**Linear Compressor Controller**

**Model 1A {or some shit like that}**

**Datasheet**

**Introduction**

EED Model 1A is a Linear Compressor Controller (LCC) designed to control Linear Motors in refrigeration system applications. Model 1A is a digital controller circuit capable of optimising the operation of Linear Motors, primarily to improve their energy efficiency.

**Features**

2 pin coil driver outputs

2 Hall Effect sensor inputs and corresponding Vcc and Ground inputs

3 pin serial communications header

6 pin ISP programming header

Microchip ATmega 328P-AU for digital processing clocked at 16MHz

Current sensor

Voltage sensor

Operating temperature: 0 deg to 60 deg

Operating Voltage: 11 to 13VDC

**Block diagram (signal and power path)**

**Pin and IO configuration**

**Microcontroller**

Operating voltage 1.8 to 5.5VDC

Actual sourced voltage 5VDC

Clock: External Crystal Oscillator rated 16MHz

Default Enable Peripherals

* ADC (4 Channels)
* UART
  + Asynchronous mode
  + 8Bit 1start 1 stop
  + Baud rate 9600 bits/s
* Timer 0,1,2
  + Timer 0 and 1 for PWM motor control
  + Timer 2 for sensor ADC channel control

Max ratings

200mA Vcc

6V for VCC

Brown out 1.8

ISP programming

DIAGRAM HERE:

ISP PIN CONFIG

Reconmmended IDE: Atmel Studio 7

Programming Language: C

**Communications Interface**

* **Comms/baud rate**
* **Data structure**

**Physical Dimensions (table)**

**list of components and PCB diagram (high level) (not the bill of material)**

**Potential Component replacements**

* OPAMP IC
* MOSFET

**Operating ratings**

* **Noise level**
* **Nominal voltage**
* **Typical current**
* **Typical temp**

**Maximum ratings**

* **Current**
* **Voltage**
* **Temp**

**Safety Note**

**Diagnostics/Trouble shooting??**

**Datasheet Revisions /dates/description (small)**

**Datasheet Author/contact/department/organisation**