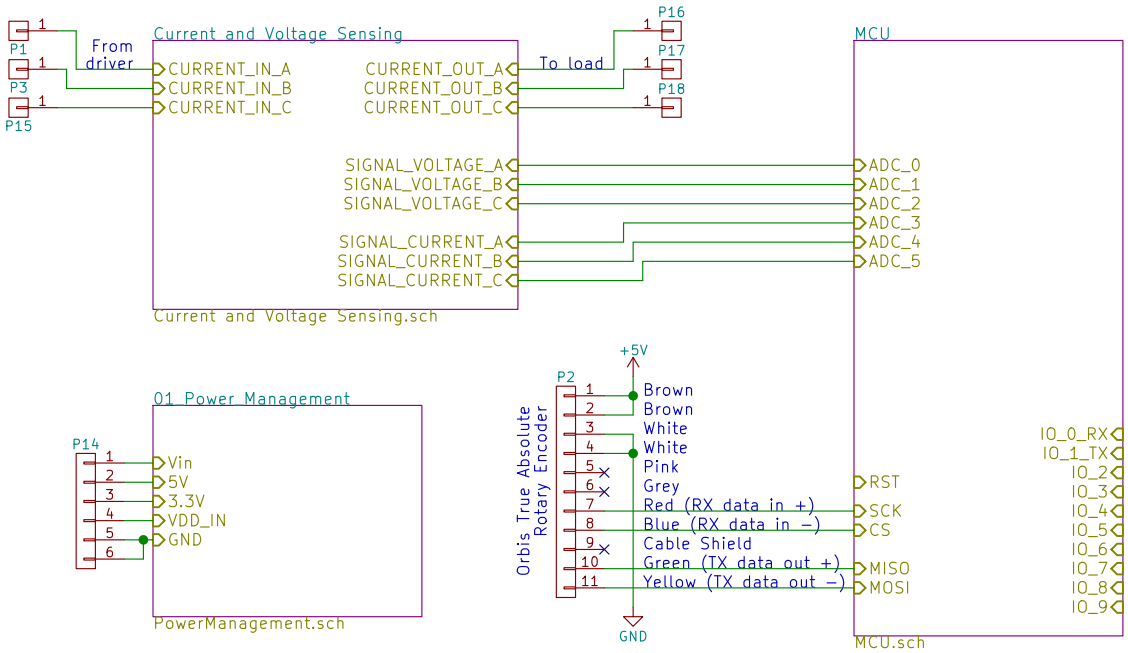
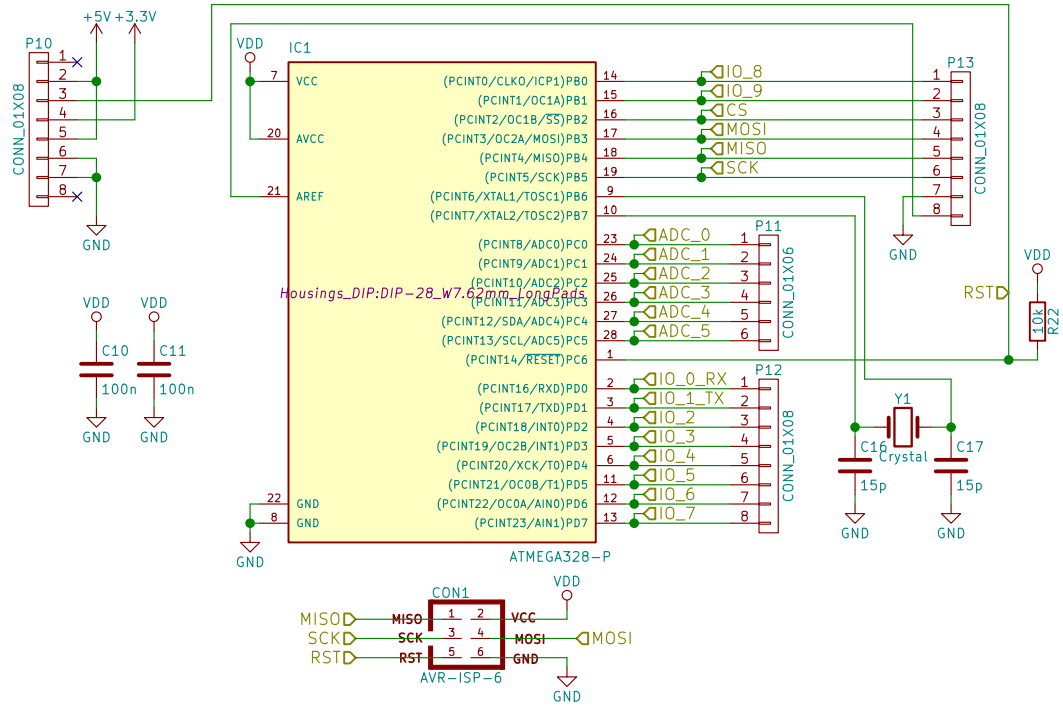


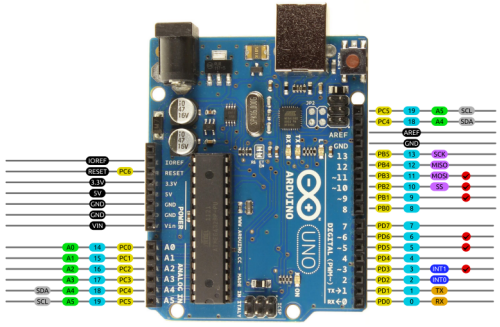
Sheet: /
File: SerialOscilloscope.sch

Title: Motor Signals Measurement Board

Size: A4	Date: 30/10/2016	**Rev: 1.0**
KiCad E.D.A. kicad 4.0.6		Id: 1/4

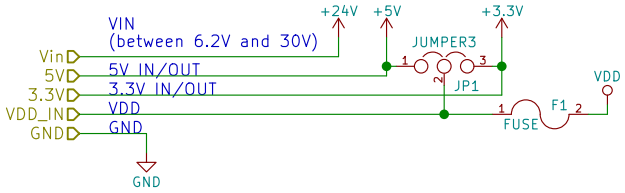


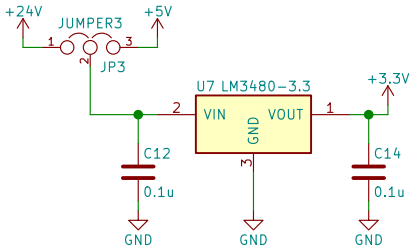
Arduino Uno R3 Pinout

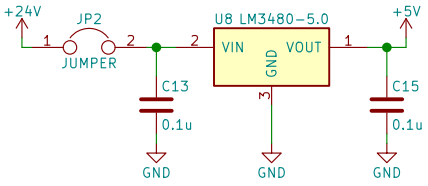


AVR DIGITAL ANALOG POWER SERIAL SPI I2C PWM INTERRUPT

Sheet: /MCU/		
File: MCU.sch		
Title: Motor Signals Measurement Board		
Size: A4	Date: 30/10/2016	**Rev: 1.0**
KiCad E.D.A. kicad 4.0.6		Id: 2/4







Sheet: /01_Power_Management/		
File: PowerManagement.sch		
Title: Motor Signals Measurement Board		
Size: A4	Date: 30/10/2016	**Rev: 1.0**
KiCad E.D.A. kicad 4.0.6		Id: 3/4

OpAmp Guard Ring (Layout instructions):
Non-inverting Gain and Unity-Gain Buffer:
a. Connect the non-inverting pin (VIN+) to the input with a wire that does not touch the PCB surface.
b. Connect the guard ring to the inverting input pin (VIN-). This biases the guard ring to the common mode input voltage.

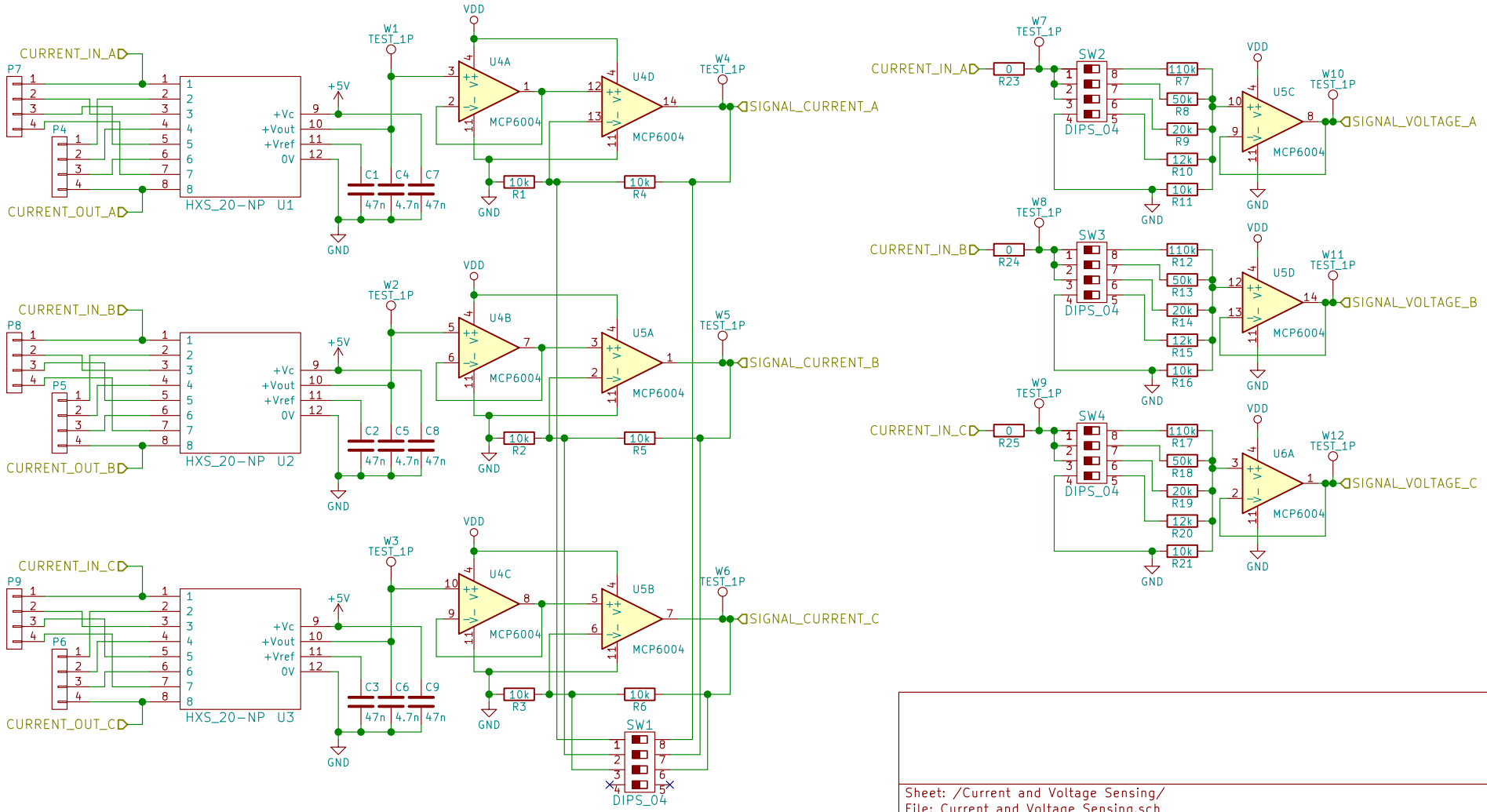
Dip-Switch for Voltage Ranges:
a) Vin,max = 60V, Vout,max = 5V -> 1
b) Vin,max = 30V, Vout,max = 5V -> 2
c) Vin,max = 15V, Vout,max = 5V -> 3
d) Vin,max = 60V, Vout,max = 3.3V -> 1,4
e) Vin,max = 30V, Vout,max = 3.3V -> 2,4
f) Vin,max = 15V, Vout,max = 3.3V -> 3,4

Dip-Switch for Current Ranges:
If the switch is off, the opamp is an amplifier
if the switch is on it is a buffer

ip nominal= 20A
ip maximum = 60A
1 3 5 7
2 4 6 8

ip nominal= 10A
ip maximum = 30A
1 3 5 7
2 4 6 8

ip nominal= 5A
ip maximum = 15A
1 3 5 7
2 4 6 8



Sheet: /Current and Voltage Sensing/		
File: Current and Voltage Sensing.sch		
Title: Motor Signals Measurement Board		
Size: A4	Date: 30/10/2016	**Rev: 1.0**
KiCad E.D.A. kicad 4.0.6		Id: 4/4