

# COBO 10

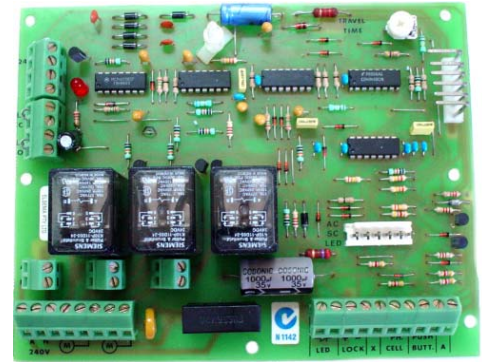
240VAC Double Motor Controller Card

## Features

- For 240V AC Motors
- Option for receiver plug-in

## Applications

- Single or Double Gates



## Description

The COBO10 card is used to control automatic door/gate that have 240VAC motor with limit switches. It can be used for either single or double gates. Even hydraulic doors can be wired to the COBO10 card. Hydraulic doors have overflow fluid limits which requires the COBO10 to disable the electronic limit switches. This is selectable by linking the limit switches. Limit switches are linked as factory defaults.

The COBO10 has a built-in lock control, open collector output, photocell control, push button, limit switch connection and wireless operation with a remote control transmitter. Extra options available are LED output, Auto Closing and Security Closing.

## Connection Instructions

### Mains

Connect 240 VAC to the terminal block marked 240 V Active and Neutral.

Connect 24 VAC to the terminal marked 24V. This is normally done by connecting a 240 VAC / 24VAC transformer between second 240 VAC terminal block to 24 Volts In.

### Motor Connection

2 Motor connections are provided which operate in parallel. Each motor should have three wires, i.e. two actives and one neutral. Motor two has a two second delay on closing to allow double gates to overlap. Motor starting capacitors of 10uF (or 6uF on request) are provided depending on the manufacture of motor.

### Limit Switches

If Limit Switches (normally closed) are to be used, remove straps on terminal blocks and wire to relevant limits witches. Low Voltage wiring (24V) can be used for this facility. For 3-wire operation of limit switches, use 2 outside holes and 1 centre position of terminal block (ref. Wiring Diagram)

### Travel Timer

Travel timer, is set using the trimpot marked TRV (3 to 45 seconds). It is preset to maximum by the factory. If an extra 30 seconds travel time is required, cut the wire link near the travel timer trimpot. In case of hydraulic operation, where no limit switches are used, set travel timer to stop relays (as indicated by led "TRV-ON") approx 3 seconds after the gate is closed.

### Reverse Feature

Reverse feature is when reversing is required while the gate is opening. While the door is opening and the user presses another activation, the doors/gates will close. To enable this feature cut the wire link S. if this link is not cut, the door/gate will open all the way to fully open position before the user can close it.

### Lock

The lock circuit provides a short pulse on opening and closing cycle for a standard 12V lock. To extend the lock pulse cut strap marked S1

**Photo Cell Input**

Photo Cell Inputs (Normally closed contact) works as a guard circuit when gate or door is closing. If gate is closing and photo beam is broken, the gate will stop instantly and then open fully again. Should an object be blocking the gate, closing cycle or "Auto Closing" is inhibited.

**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 water proof for internal and external use. Water proofing will prevent false activations which normally occur due to moisture inside the button.

**LED Output**

If a visual indication of the gate at a remote place is required, a normal LED can be wired to the terminal block marked "LED". This LED will be on (and stay on) till the gate is open and turn off when the gate is closed. To provide this facility sub-board "LED" must be plugged in.

**Radio Control**

Remote control is achieved by inserting Elsema's FMR-201, GLR2701SS or GLR43301SS. Power to the COBO10 printed circuit board should be switched off during the installation of a receiver. The transmitter can either be an FMT-301, GLT2701 or GLT43301 respectively.

**Please note:** if "AC" is used, stopping door on way up will result in activating "AC" condition; however if door is stopped on way down "AC" will not time out.

**Auto Closing**

Auto closing is provided by plugging in sub-board "AC-2" into the socket near the terminal block. The AC-timer can be adjusted from 3sec to approx 1- minute. AC-timer starts when door is fully open. An input from PC terminal can hold-off closing cycle.

**Security Closing**

(ie: door closes after car has cleared photo beam, even if the door is not fully open yet). This feature is provided by inserting sub-board SC-1. An Auto-Close timer (3sec to 1 min)on the same board will shut the door after the preset time, provided the photo beam is not broken.

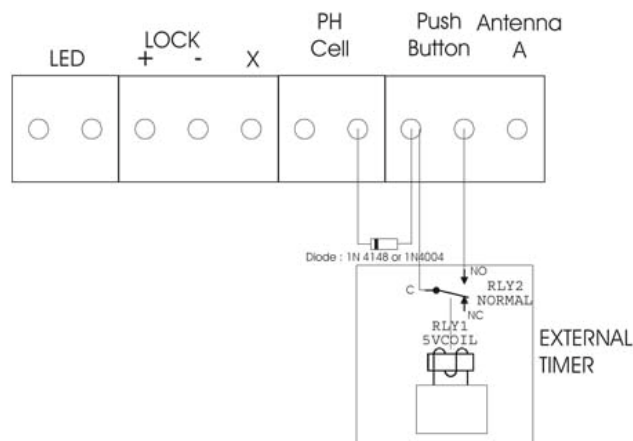
**X Open Collector Output**

Terminal block marked "X" goes negative whilst the door is moving. This allows you to connect a 24V relay between "X" and the centre of terminal block marked LMT to switch a warning light or horn when the door is moving

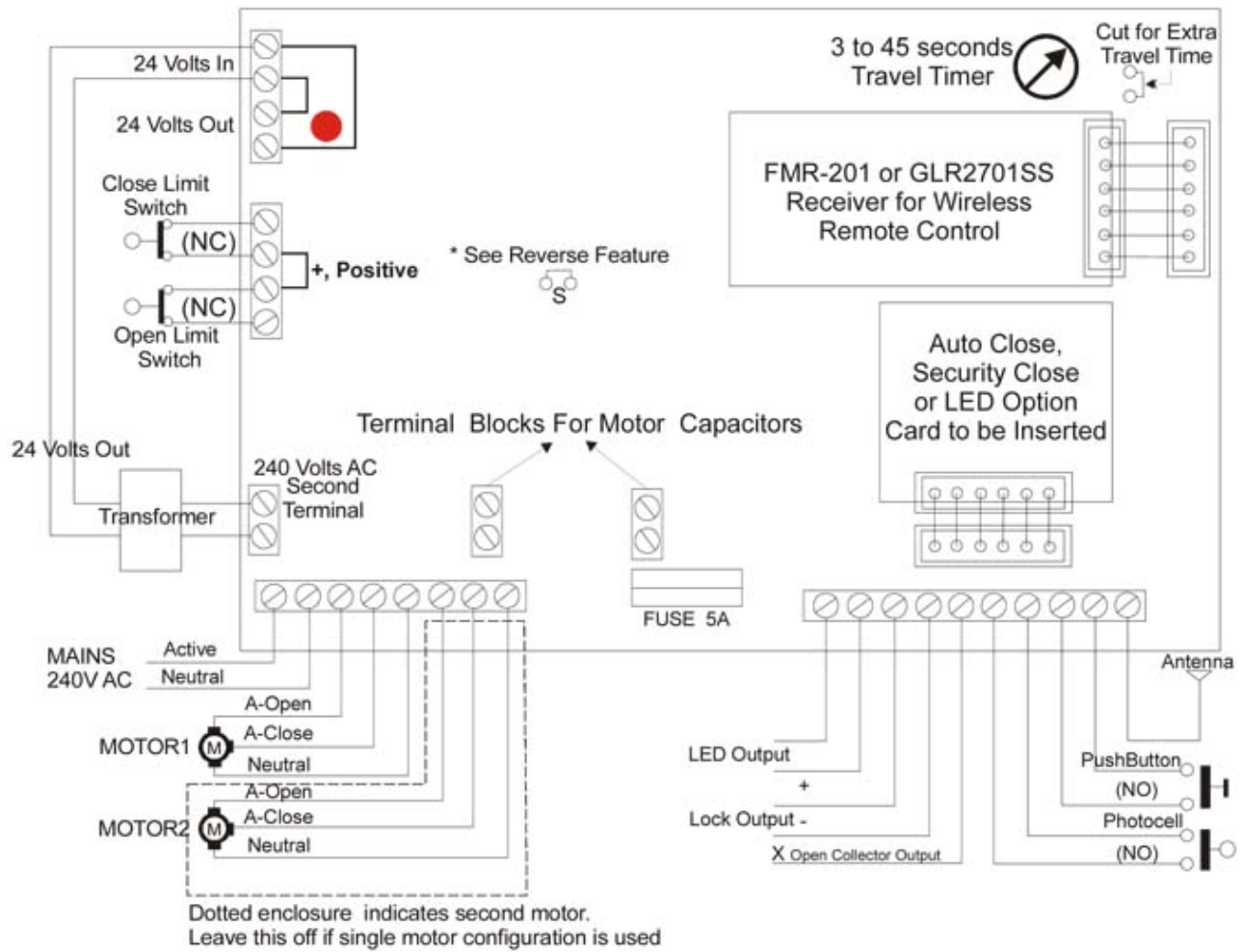
**PLEASE NOTE:** When COBO PCB is used to switch contactors a VDR (Voltage Dependant Resistor 275V AC) must be connected across the coil of the contactor.

**COBO10 controlled with a External Timer**

Using an external timer allows you to keep the door open for the preset time on the timer. A diode needs to be connected between the Push Button and Ph Cell terminal.



**Wiring Diagram**



*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.*

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