ELSEMA iS2000/iS3000 High Speed Sliding Gate Opener User Manual

ELSEMA INTELLIGENT SLIDER®

HIGH-SPEED SLIDING GATE OPENER
Model: iS2000/iS3000

Eclipse® Operating System

Elsema's Eclipse® Control Card
USER MANUAL

Contents

Safety Precautions

WARNING! FAILURE TO FOLLOW THESE SAFETY PRECAUTIONS AND INSTALLATION INSTRUCTIONS COULD RESULT IN INJURY OR DEATH AND/OR DAMAGE TO PROPERTY AND EQUIPMENT.

- Appropriately licensed and competent personnel only should install the automation equipment.
- The operators are designed specifically to open and close sliding gates or doors and should not be used for any other purpose.
- Before commencing installation, read through this installation manual.
- Check that the operator and controls are in new condition and have not been damaged in transit.
- Check the gate or door and its associated support posts and walls to protect against shearing, compression, and other various traps which could cause serious injury or death. Take into consideration the general installation and surrounding environment.
- Check the gateposts or mounting structure has the necessary strength and rigidity to support the operator and the load of the opening and closing gate motion.

Always incorporate the appropriate Photo Electric Cells, Safety Bump Strip, Induction Loops, and other safety devices to protect both equipment and personnel. Elsema Pty Ltd recommends a Photoelectric Beam to be installed and operational when any of the Auto Close options are used.

- Display any necessary signs to indicate any dangerous areas and automatic operation of the gate or door.
- The operators are not designed to be used in any hazardous areas or areas subject to flooding etc.
- All electrical connections and wiring must be performed with AS/NZS 3000-2018 as the guidelines. (Or its counterpart for other countries outside of Australia and New Zealand)

WARNING! ELECTRICITY CAN KILL

- The manufacturer of the automation equipment is not responsible for the damage which may be caused to either the operator, gate or door and any other person or equipment when: –
  • Wrong or poor installation practices were performed.
  • No or inadequate safety devices were used.
  • Either the surrounding structure or the gate or door strength and rigidity were not sufficient for the task at hand.
  • Inefficient locking devices were employed.
  • Poor maintenance on the equipment.
  • Any other circumstances beyond the manufacturer's control.
- Isolate power before attempting any maintenance, qualified personnel only to carry out maintenance
- Only original spare parts are to be used should there be a requirement for them.
- Keep loose clothing and hands clear of the gate whilst in operation or potentially able to be operated.
- The installer should provide all information concerning the use of the automation equipment as well as instructions regarding the manual override and maintenance procedures to the users of the system.

Wiring Requirements

- Single phase 240v 10A non-earth leakage protected power supply to where the operator is mounted.
  ***This is required because inverter VSD drive units inherently allow an earth leakage current to flow. This current is minimal but a non-RCD protected circuit must be installed and the method of installation is done so in accordance with AS/NZS 3000:2018 to comply.**
  A connection made to an earth leakage protected circuit may cause nuisance tripping.
- Extra Low Voltage cables from the operator for access control. (Shielded cable if over 8m runs).

Installation Details

After reading the previous sections in this manual, and having checked for suitable installation, proceed as follows:-

Electrical Cabling

- A suitably rated Isolator and 240v power supply should be available near where the gate operator is to be mounted. The following diagrams will provide measurements for the positioning of conduits and the appropriate position for mounting the operator.
- **When bringing power and control cables into the control enclosure inside the operator, please leave enough slack in the cables, in this way, the enclosure can still be lifted in order to see and work on the controls easier. To lift up the control enclosure, undo the wing nut on the right-hand side, once lifted up, re-tighten the nut to keep the enclosure in upwards position, once finished, undo the nut, drop the enclosure back down, then re-tighten the wing nut.**

Mechanical Installation

- Ensure gate rolls easily and has been installed in a manner where there is no excessive friction or binding

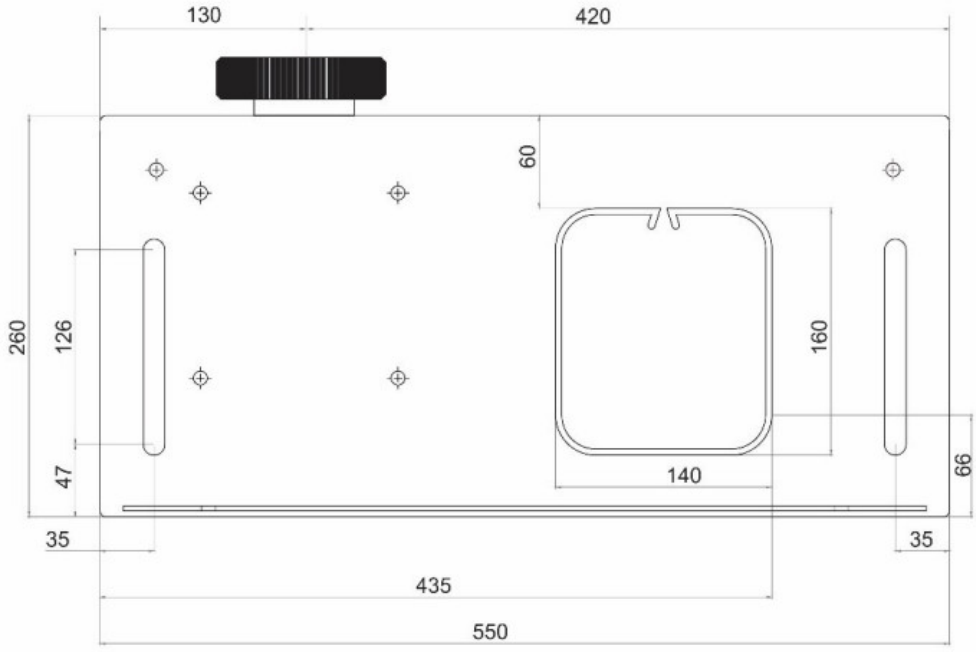
occurring.

- A concrete base approximately 600mm long x 300 wide x 300mm deep should be laid where the gate operator is to be located.
- **IMPORTANT** ensure there are gate stops firmly installed in the fully open and closed positions. These stops need to be engineered and installed such that they will be strong enough to stop the gate should the limits fail at any time.
- Remove the gate operator cover and position mounting plate and operator in approximate mounting
- Use the rack to locate the operator the correct distance away from the gate rail (finer adjustment can be made after).
- Dynabolt or chemical anchor the bottom mounting plate to the concrete mounting pad using 12 x 100mm fixings.
- Unscrew anticlockwise the manual release knob so the drive gear freewheels.
- Fix the rack to the gate rail ensuring there is approximately a 1mm – 2mm gap between the meshing of the teeth of the rack and the drive gear (no more). Move the gate by hand from one end to the other while checking that the rack is meshing correctly with the drive gear on the operator. Check also that the rack is centered around the middle of the teeth on the drive cog — tighten the mounting plate nuts.

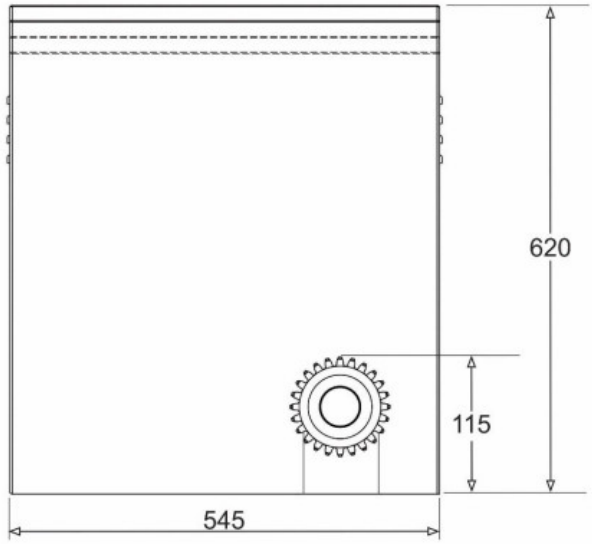
Electrical Connections

- Connect a non-earth leakage protected 10A 240v supply to Din Rail terminals labeled A & N, Connect earth to the earth Din Rail
- Conduits for power & control need to preferably come up through the base plate ‘knockout’.

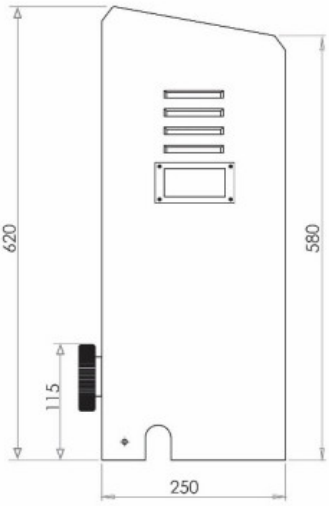
Plan View Layout/Conduit Position



Plan View



Back View



Side View

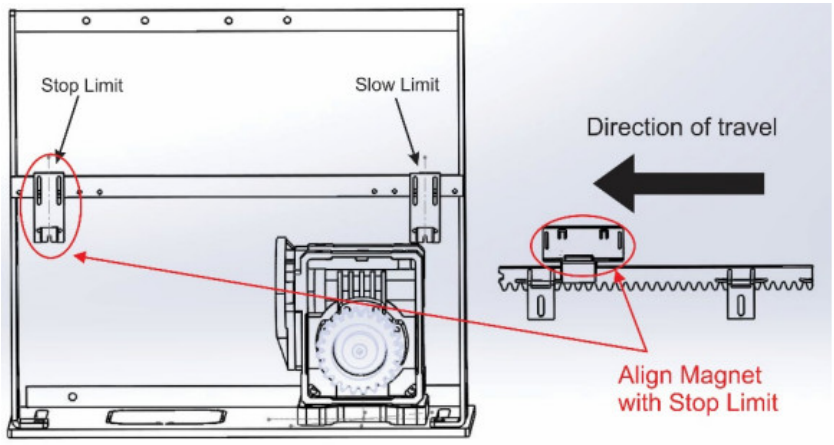
Quick Start Instructions

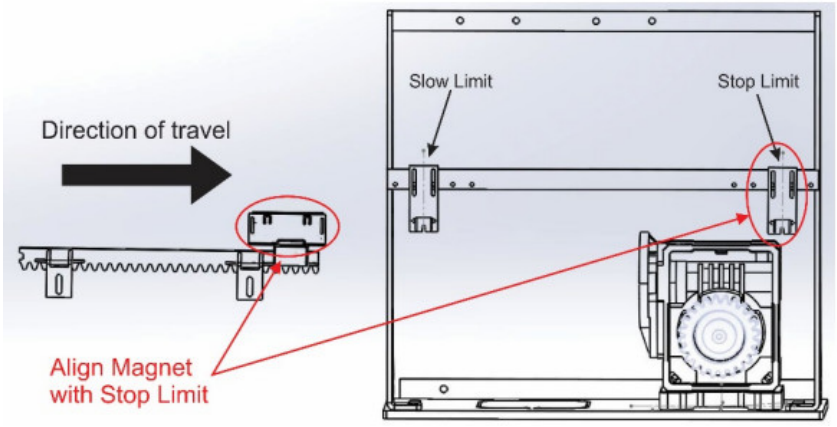
1. Place operator incorrect position (Pinion wheel to be parallel to the gate and stepped out to allow for the width of rack once it is mounted onto the gate frame). Mark out fixings and fix operator to the concrete pad.
2. Fix rack to the gate frame keeping 1mm-2mm clearance between the rack teeth and Pinion wheel.
3. Once the rack is fixed move the gate and sight the rack moving over the pinion wheel, check that most of the pinion wheel meshes with the rack. Make sure the rack runs freely over the pinion wheel, any tights spots should be corrected by adjusting the rack height. Check the operator is firmly bolted down to the concrete pad.
4. Ensure stops are installed on the gate for the fully closed and fully open positions.

Connect Photo Electric Beams, Safety Bump Strip, and all other safety devices as required.

Limit Switch Adjustment

Elsema's Industrial motor kits are equipped with dual limit sensors. The 1 limit slows the gate and the 2nd limit stops the gate. The stop limit in one direction becomes the slow limit in the opposite direction automatically.
Move the gate into a full close position and adjust the magnet on the gate so it aligns with the Stop limit in the closing direction.
Move the gate into the fully open position and adjust the magnet on the gate so it aligns with the Stop limit in the opening direction.





The limit sensor has a + marking indicating the center of the sensor. Adjust the sensor so that the + marking is the center of the magnet on the gear rack.

The 2 x limit magnets should have different marking on them. One should have a ☐ and the other should have a △. You cannot use the limit magnets if they have the same marking. The magnets can be installed on either side (open or close). Please see the diagram below to locate the marking on the magnets.

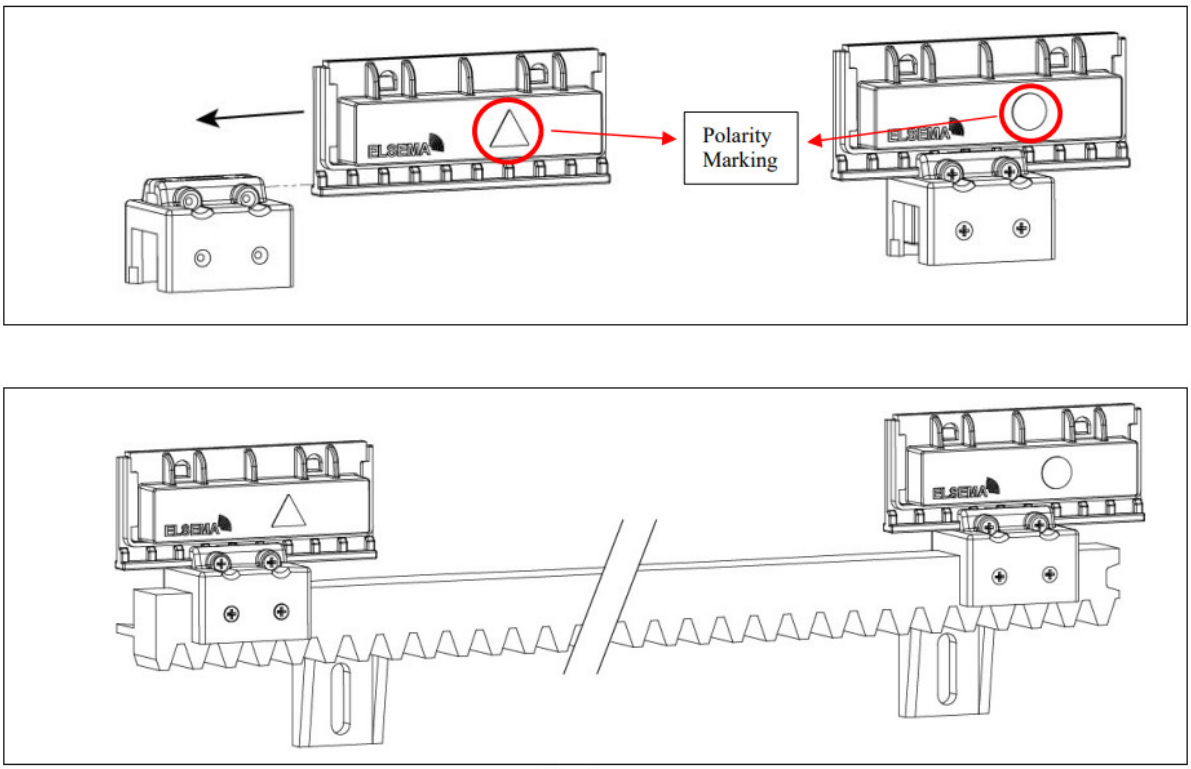
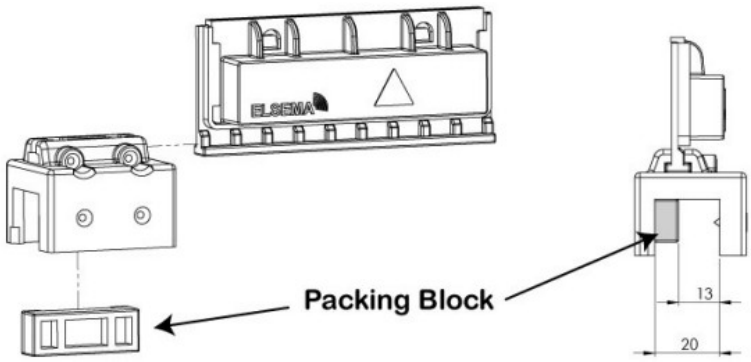


Fig 6

When a steel gear rack is used (or a gear rack that is much slimmer), you will have to use the packing block which comes with the limit switches. Please see the diagram below.

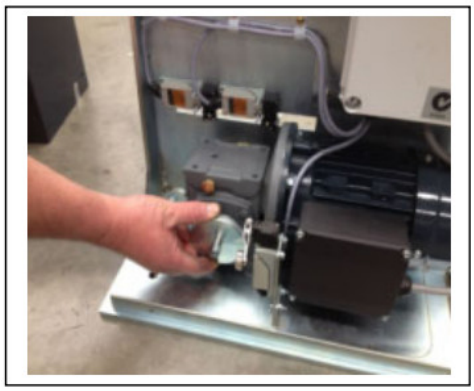


Once the limit switches are adjusted turn the power on to the MCiS control card and follow on-screen instructions to profile the gate. The MCiS control card has been specially configured to be used with iS motor kit. For replacements please contact Elsema PTY.

Manual Release Instructions

Place the key in the door lock, turn clockwise till released, and pull the door open.

Turn knob anticlockwise approx. ½ a turn to release



Gate can now be opened by hand.

To re-engage the clutch, move the gate by hand into approx. the halfway position and turn the knob clockwise until it is very tight. If, when turning the knob clockwise and it just spins, either, try spinning it clockwise with more force to release it off the hexagonal retaining nut or hold the nut with one hand and turn the knob clockwise.

Maintenance Details

WARNING!
Failure to maintain equipment may result in injury or death and/or damage to property and equipment. If the product is not used and maintained in accordance with instructions or recommendations listed in this User Manual, the warranty is negated.

Recommended maintenance to be performed on the operator and gate are as follows:-

The operator performs over 150 cycles a day Operator performs between 20-150 cycles a day Operator performs under 20 cycles a day	every 2 month every 6 months every 12 months

Date: ……..
Site Name: ……
Site Address: ……

Before commencing maintenance on the operator, isolate the electrical supply to ensure the operator will not run inadvertently.

Gate rolls freely when in manual ……..
Gate wheels and guide rollers in good condition ……..
Gate stops are installed and in good condition, not loose …….
Gate rack is tight & correct clearances between pinion wheel & rack ……..
Gate track is not damaged ……
Gate operator mounting bolts tight ……..
No oil leaks from gearboxes ……..
Gearbox mounting bolts/nuts tight …….
Inside operator and control box clean ……
'Baygon' Surface Spray around operator and control box (not on electronics) ……
All electrical connections tight …….
Limit Switches operate in appropriate positions …….
External safety devices work effectively / cleaned ……
An electromagnetic lock, if fitted, operates correctly and is clean …….
Wash down of control box and cover (particularly near corrosive/sea environments)…
General operation i.e. speed, auto close, etc normal ……
Comments……
……
…….
Service performed by:
…….

Documents / Resources

	ELSEMA iS2000/iS3000 High Speed Sliding Gate Opener [pdf] User Manual iS2000, iS3000, High Speed Sliding Gate Opener, iS2000 High Speed Sliding Gate Opener, iS3000 High Speed Sliding Gate Opener