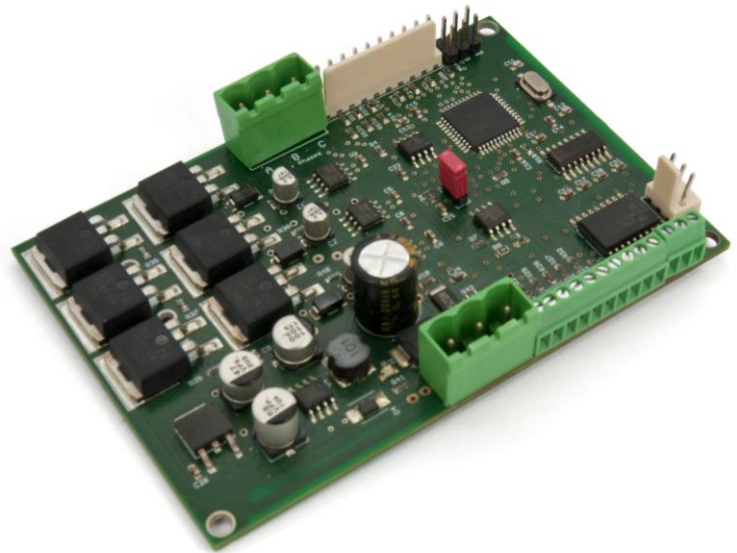


I-Driver4810 Intelligent Servo Control Module 250W

Digital Motor Control for Brushless Motors

The I-Driver4810 is an intelligent servo module for controlling brushless DC-motors. The module is also easily integrated with all kinds of Arduino boards or other types of microcontrollers – a fast and easy way from idea to application. The servo driver is flexible, easy to operate, and a cost effective solution for e.g. the hobbyist and the embedded market. Typical applications include distributed motor control in a CAN network operation. The module is very easy to configure from e.g. Arduino's Serial Monitor. Position loop is updated with a frequency of 2.5 kHz and makes it easy for the user to achieve a stable controller. Two types of 'ready to use' homing functions: - One for triggering on an external sensor and the other for triggering on a physical mechanical stop – i.e. current sensing, and both are integrated in the module's hardware and makes initiation of e.g. a robots reference position easy to manage.

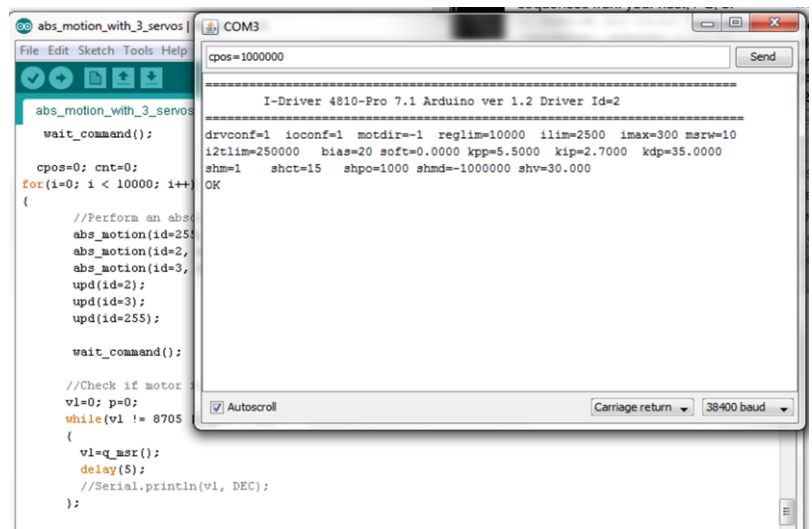


TYPICAL APPLICATIONS

- Systems with distributed motor control intelligence
- Packaging equipment
- Printing
- Textile
- Medical
- Automotive
- Pick and place
- Factory automation

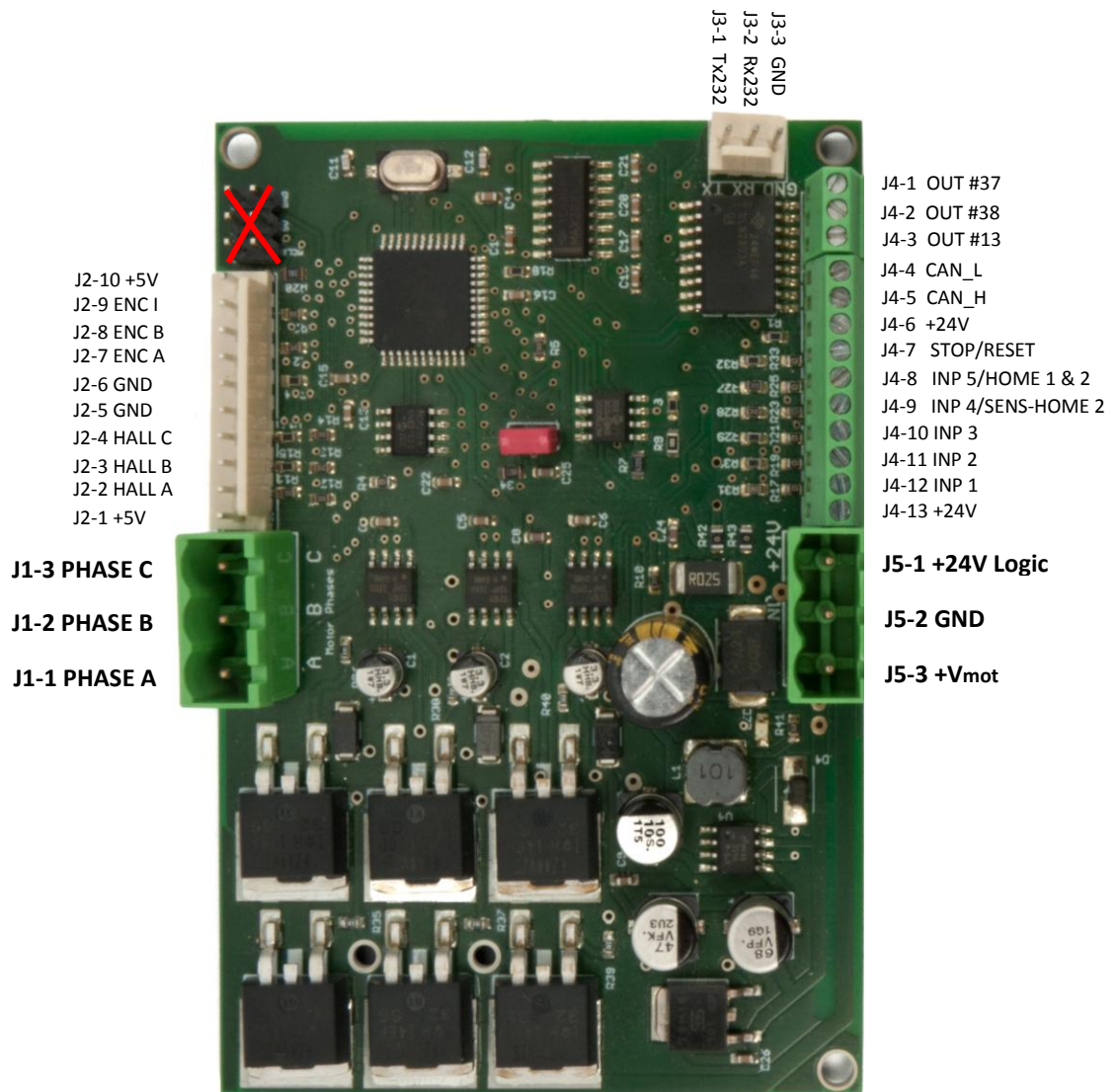
Features

- Powerful and easy to operate commands
- RS-232 serial Communication
- CAN-Bus 2.0B with 500Kbit/s
- 24 V compatible GPIO – 3 outputs and 5 inputs
- Protection for overcurrent, control error and I2t.
- High current capability (5A continuous, 16A peak current)
- Optical encoder in quadrature
- Motor power supply 12 to 48V
- Logic power supply 24V



DIMENSIONS and SPECIFICATION

I-Driver4810



I-Driver4810 INTELLIGENT SERVO MODULE

Electrical Specifications and Physical Dimensions

DC supply voltage: logic 24V
 Motor 12-48V
 Maximum continuous current 5A
 Peak current (100 ms. max.) 16A
 Minimal load inductance 200 microHenry
 Nominal switching frequency 20kHz
 Operating ambient temperature 0°C-40°C
 Switching frequency 20kHz
 GPIO 24V 200 mA compatible
 Dimensions 96.9 mm x 65.5 mm

Programming and Software

I-Driver4810

Running from a Terminal Program

The I-Driver4810 is easily configured and commanded from a terminal program. Typical motion commands to move a servo are:

```
>cid=255 // command id=255
>cspd=1500.0 //1500 rpm
>cacc=3.0 // acc
>cpos=250000 //position in pulses
>upd //update – do motion
```

To verify if the servo is in the commanded position - do query this:

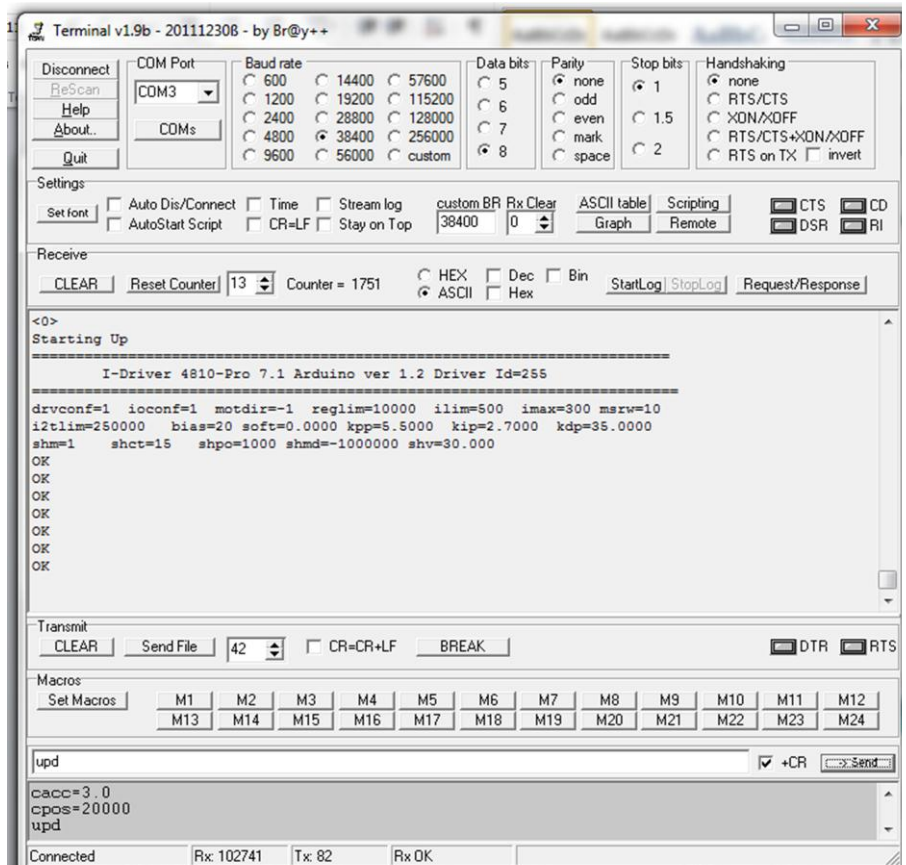
```
>?msr
>8193 //Servo is not in position
>8705 //Servo is in position
>?apos //query encoder value – position
>250000
```

Homing the servo in the current mode:

```
>home1 //The internal current loop is sensing
//an obstacle – i.e. a mechanical stop
```

Use ?msr to poll if servo is in position.

```
>?msr
>8705 //Servo is in position
```



Arduino Software Examples

Writing your own software library for e.g. a PC or a microcontroller is easy to accomplish.

A program for an ordinary robot pick-and-place application is simple to do.

Like Arduino's plug-and-play concept, so is also this intelligent servo-driver very simple to operate and integrate in an Arduino Uno controller, but also other types of embedded platforms, e.g. Raspberry Pi, Olimex and PC's works as well.

Several useful C-code examples for the Arduino Uno is included in the documentation. And, that makes it fast and easy for you to implement a motion program in an embedded platform.

