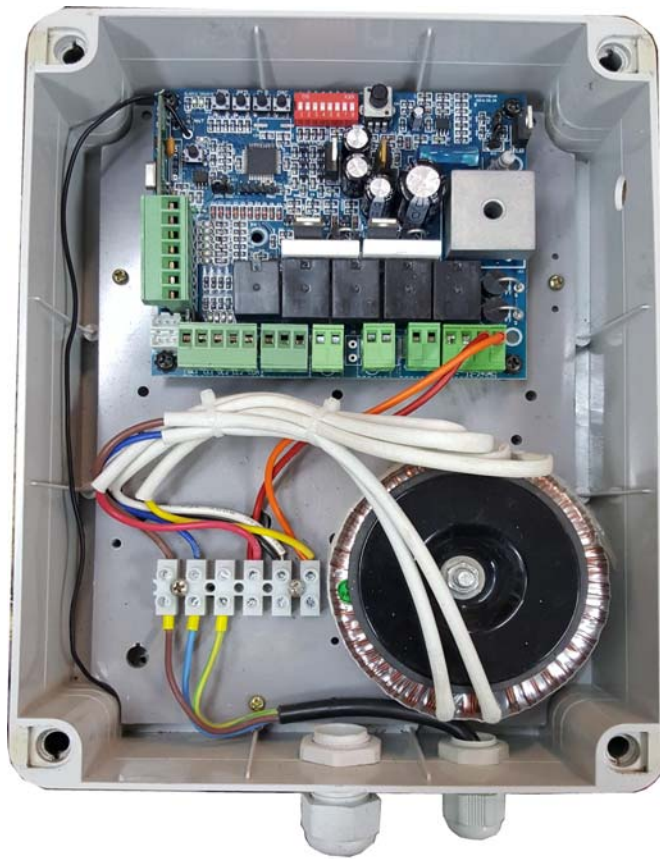
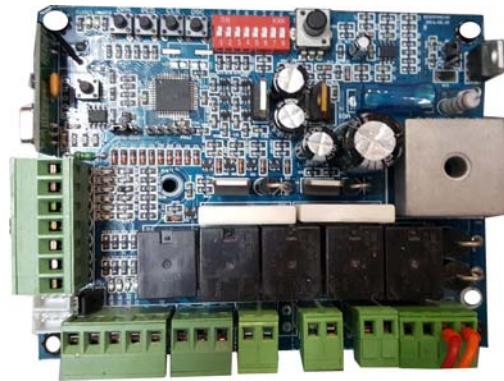


DC2V2.X Dual DC Motor Controller

INSTRUCTION MANUAL



1. General Descriptions and features

1.1 General descriptions

It is recommended reading and understanding this manual before start to install the control board. Some features and idea are new. So take some time to read through the manual to get better understanding of the board. That will save your time during installation and get the best benefit from the control board.

Electricity and power motors associated accessories could be fatal or at least cause seriously injury. Digiway suggested some safety device to be used so as to prevent personnel from being injured by motorized device being controlled. **All main voltage wiring must be installed by a licensed electrician.** Digiway Pty Ltd does not have any reliabilities for injury, cost, expense, warranty and whatever caused by failure to follow installation instructions.

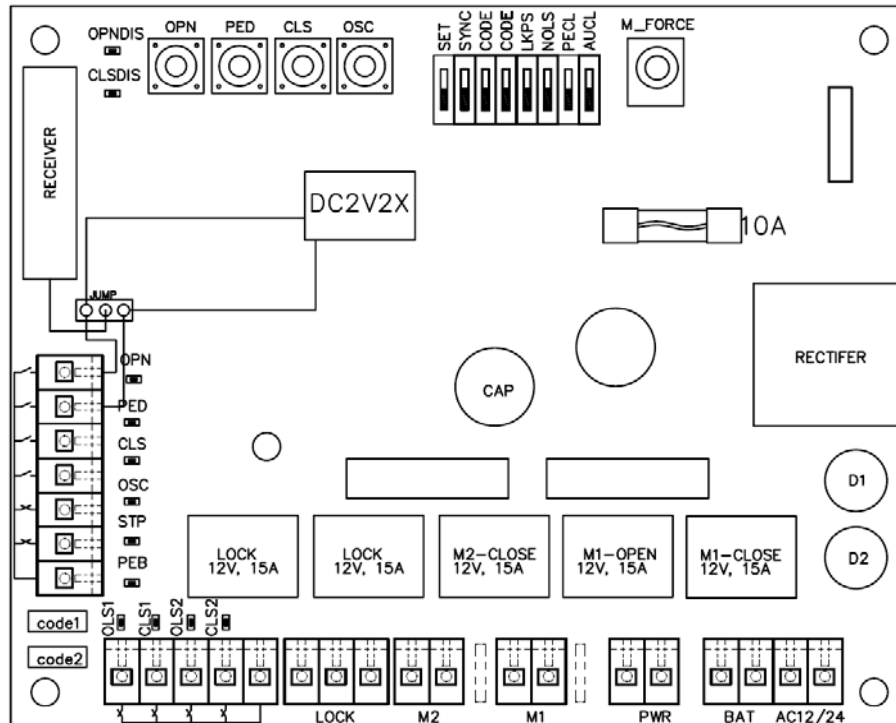
1.2 General features

The DC2 is an economical gate controller able to control various DC motors in a variety of settings. Typical applications include Swing gates, Sliding Gates, Roller shutter doors. Features include the following:

- Control one or two 12 or 24V DC motors, up to 100w.
- Limit switch inputs, N/O or N/C selectable by DIP switch.
- Lock output.
- Adjustable timers for open/close cycle and auto close timing..
- Safety control inputs.
- Soft start and soft stop/ ramp up and ramp down..

2. Description of standard operations

2.1 View of Control board



(1) Control Terminals

OPN ----- N/O open input.

PED----- N/O pedestrian open push button, only open motor-1

CLS ----- Close Gate

OSC----- (open – stop – close--Open)

STP ----- N/C stop motor

PEB ----- N/C photo electrical beams

OL1 ----- Motor 1 open limit switch, N/C or N/O selected by DIP SW

CL1 ----- Motor 1 close limit switch, N/C or N/O selected by DIP SW

OL2 ----- Motor 2 open limit switch, N/C or N/O selected by DIP SW

CL2 ----- Motor 2 close limit switch, N/C or N/O selected by DIP SW

(2) on board receiver

(3) Buttons

OPN button ---- full (M1&M2) open gate and used for settings

PED button ---- Ped (M1) open gate and used for settings

CLS button ---- CLS gate and used for settings

STP button ---- Stop motor

(4) DIP switch

DIP1---- SET ON—set,

OFF – Run

DIP2---- SYNC ON—SYNC mode,

OFF – No Sync mode

DIP3---- LKPS ON—Lock Pulse Output,

OFF – Lock Presence Output

DIP4---- NOLS ON—N/C limit switch,

OFF – N/O limit switch

DIP5---- PECL ON—PE trig Auto Close,

OFF – No PE trig Auto close

DIP6---- AUCL ON—Auto Close Mode, OFF – No Auto close

(5) Motor Force

In N/C limit switch mode, if any motor current over current setting, both motors will stop in opening cycle or reopen in closing.

In N/O limit switch mode (this model also called no limit switch, current detect mode), if M1 over current settings, only stop M1, while M2 current over current setting, only stop M2.

(6) Power input

12 or 24V AC power input. 12VAC for 12VDC motor, 24VAC for 24V DC motor

(7) Battery Backup

12V battery --- 12VDC motor, 12VAC input.

24V battery --- 24VDC motor, 24VAC input.

Solar regulator output can be direct connected to this terminal if in case of solar application.

(8) M1

Motor 1 output

(9) M2

Motor 2 output

10) Power output

Power out for accessories. About 14V----- 12VAC supply, about 26V-----24VAC supply

2.2 Timers setting

Push Buttons functions

Button	SET ON---Setting	SET OFF---Running	Note
OPN	Sync Delay Time	Open gate	
PED	Lock Pulse Time	Partial open gate	
CLS	PE Trig Close Time	Close gate	
STP	Auto Close Time	Stop gate	

2.2.1 Set time settings

Turn SET on, red and green LED flashes a little fast alternatively.

Push and hold on OPN for **Sync Delay Time**

Push and hold on PED for **Lock Pulse Time**

Push and hold on CLS for **PE Trig Close Time**

Push and hold on STP for **Auto Close Time**

Factory setting

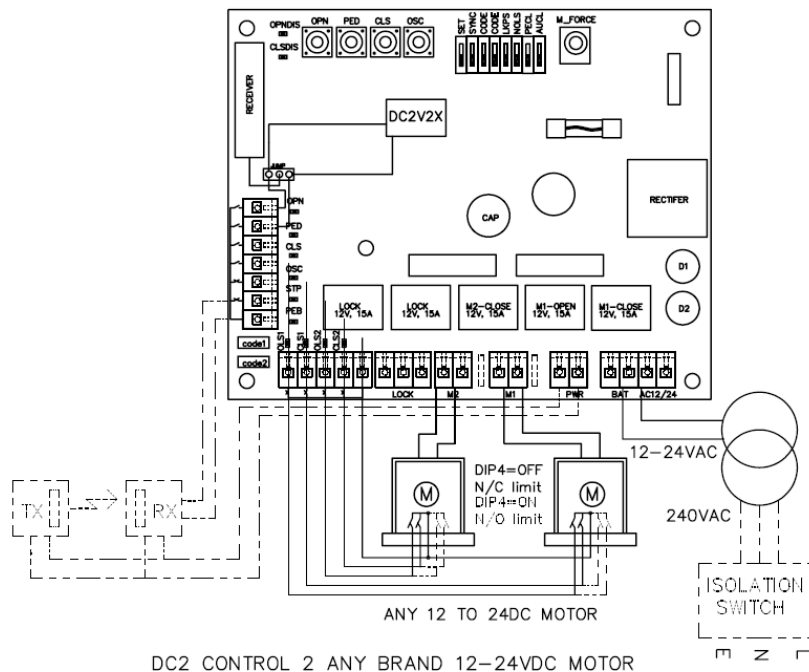
Timer	F/Setting	Step	Setting Method	Range
Sync Delay Time	2 sec.	0.1 sec.	SET on + OPN Button	0-25 sec.
Lock Pulse Time	2 sec.	0.1 sec.	SET on + PED Button	0-25 sec.
PE Auto close Time	2 sec.	0.1 sec.	SEC on + CLS Button	0-25 sec
Auto Close Time	30 sec.	0.1 sec.	SET on + PRO Button	0-6553 sec

To restore factory setting, turn power off and set DIP1 (SET) on, push and hold CLS button, then power on. While hold CLS button, set SET1 off and then release the CLS button. Now controller restored factory setting from memory.

3 Motors Connections

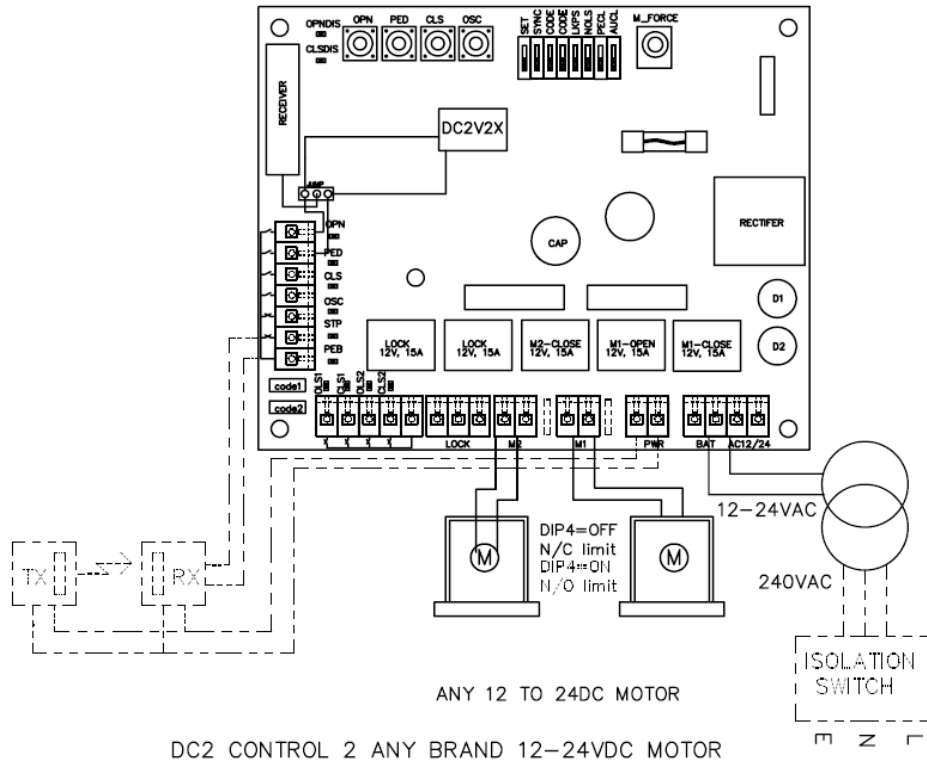
3.1 Five wires

Five wires systems included two wires for motor and three wires for limit switch. Limit switch can be N/C or N/O depending on DIP4.



3.2 Two wires

Two wires motor with limit switch and diode or without diode by detecting over current to stop motor. Like linear drive motor.



8.

Step by step set up motor.

- Mounting and connect motor
- Disengage clutch and push two gates in middle position, then engage clutch. Power up, push OPN button, gate should open, if any gate goes close direction, switch motor two wires.
- Adjust limit switch (make sure DIP4 limit switch selection is matched to limit switch).
 - If 5 wires system, turn power off and disengage clutch and setting limits switch. Move gate to closed position and adjust closed limit stop to touch the limit switch and this limit should connect to closed limit switch in put on control board. Open gate to opened position do the same things for opened limit switch.
 - If 2 wires system with limit switch with diode, need keep power on, push remote, while gate is running(either open or close), using screw driver touch limit switch, so can find out which limit is for open or close. Turn power off, then disengage clutch, push gate and set up limit switch.
 - If two wires system without limit switch, in this case, opened and closed mechanical stopper must be installed. Adjust motor force pot to suit actual gate power requirement.
- Power up, use remote or push button to operate gate. Controller will automatically learn soft stop positions. After two fully close and open cycles, auto-learn procedure finish.

9. Trouble shooting guide

9.1 General checking

Normally if installation is done properly, there would be trouble free. If in case of malfunction, please checking as following steps.

- 1) Check the DIP setting motor selection is right.
- 2) Gate status LED green (open) and red (close), one or both should be flashing depending on the gate position. If not flashing or off, please check the powers supply.

9.2 Gate stop while in opening or closing cycle

- 1) Check motor force setting (pot), if the motor force setting is too small. Clockwise turn pot more motor force, anticlockwise turn pot, less motor force.

9.3 Gate not close

- 1) Check power
- 2) Check PE beams if fit.