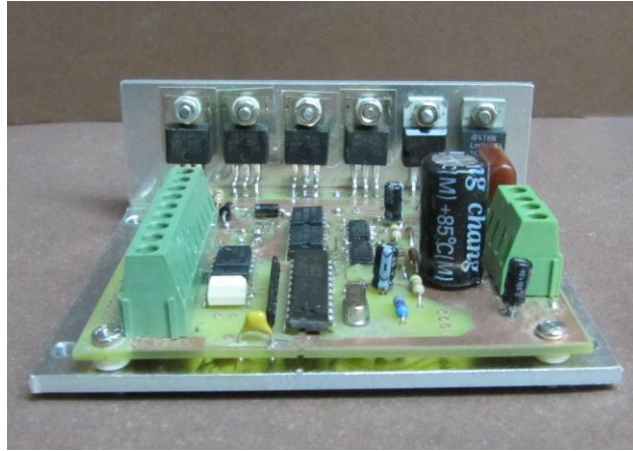

MCS DC30 SERVO MOTOR DRIVER



Dimension: 95 x 80 x 32 mm

MOSFET DRIVER

Low cost closed loop DC Servo Driver.

High Precision, High Speed (Double faster than Stepper Motor)

High Torque, Low Noise, No Resonance

Output current 15A rated, 45A maximum for moment

Input voltages 15 to 50VDC

Backlash setting for machinery

Independent Reset Input & Power Up Reset

Increase Independent Err Output

Including the below output control modes:

1. Pulse and Direction
2. PC RS232 port control
3. Velocity control, velocity will not effect by the loading (input voltage 0-5V resolution 0.019V)
4. Position or degree control (input voltage 0-5V resolution 0.019V)

All the control modes available connect RS232 communication port to make the setting from the software.

Including setting:

- ◇ Backlash value for machinery
- ◇ Direction
- ◇ Output degree ratio
- ◇ Output power
- ◇ Positioning precision

-
- ✧ Position or degree ratio setting, velocity ratio setting under the Voltage Input mode
 - ✧ Multi axis position and velocity control, trapezoidal velocity setting under the PC Control mode

Features:

- PID loop closed internally
- Feedback resolution with encoder line count
- EEPROM configuration allows automatic start up in stand-alone Step, Direction input/output rate setting
- Frequency setting
- Serial interface connects to RS232 communication port to make the chips setting
- Opto-isolated fault alarm output (over load, over speed)
- Opto-isolate input pulse & direction
- Lock range +/-5000 pulse following error
- Current loop bandwidth 20kHz
- Max pulse input 200kHz
- Resolution 200-8000 pulse/360 degree
- Smooth rotation
- Loading temperature up to 50C
- Overload protection stop

The drivers are suitable for use in a wide range of applications with include cnc machine tools, multi axis motion, robotic and general automation.

DC30 Specifications

Power Supply	+15VDC to 50VDC
Quiescent Current	100mA
Motor Current	0 to 15Amps
Motor Inductance	At least 1mH
Lock Range	+/-5000 pulse
Feedback	Quadrature TTL Encoder 5V Compatible
Feedback Resolution	X4 Encoder Line Count
Switching Frequency	15-20 kHz
Current Limit	0 to 20 Amps Trimpot Adjustable
Step Pulse Frequency	0 to 300kHz
Pulse Multiplier	1 - 20 times input step rate (option)
Size	9.5 x 8.0 x 3.2 cm

Please read first before using the DC30 Driver:

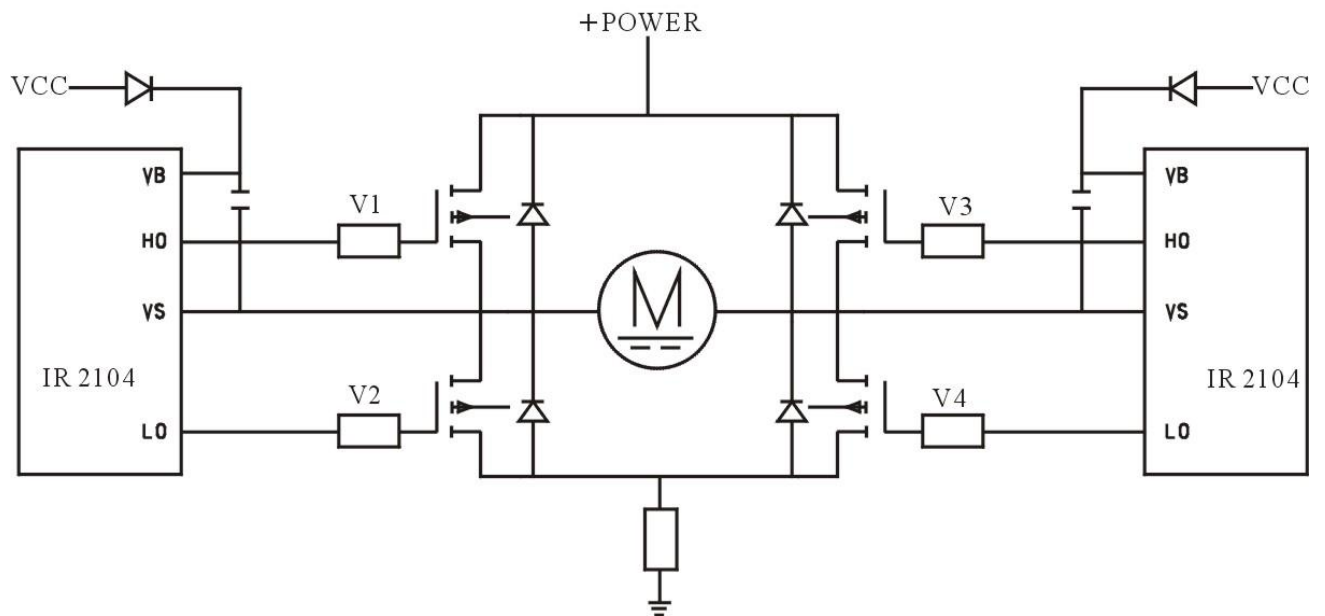
If you are not familiar with DC servo drives please do the following setup instructions with the motor before mounting it on the mechanism.

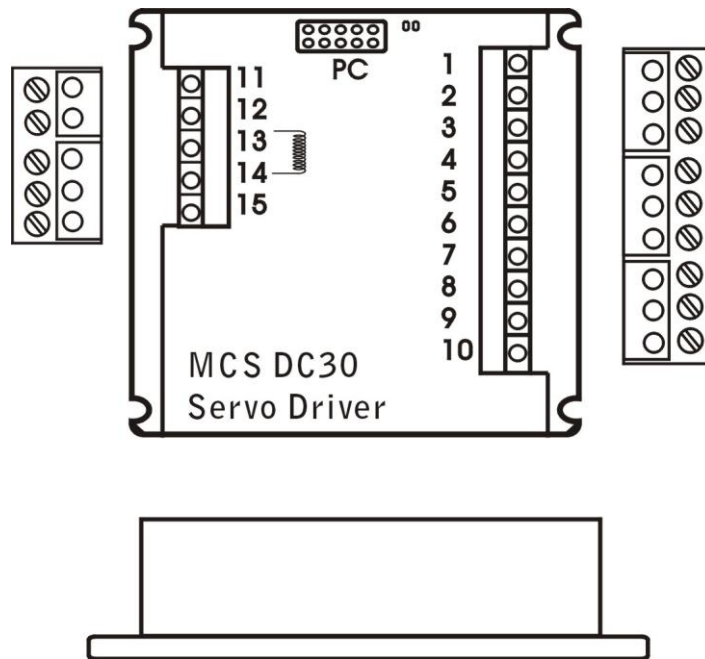
Before you start, you must have a suitable encoder mounted and properly aligned on the motor. Follow the manufacturer’s instructions on mounting and aligning the encoder if the motor doesn’t already come with one.

You must have a DC power supply suitable for the motor. The power supply current rating must equal the maximum current you expect to run the motor.

Circuit layout

MOSFET BRIDGE DRIVER





DC30 PINOUT

TERMINAL 1	Signal 5V
TERMINAL 2	AD input 0V to 5V
TERMINAL 3	Error Output
TERMINAL 4	Clear Error (Home Position)
TERMINAL 5	Direction
TERMINAL 6	Step
TERMINAL 7	Encoder A
TERMINAL 8	Encoder B
TERMINAL 9	Encoder +5V
TERMINAL 10	Encoder Ground
TERMINAL 11	Power + (18V to 50V)
TERMINAL 12	Ground
TERMINAL 15	Signal (+18V to 30V)
PC Connector	Connect Computer

PC CONNECTOR

10 PIN PC Connector connect computer with the PC connect cable. It is for load the setting into DC30 Driver.

INDICATOR LED

Mode (Green LED)
 Fault (Red LED)

DC30 Software

Install DC30 Servo Setting Software

Insert the CD into the computer after it has been turned on and started up.

Double-click **setup.exe** to install DC30 Software.

Follow the onscreen instructions to complete the software installation.

Double click DC30V icon on the Desktop to run the DC30 software

1. Click the “Tool” icon

Select the Com port number

2. There are four selection settings:

- Pulse and Direction
- PC RS232 Control
- Voltage Control (position or degree control)
- Voltage Control (Velocity control)



3. Click one Control and fill the settings.

Or click “File to DC” icon to open the sample file (*.dc).

There are some value settings for reference.

4. Click “Save File” icon to save the setting.

5. Click “Load DC” icon to send the data into the DC30 Driver

Follow the next steps in the sequence they are given.

- i. Connect RS232 cable (straight DB9 male/DB9 female cable to PC COM port and DC30 Driver)
- ii. Turn on DC30 power supply
The Mode LED will be flicker a few seconds.
Until the Mode LED stop flicker.
- iii. Press DC30 Mode Button, Mode LED will be ON.
- iv. Send the data to DC30 Driver

6. After load the data, the screen will display the “Save Data” icon. If need to save the setting, press “Save Data” icon.

If loading data is not successful, it will display “Connect fail” or “Operation valid only when the port is open” message. The cable is not connected, or the COM port number is invalid.