

DCC-20 DC Motor Controller



Description

DCC-20 from Deltasense is a miniature plug and play LOW COST DC motor controller for **24V BRUSHED DC MOTORS**, intended for variable speed regulation of DC motors up to **750W** max with brake facility and smooth speed control. (12V version available on request).

DCC-20 is an extremely robust product in a Die Cast Aluminium Box which can be placed almost anywhere. It is simple to use, and yet very efficient in control. The electronics have been sealed with resin for maximum robustness and user connections are available through terminals inside the box

DCC-20 will connect to 15-30V= power supply, a standard brushed DC motor and a range of either DIGITAL or ANALOG inputs for control.

DCC-20 has an 15KHz power mosfet output which guarantees silent operation over the full current range. Current is adjustable from 1-30A via an internal trimmer. Bidirectional operation is accomplished through a 30A power relay, which will short the motor when not operating (brake to gnd)

DCC-20 has 2 analogue inputs, which can be operated at 0-5 or 0-10V range. 5V is supplied at the terminals for easy connection to potentiometers, reference, joysticks, aux equipment like RF add-ons or anything else.

DCC-20 also has 4 digital inputs, which can be chosen to be normally high or normally low (All 4 at a time). Digital inputs will operate from 5-30V= signals via PNP or NPN outputs from attached controllers.

DCC-20 has a double LED output that can be used for a range applications such as an alarm, setpoint OK, DC too low etc.

DCC-20 comes in different versions. Mainly, a Wall Mount version with integrated bottom flanges for mounting. Also, a Flange Version is supplied. Or it can be provided as a PCB for the customer to mount.

DCC-20 is as standard supplied with rubber glands and snap in terminals for connections, but an alternative is a Complete DCC-20 drive with integrated Cables as per Customer requirements.

Picture

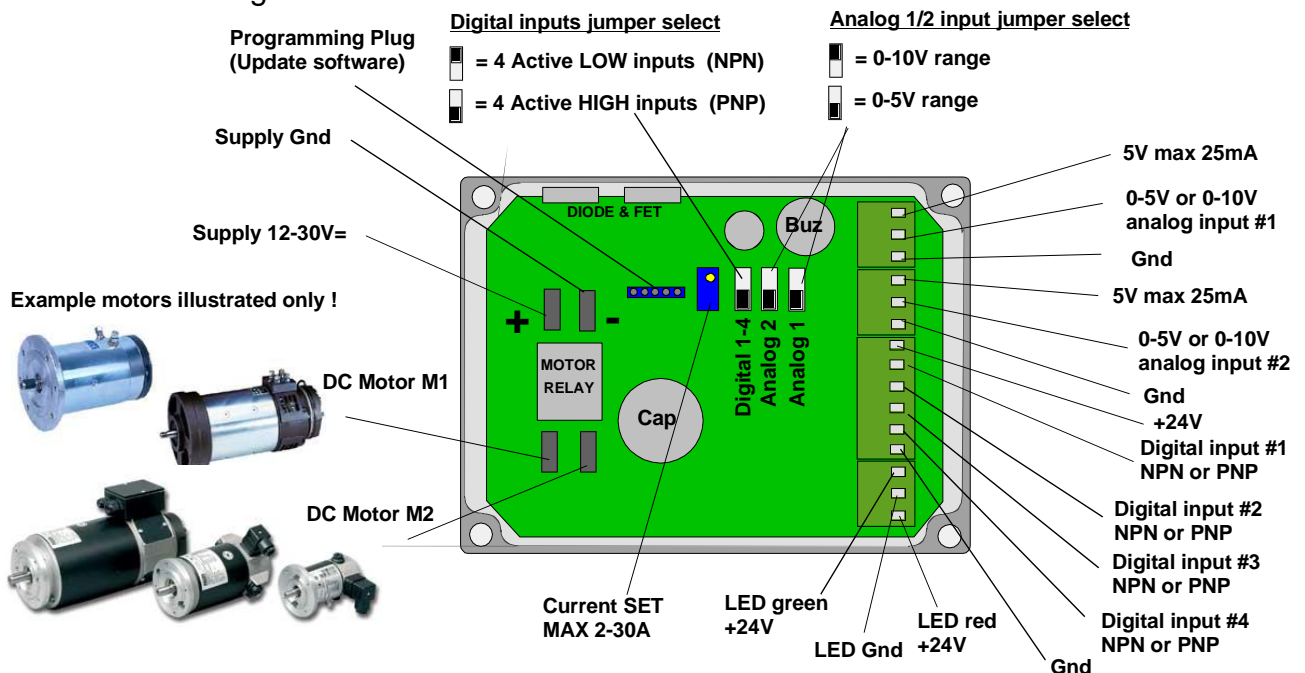


DCC-20
24V DC brushed motor control
Analogue or digital
750 W – 15–30V=

Technical data

- Supply 15-30V=, NON polarity protected
- Max current 30A
- Max motor 750W brushed
- Efficiency min 80%.
- Ambient temperature -10°C to +40°C
- Humidity non condensing 10-90%RH
- Shortcircuit rated and protected
- Overtemperature protected (shut down at 85°C)
- Under voltage protected (shut down at 10V=)
- Adjustable current limit 1-30A
- 15KHz switch frequency in Mosfet's
- Braked by relay contacts shorting the Motor
- Analogue input ranges 0-5V or 0-10V 100kOhm (jumper selectable for both)
- 5V/Gnd on terminal blocks, max 25mA, short circuit protected
- Digital input ranges 5-30V PNP or NPN 4.7kOhm (jumper selectable for all)
- Vcc/Gnd on terminal block, max 25mA, short circuit protected
- Integrated Buzzer for audible signalling
- Double LED output red/green max 20mA/Vcc for signalling (max. cable length 3m)
- Passive cooled from die cast alu box and heatsink
- Snap in terminals for easy electrical connection
- Die cast alu box in black with or without flanges for mounting
- IP54 grade, all electronics sealed. Moulded from factory
- Measures Max 118x93x56mm
- **OEM product, software and encapsulation available for custom applications.**

Connections and settings



Standard Application

In this 24V application, the DC motor is controlled from 1 to 4 digital inputs.
Separate speed settings for both directions are set via attached potentiometers or 0-10V inputs

Selectable HIGH or LOW signals for digital inputs can be selected from jumper
0-5V or 0-10V analogue speed settings can be selected from jumpers.

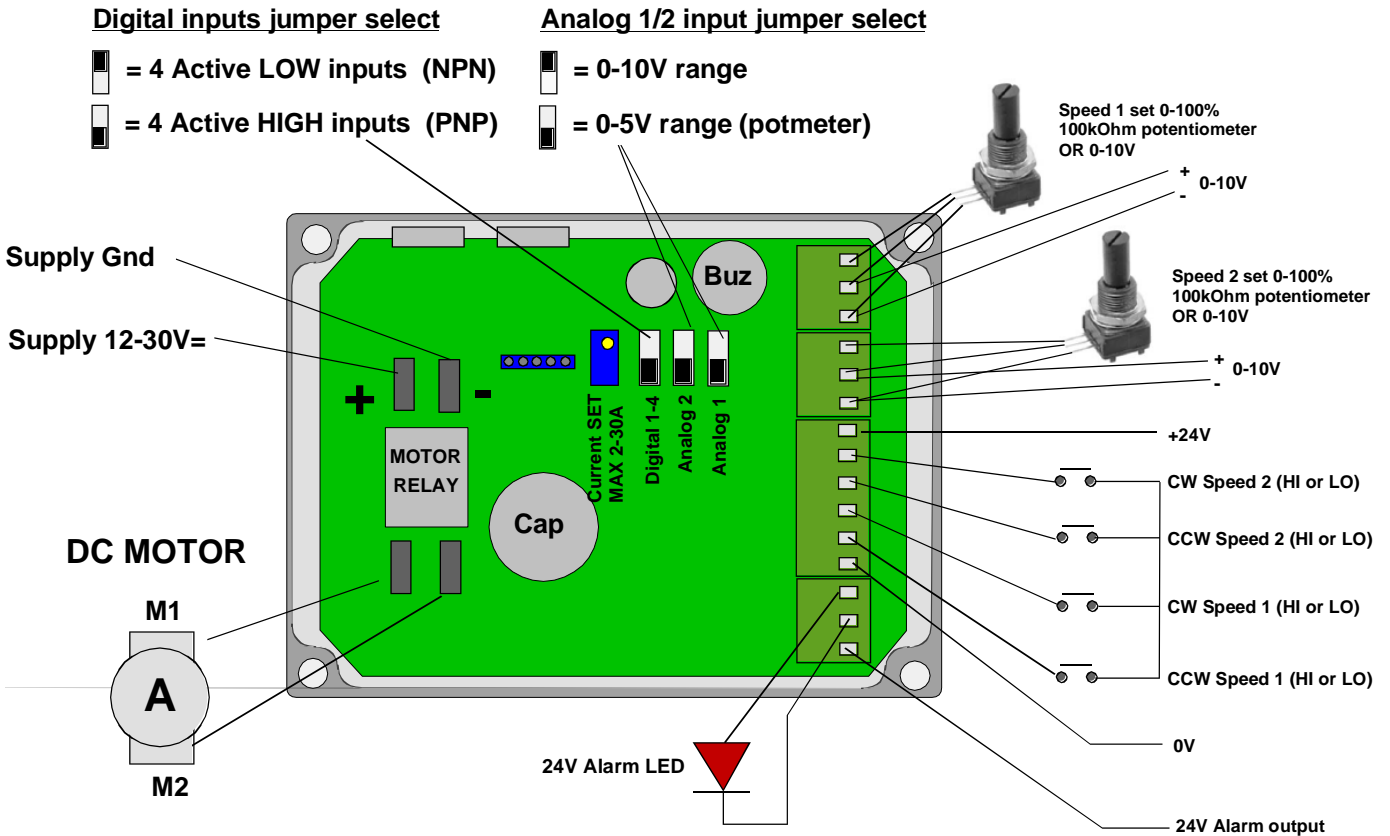
Two digital inputs selects motor to run at one analogue speed in both directions
Two digital inputs selects motor to run at another analogue speed in both directions

Alarm output +24V will activate when current exceeds the limit set on trimmer
Alarm output +24V will activate when internal temperature gets too high
Alarm output +24V will activate when battery voltage drops below 15V (motor will not work!)

Buzzer and LED output will activate in a flashing pattern when either current exceeds the limit, temperature gets to high or battery voltage drops below 15V (see below)

Motor ramps have been optimized for slow start and fast stop. Other ramps on request.

When the current exceeds the trimmer setting, the motor will be stop
and can only be restarted when CW or CCW inputs are removed.



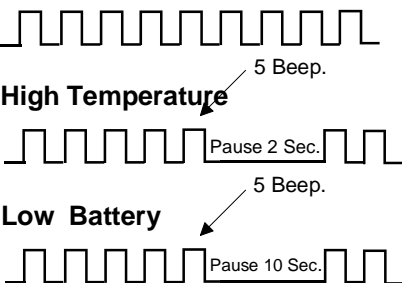
Buzzer and red LED

Normal

High current

High Temperature

Low Battery



24V Alarm output

Normal

High current

High Temperature

Low Battery

