

ADCEC12S and ADCEC24S

Advanced Direct Current Electronic Clutch 12 or 24-Volt Single Motor



Features

- 2 versions 12V Motor (ADCEC12S) or 24V Motor (ADCEC24S)
- Low standby current at 25mA
- No limit switches required
- Push Button, open only, close only, pedestrian access and Photocell Inputs
- Optional wireless control with receiver plugged in
- 4-way code switch for selecting different operating mode, Auto Close, Security Close, Close / Open Only.
- Also available with plastic case (C220)

ADCEC12S	For 12 Volt Motors
ADCEC24S	For 24 Volt Motors

Application

- Single motor control for domestic and industrial doors and gates.

Description

The ADCECS is designed to control an automatic door or gate that uses DC motors and no limit switches. Not using any limit switches to stop the motor is what makes the ADCECS controller easy to install. An electronic clutch built into the controller makes this possible.

Battery Backup and Charging

The ADCECS has a built in charger which allows you to install backup batteries in case of power failure. Simply connect AC voltage to the terminal marked 12VAC (~) or 24VAC (~).The trimpot in the charger section is factory set to 13.6 Volts for the 12 volt version and 27.2 Volts for the 24 volt version. **No further adjustment is required.**

Code Switch Setting (Gray indicates switch position)

<p>Auto Close</p> <p>1 2 3 4</p>	<p>PB / RC up Only</p> <p>1 2 3 4</p>
<p>Security Close</p> <p>1 2 3 4</p>	<p>Photo Cell Input Change (NO to NC)</p> <p>1 2 3 4</p>

Auto Close

Adjustable from 10 to 50 seconds.

PB / RC up Only

An input on the PB or a wireless remote will open door/gate only. You can not close door/gate with PB or RC input. **Door/gate must be closed with Auto Close.**

Security Close

The door/gate immediately closes after the photo beam is broken and the vehicle moves away from the photo beam, even if the door/gate is not fully open.

Photo Cell Input Change

Changes the photo cell input from Normally open to normally closed.

Other Features

M1	Overload Trimpot	Sets amount of overload. Turn clockwise for more overload power, anti-clockwise for less.
LED	Overload	Overload detected. ADCEC card will stop motor after 1.5 seconds of overloading.
LED	To the left of OLR1 trimpot	LED ON indicates the door / gate is in full speed. LED FLASHING indicates the door / gate is in slow speed.
LED	Direction	LED ON – direction towards open LED OFF – direction towards close
OLR1	Fast Travel Range Trimpot	OLR sets the full speed distance. The travel time is adjustable from 3-55 seconds. It should be set to approximately 3 seconds before the door / gate is fully opened or closed.
Fuse	Replaceable Fuse	Replaceable 240VAC 10Amp fuse.
Maximum run timer	Switch-off Protection	The motor will switch-off after 90 seconds of continuous running.

Installation Instructions

Antenna

The antenna connection is used to connect an antenna for the plug-in FMR-201, GLR2701SS or GLR43301SS. The antenna can be a 50 ohms antenna or a piece of approximately 1m wire.

Push Button Input

Push button is a normally open contact. When pressed it will start the opening or closing cycle. This push button should be waterproof for internal and external use. Waterproofing will prevent false activations, which normally occurs due to moisture inside the button. Door or gate can be held open permanently when push button is pressed continuously.

Photo Cell Input

Photo Cell input is normally open contact. When dip switch 4 is on, photo cell is changed to normally closed contact. The photocell is used as a safety feature. If the motor is closing and the photo beam is broken, motor will stop instantly and then open fully again. Should an object be blocking the motor (i.e. photo cell is broken), closing cycle or auto closing is disabled.

Power + -

Connect 12VDC (or 24 VDC for ADCEC24S) to the terminal block marked - + 12VDC. The amount of current will be determined by the current rating of the motor.

Motor

Motor should be rated for 12VDC (or 24 VDC for ADCEC24S).

Light Output

The light output is a Normally open (NO) dry contacts which will switch on light each time the motor runs and has a preset delay off of 60sec after the motor stops.

Lock Output

This terminal block outputs a short pulse of 1-6 seconds (Trimpot adjustable) on opening cycle. This is used for a standard 12V lock.

Remote Control

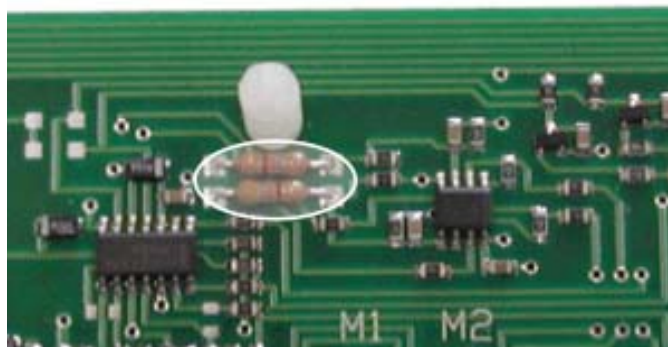
Remote control is achieved by inserting Elsema's FMR-201, GLR2701SS or GLR43301SS. Power to the ADCEC printed circuit board should be switched off during the installation of a receiver. The transmitter can be an FMT-301 GLT2701 or GLT43301 respectively.

Changing Slow Speed

The slow speed is factory set to 25% of the fast speed. The user can change resistors on the ADCECS printed circuit board to change the slow speed to a different speed.

For example, slowing the factory setting would require the user to increase the resistor value. Hence, increasing the factory setting to a faster speed would require the user to decrease the resistor value.

The two resistors controlling the slow speed are 10k Ohms and 4.7k Ohms, connected in parallel. The 10k Ohms resistor is a surface-mount resistor and the 4.7k Ohms resistor is a through-hole. The positions of the 4.7k Ohms resistors are illustrated in the diagram below:



The top resistor is for Motor 1 and the bottom resistor is for Motor 2. The factory setting is 25% slow speed.

NB. Care should be taken not to cross PCB with 240V wiring over or under board. This would induce spikes onto the sensitive circuitry of PCB.

The transformer and rectifier used to power the ADCEC board should be large enough to power the motor (check motor rating). If an electronic lock is used a larger transformer and rectifier should be used to power both the motor and lock. Note some locks draw as much as 6 amps.

Setup Instruction:

1. Make sure wiring of the control board is complete.
2. Open door/gate to 25% open position.
3. Remove power (transformer and battery if used) for about one minute and then connect power.
4. Overload trimpots of M1 and M2 is set to 50% as factory default. Adjust trimpots according to motor size.
 - Turning clockwise on the trimpot will require more force to stop the door/gate.
 - Turning anti-clockwise on the trimpot will require less force to stop the door/gate.

Adjust overload trimpots to approximately 15% (2mm) more than is required for normal operation, i.e motors should not trip on overload before fully opening and closing.

(Do not just set it to the maximum levels since small motors may not overload properly.)
5. Set the OLR1 and OLR2 trimpot to minimum (fully-anticlockwise)

6. Press push button or remote control, the door/gate must open with the first activation. If the door/gate closes, switch off power and then swap the motor wires.
 7. Set the OLR trimpot so that the motor goes into slow speed about 300mm before it hits the end stop. The slow speed region can be seen by the OLR LEDs flashing.
- Run the door/gate a number of times so that a symmetrical operation is achieved.

**ADCEC12S, ADCEC24S
Wiring Diagram**

