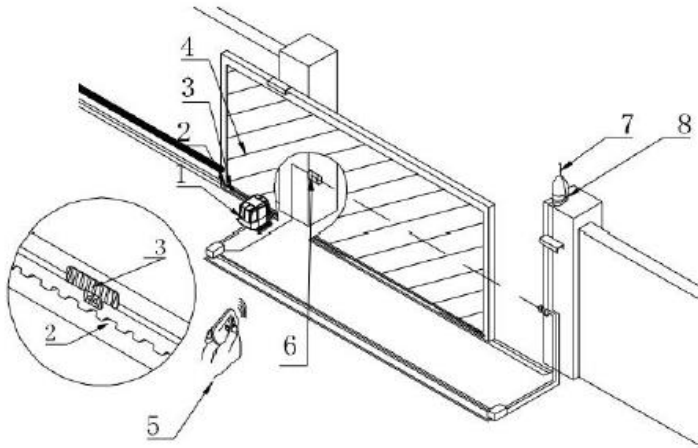
'Automatic gate' signs are required on both sides of the gate warning against risk of contact injury. A pedestrian side gate is preferred for regular pedestrian access.

## Physical Protection

It is the site owner or manager's responsibility to ensure that only trained people operate the gate, and ensure all operators are aware of gate hazards. Operators must take responsibility for the safety of any person within the hazard area. Never let children play near gates in motion.

Keep the gate area clear of objects. Examine the gate for imbalance or signs of wear. Have gate properly maintained and repaired by qualified personnel when necessary.

Manufacturers are not responsible for injury resulting from failure to meet the requirements in this manual. An adequate clearance must be provided around the gate to prevent entrapment.



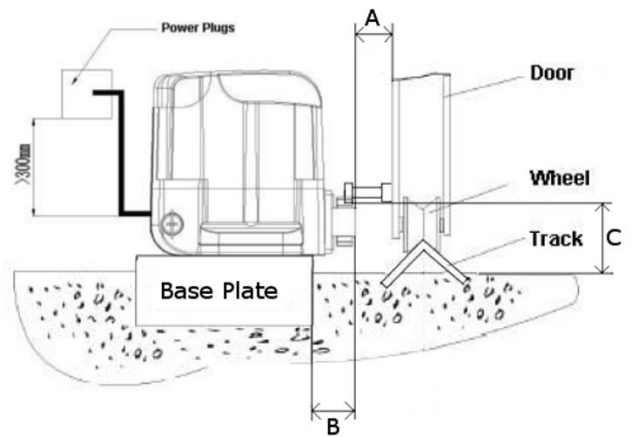
- 1. Motor
- 2. Rack
- 3. Limit switch bracket
- 4. Sliding gate
- 5. Transmitter
- 6. Infrared sensor
- 7. Antenna
- 8. Flashing light

## Mechanical

Gates must be level and free running on a ground track, or on cantilever gate bearings. It is usual to support the gate at the top with nylon rollers. Two gates mounted on the same track may slide from each side of an opening to meet in the centre.

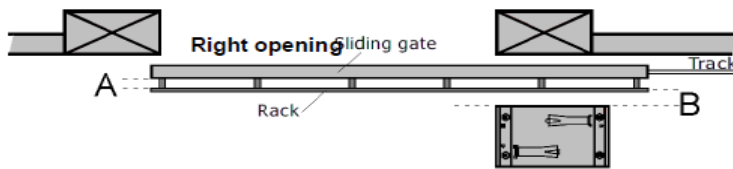
The motor's steel base plate is set in concrete at the same time as the gate track. Their relative height will depend on the size of the gate wheel used, typically 80 – 100mm diameter.

The motor can be packed higher to meet the rack if required. The toothed rack normally has slotted mounting holes to allow accurate adjustment.



## Alignment Dimensions

- A Allow 25mm from the face of the gate to the back of the toothed rack
- B Allow 30mm from the centre of the toothed rack to the edge of the base plate
- C Allow a min 92mm from underside of the base plate to bottom of toothed rack



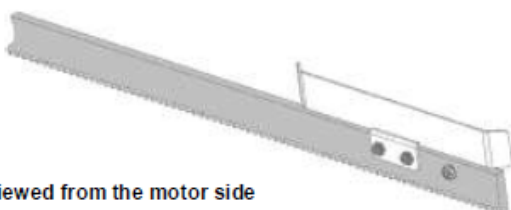
For wheels bigger than 100mm diameter, it may be necessary to cast the base plate into a raised concrete plinth. If not, the base plate can be bolted to a ground level concrete pad incorporating the ground track. We recommend fixing studding with resin because the motor's high shear force and vibration is inclined to loosen expansion bolts. Always use washers and self-locking nuts.

## Mounting the Motor & Rack

Slotted holes in the motor base allow some adjustment. Mount the motor square to the gate with the rack central to the pinion.

The toothed rack is best fitted using the motor pinion to set the height. Make the fixing near the motor, then slide the gate along to set next fixing height. Allow a 2mm gap between rack and pinion to reduce drag and wear. This can be done by packing the motor up by 2mm, then remove the packing later.

Skis are brackets bolted to the toothed rack to strike the motor limit switches. Slide the gate to the open position. Set the ski so that it bends the spring. Repeat for the closed position. Final adjustment can be made when motor is running.



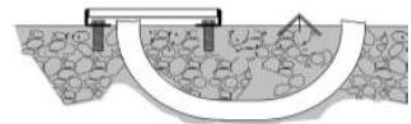
Skis fixing viewed from the motor side

## Ducts & Cabling

When casting the foundations, be sure to provide one or more cable ducts to the underside of the motor base. It will not be possible to run cables above the gate's ground track. While installing the ground track, it is useful to run another duct or direct burial cable under the track to the opposite gate post.

Align the ducts with the fifth hole in the base plate. Cables will be required for mains supply, photo beams and any access control devices, for example an intercom. The motor has two cable glands in the base for the cables.

At minimum, you will need a low voltage cable to each gate post, and a mains supply to the motor base. The cable type will depend on the duct standard. An eight core outdoor grade alarm cable is adequate. More than one device at the same location can be run from one cable using the universal wiring scheme.



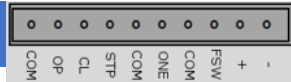
Device	Rating
Photo-beam on near post	1 core + Gnd
Photo-beam on far post	3 core + Gnd
Mains supply	2 core + Earth, typ. 1.5mm <sup>2</sup>
24V lamp output	2 core, typ. 0.5mm
240Vac lamp	2 core + Earth, typ. 0.75mm <sup>2</sup>
intercom	4 core + Gnd.

## 1. Quick Setup

Motor must be engaged with the rack and skis set for correct travel.

1. Set all DIP switches down. Set DIP switches 4 & 5 to **ON**.
2. Connect Mains supply to **L & N** terminal and suitable **Earth**.
3. Put gate in fully closed position. Make sure ski is engaging the spring switch.
4. Hold down **F** button for **5 secs** until motor starts to open gate.
5. Gate will open completely, stop, then close completely. Once gate has completely closed, programming is complete.
6. Test gate travel using **F** button to open/close gate.
7. Refer to section "**8. Set Gate Direction**" to set correct gate direction.

## 2. Connections



Control connections are made at the top of the PCB on a 10 way plug-in screw terminal connector.

Terminal	Function	Description
OP	Open	N/O contact. Opens gate.
CL	Close	N/O contact. Closes gate.
STP	Stop	N/C contact. Stops gate operation.
ONE	Step-by-Step	N/O Button input. O/S/C
FSW	Safety input	N/O Contact, re-opens while closing. Returns to COM terminal
+/-	Accessories Power Supply	Constant 24Vac supply
Com	Ground	Common to all I/O

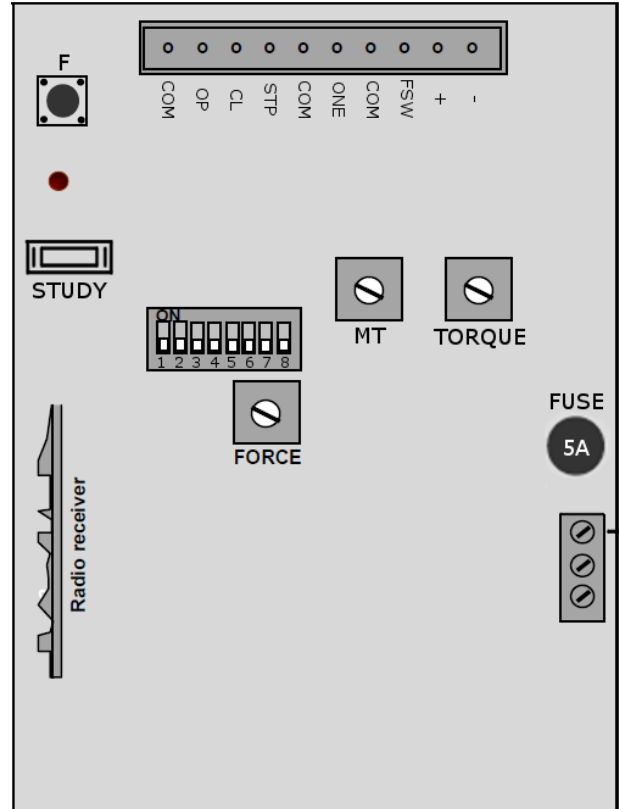
The power board is on top of the transformer. Connect an RCD protected mains supply run in external grade cable. Refer to example wiring page for more information.

Terminal	Description
220V	Mains supply. Fused with T2.5A on the board
AC Lamp	The lamp output ON while the motor is in motion. Use a mains rated cable. Optional
Accessories	10 Port Plug-in Terminal

## 3. DIP Switches



	OFF (Down)	ON (Up)
<b>DIP1</b>	3 Button Control	1 Button Control
<b>DIP2</b>	Remote Lock – OFF	Remote Lock – ON
<b>DIP3</b>	Auto Close - OFF	Auto Close - ON
<b>DIP4</b>	Soft Start/Stop - OFF	Soft Start/Stop - ON
<b>DIP5</b>	Max. Torque - OFF	Max. Torque @ Open/Close
<b>DIP6</b>	Setting – OFF	Setting - ON
<b>DIP7</b>	Limits Switches – N/C	Limits Switches – N/O (Default)
<b>DIP8</b>	Gate Closes to Right	Gate Closes to Left



## 4. Adjustments

Adjustments set the safe running of the gate. Follow the order below. On completion additional controls and safety devices can be wired in without the need to re-adjust.

**DIP switches:** Typical setting: DIP4, DIP5 and DIP7 to ON. All other DIP set to down.

**Force:** Regulates the maximum force applied by the motor before obstacle detection kicks in. Set it high enough to move the gate reliably, but not much more. The finer it is set, the more sensitive to reversal.

## 5. Remotes

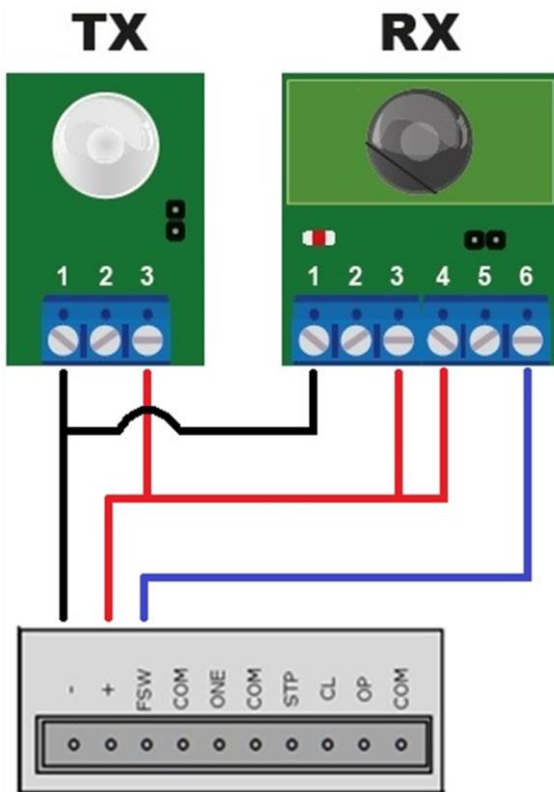
Each remote button must be programmed individually. Up to 30 remotes can be programmed in.

Full opening. Press STUDY button for 1 second until LED lights up. Press and hold the new remote button. LED will flash and beep can be heard.

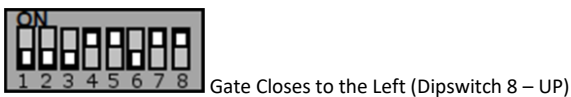
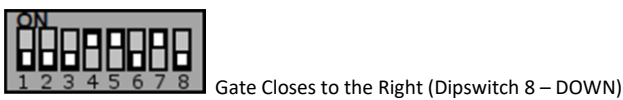
## 6. Universal Wiring Scheme

Terminal	Function	Description
OP	Open	N/O contact. Opens gate.
CL	Close	N/O contact. Closes gate.
STP	Stop	N/C contact. Stops gate operation.
ONE	Step-by-Step	N/O Button input. O/S/C
FSW	Safety input	N/O Contact, re-opens while closing. Returns to COM terminal
+/-	Accessories Power Supply	Constant 24Vac supply
Com	Ground	Common to all I/O

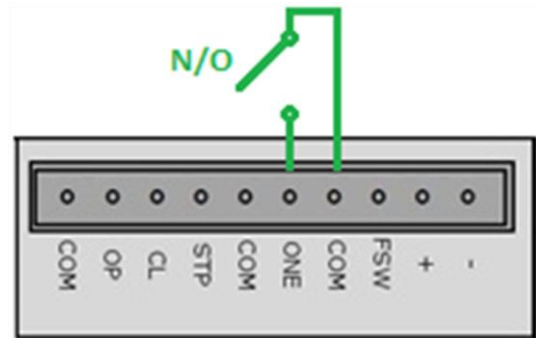
## 7. SGGZ2E Photobeam (single set)



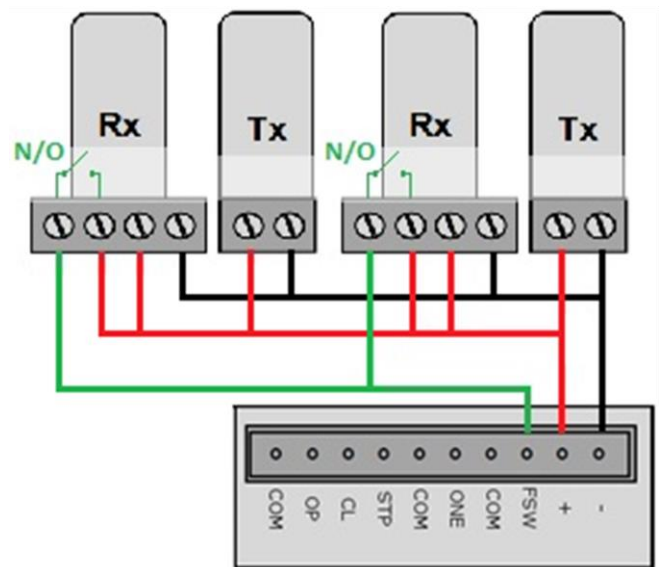
## 8. Set Gate Direction



## 9. Intercom



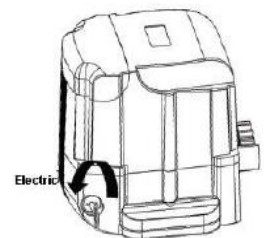
## 10. SGGZ2E Photobeam (double set)



## 11. Emergency Release

In the case of power failure: insert the release key and rotate clockwise to disengage the clutch. This will allow the gate to be opened or closed manually.

**Note: engage the clutch when normal operation is resumable.**



### WARRANTY

1-year return to base warranty covers defective manufacture and material. The warranty does not cover accidental damage, misuse or abnormal wear. Warranty is conditional on good installation, maintenance and service recommended in this manual. Warranty is void if subject to unauthorised modification or repair, or abnormal input voltage. This does not affect your statutory rights.

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