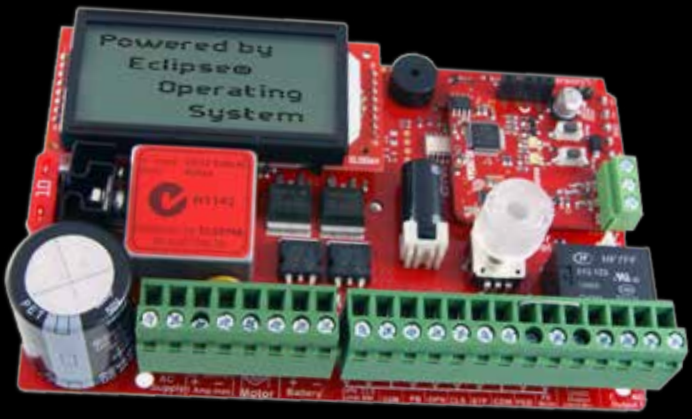
3rd Edition

# Motor Controller Single Gate

with Eclipse® Operating System (EOS)

**Eclipse® MCS**




ELSEMA
GATE & DOOR CONTROLS
www.elsema.com

MCS : Motor Controller Single Gates
Setup and Technical Information
Includes latest Intelligent Technology

# Important warning and safety instructions

All installations and testing must be done only after reading and understanding all instructions carefully. All wiring should be done only by trained technical personnel. Failing to follow instructions and the safety warnings may result in serious injury and/or damage to property.

Elsema Pty Ltd shall not be liable for any injury, damage, cost, expense or any claim whatsoever to any person or property which may result from improper use or installation of this product.

Risk in the goods purchased shall unless otherwise agreed in written pass to the buyer upon delivery of the goods.

Any figures or estimates given for performance of goods are based upon the company's experience and is what the company obtains on tests. The company will not accept liability for failure to comply with the figures or estimates due to the nature of variable conditions affecting for example Radio Remote Controls.

Please keep this setup instruction for future reference.

Installed by: _____

Service date: _____

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## Features

- Lithium-ion and lead acid battery charger
- Suitable for single swing and sliding gates
- Single motor operation
- Eclipse Operating System (EOS)
- Motor soft start and soft stop
- Slow speed and force adjustment
- Large 4-line LCD to indicate controllers status and setup instructions
- 1-Touch control for easy setup
- Various inputs, push button, open only, close only, stop, pedestrian and photoelectric beam
- Supports limit switch inputs or mechanical stops
- Adjustable auto close and pedestrian access
- Adjustable lock and courtesy light outputs
- Variable photoelectric safety beam functions
- 12 Volt DC Output to power accessories
- Service counters, password protection, holiday mode and many more features

## Description

The Motor Controller Single (MCS) is not just the next generation but the industry game changer. We wanted to create a controller that is simple to use and does just about any feature required in the gate and door industry. The MCS is not just the next generation but the “Next Transformation” in the gate and door industry creating an Eclipse over previously developed motor controllers.

This new intelligent motor controller is the best match for your automatic gate or door motors.

The MCS’s Eclipse® Operating System (EOS) is a user friendly menu driven system that uses the 1-touch button to control, setup and run automatic gates, doors and barriers. It uses a large 4-line LCD screen showing live reading of the motor performance and status of all inputs and outputs.

The intelligent controller was built from the ground up, based on customer feedback and using todays technology. With its rich functions, consumer friendly price and with the focus during development being ease of use and setup makes this controller the ultimate board to control your motors.

Elsema’s easy options to add remote controls or any type of photoelectric beams makes for a very user friendly approach, while avoiding the lockdown approach to accessories.

The control cards are available with an IP66 rated plastic enclosure for outdoor installations or the card only.

MCS

MCS24E or MCS12E

MCS12E7

## Part Number:

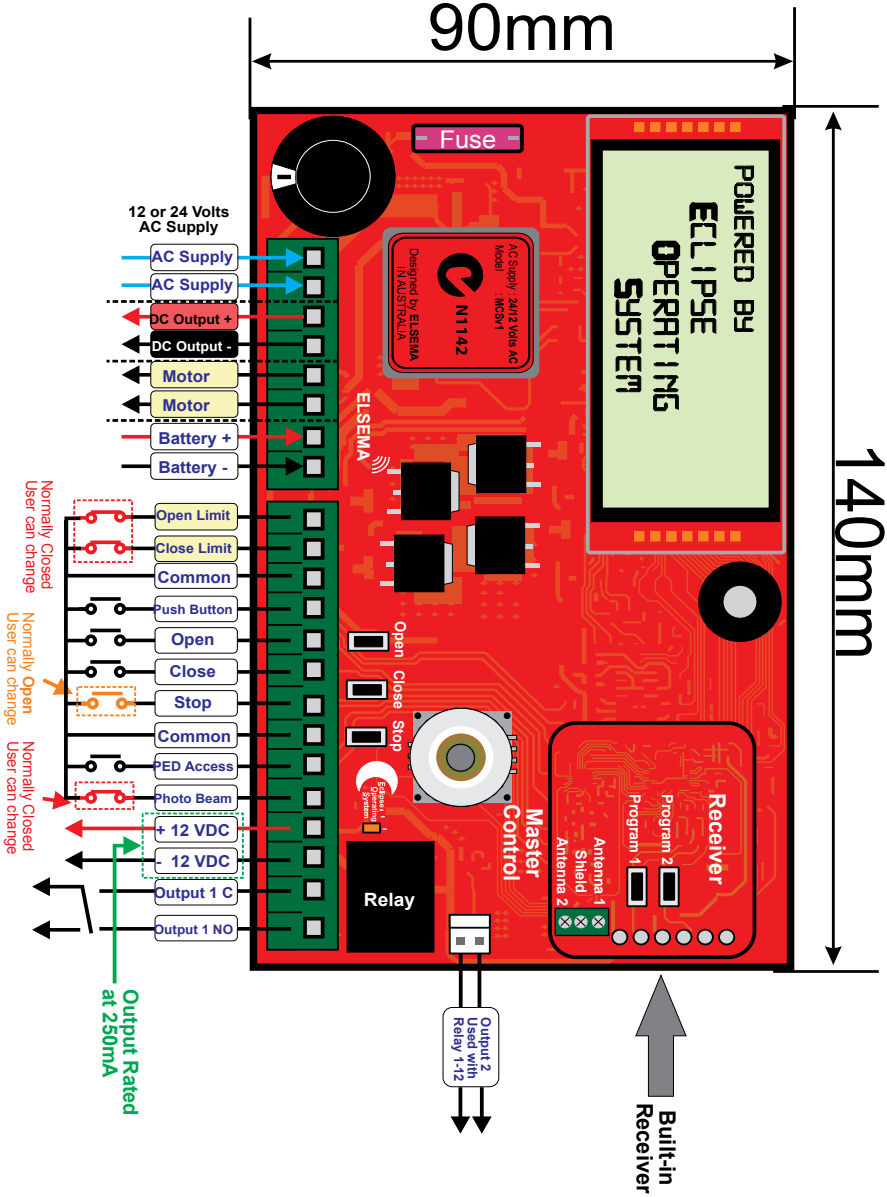
| Part No. | Contents |
|---|---|
| MCS | Single gate and door controller for 24 / 12 Volt motor, card only |
| MCS24E | Single controller for 24 Volt motors includes IP66 rated plastic enclosure and transformer |
| MCS24E2 | Same as MCS24E plus 24 Volt 2.6Ah backup battery |
| MCS24E7 | Same as MCS24E plus 24 Volt 7.0Ah backup battery |

| Part No. | Contents |
|---|---|
| | |
| MCS12E | Single controller for 12 Volt motors includes IP66 rated plastic enclosure and transformer |
| MCS12E2 | Same as MCS12E plus 12 Volt 2.6Ah backup battery |
| MCS12E7 | Same as MCS12E plus 12 Volt 7.0Ah backup battery |

| Solar Gates | | | |
|---|---|---|---|
| Solar24 | Solar kit for double or single gates, includes intelligent solar charger & 24 Volt 12.0Ah backup battery | Solar12 | Solar kit for double or single gates, includes intelligent solar charger & 12 Volt 12.0Ah backup battery |
| SP20* | 20 Watt solar panel | SP40* | 40 Watt solar panel |

For a full version of this manual contact us

# MCS Connection Diagram



# Menu 11 – i-Learning

This feature allows you to do the intelligent travel learning of the gates/doors. Follow the messages on the LCD to complete the learning

# Menu 12 – Password

This will allow the user to enter a password to prevent unauthorised users from entering the control card settings. User must remember the password. The only way to reset a lost password is to send the control card back to Elsema.

To delete a password select Menu 12.2 and press Master Control.

# Menu 13 – Operational Records

This is for information only.

| Menu No. | Operational Records |
|---|---|
| 13.1 | Event History, up to 100 events are recorded in the memory |
| 13.2 | Displays Gates/Doors Operations and Currents Levels |
| 13.3 | Reset Maximum Current Records |
| 13.4 | Exit |

### 13.1 Event History

The event history will store 100 events. The following events are recorded into the memory: Power On, Low Battery, All Input Activations, Successful Opening, Successful Closing, Obstruction Detected, Unsuccessful i-Learning Attempt and Factory Reset.

### 13.2 Displays Gates/Doors Operations and Current Levels

This displays the number of open cycles, close cycles, pedestrian cycles, open obstructions, close obstructions and both motor current levels. All maximum current values can be reset by the user from Menu 13.3

# Menu 14 – Tools

| Menu No. | Tools |
|---|---|
| 14.1 | Battery Type : Lithium-ion or Lead Acid battery |
| 14.2 | Set the Supply Voltage : 12 or 24 Volts |
| 14.3 | Resets Controller to Factory Settings |
| 14.4 | Test Inputs |
| 14.5 | Travel Timer for Slip Clutch Motors |
| 14.6 | Solar Gate Mode : Optimises the Control Card for Solar Applications |
| 14.7 | Fuse Type : 10 or 15 Amps<br>Optimises the Control Card for the correct Blade Fuse used |
| 14.8 | Slow Speed Ramp Down Time |
| 14.9 | Exit |

### 14.1 Battery Type

The MCS can be used with 2 types of backup batteries, Lead Acid & Lithium-ion. **Default setting is Lead Acid. Never connect a lithium battery when lead acid mode is selected. Always select the correct battery type.** Only use Lithium-ion batteries supplied by Elsema.

### 14.2 Set the Supply Voltage

This allows you to manually set the control card to 12 or 24 Volt supply. The control card will automatically set the correct supply voltage during setup. To use the control card in a solar application you must set the correct voltage in the Tools. This will disable the automatic voltage sensing which could causes problems in solar applications.

### 14.3 Resets Controller

Reset all settings to factory default. Also removes password.

### 14.4 Test Inputs

This allows you to test all the external devices connected to the controllers inputs. UPPERCASE means input is activated and lowercase means input is deactivated.

### 14.5 Travel Timer for Slip Clutch Motors

This allows you to use the controller with travel time. Used for Slip clutch or Hydraulic Motors

### 14.8 Slow Speed Ramp Down Time

This allows you to change the time it takes the gate/door to change its speed from fast to slow.

# Accessories

## Battery Charger

The control card has a built in charger for backup batteries. Simply connect the batteries to the battery terminal and the charger will automatically charge the batteries. This allows you to use your gates or doors when the mains power has failed. The control card's built-in charger is not suitable for solar applications.

***Select correct battery type and size**

## Solar Applications

Solar applications use Elsema solar charger, CMP12 to charge the batteries and SP20 or SP40 solar panels. Solar gate controller kits are available.

## WARNING

To use the control card in a solar application you must set the correct voltage input in the Tools Menu (14.2). This will disable the automatic voltage sensing which could causes problems in solar applications.

Solar Panels
SP20 & SP40

## Backup Batteries

Elsema has backup batteries perfectly matched to the control card. Three sizes are available:

Lab12-12, 12 Volt 12 AH Rechargeable, ideal for solar and industrial gates and doors.

Lab12-7.0, 12 Volt 7.0 AH Rechargeable, ideal for solar and industrial gates and doors

Lab12-2.6, 12 Volt 2.6 AH Rechargeable, ideal for domestic gates and doors

Backup Batteries

## Keyring Remotes

The latest PentaFOB® keyring remotes with mini receivers ensure your gates or doors are secure. Visit www.elsema.com for more details.

## Photoelectric Beam

Elsema has several types of photoelectric beams including retro-reflective and through beam with IP-66 ratings.

## Strobe Lights

Elsema has several strobe lights to act as a warning when the gate or doors is in operation.

PentaFOB® Remotes

Flasher Lights

# PentaFOB® Programming Instructions

## Coding the PentaFOB® remotes and receivers can be done in 2 different ways.

1. Using the Receiver
2. Using another Remote Control

## Coding using the Receiver

1. Press and hold the program button on the receiver
2. Press the remote button for 2 seconds, receiver LED will flash and then turn Green
3. Release the button on the receiver and the remote
4. Press remote control button to test the receiver output

## Coding using another Remote Control (you should be near the receiver for this procedure)

1. Open the case of a remote control that is already programmed and press and release the program button on the back of the board (The receiver enters learning mode)
2. Press the button of the remote in step 1 which activates the receiver
3. Press the button on the new remote which needs to be programmed for 2 seconds
4. Press the program button again of the remote in step 1(The receiver exits learning mode)
5. Press the new remote control button to test the receiver output

## Deleting Receivers Memory

Short the Code Reset pins on the receiver for 10 seconds. This will delete all the remotes from the receiver's memory.

## PentaFOB® Programmer

This programmer allows you to add and delete certain remotes from the receiver memory. This is used when a remote control is lost or a tenant moves from the premises and the owner wants to prevent un-authorised access.

## PentaFOB® Backup Chips

This chip is used to backup or restore the contents of a receiver. When there are 100's of remotes programmed to a receiver the installer normally backups the receiver memory in case the receiver is damaged.

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