

## Bill Of Materials for CHARGE\_3LEVEL SCH

### 0 Modules

| <u>Quantity</u> | <u>References</u> | <u>Value</u> | <u>description</u> |
|-----------------|-------------------|--------------|--------------------|
|-----------------|-------------------|--------------|--------------------|

Sub-totals:

### 5 Capacitors

| <u>Quantity</u> | <u>References</u> | <u>Value</u> | <u>description</u> |
|-----------------|-------------------|--------------|--------------------|
|-----------------|-------------------|--------------|--------------------|

|   |       |    |                   |
|---|-------|----|-------------------|
| 4 | C1-C4 | 1u |                   |
| 1 | C6    | 1u | CAPACITOR SMD1206 |

Sub-totals:

### 14 Resistors

| <u>Quantity</u> | <u>References</u> | <u>Value</u> | <u>description</u> |
|-----------------|-------------------|--------------|--------------------|
|-----------------|-------------------|--------------|--------------------|

|   |              |      |                        |
|---|--------------|------|------------------------|
| 8 | R1-R4,R7-R10 | 0.03 | Resistor SMD2512 0.5W  |
| 1 | R5           | 100K | Resistor SMD1206       |
| 1 | R6           | 1K   | Resistor SMD1206       |
| 2 | R11,R13      | 10   | Power Resistor AC07 5W |
| 2 | R12,R14      | 0.2  | Power Resistor 10W     |

Sub-totals:

### 7 Integrated Circuits

| <u>Quantity</u> | <u>References</u> | <u>Value</u> | <u>description</u> |
|-----------------|-------------------|--------------|--------------------|
|-----------------|-------------------|--------------|--------------------|

|   |       |           |                                         |
|---|-------|-----------|-----------------------------------------|
| 2 | U1,U4 | INA219AID | Current/Power Module With I2C Interface |
| 1 | U2    | PC817     | OPTOCOUPLER DIP4                        |
| 1 | U3    | LM358N    | Dual Operational Amplifier SO8          |
| 2 | U5-U6 | LM35DT    | Temperature sensor TO220                |
| 1 | U7    | PCF8574   | I2C LCD Driver                          |

Sub-totals:

### 5 Transistors

| <u>Quantity</u> | <u>References</u> | <u>Value</u> | <u>description</u> |
|-----------------|-------------------|--------------|--------------------|
|-----------------|-------------------|--------------|--------------------|

|   |          |             |                                   |
|---|----------|-------------|-----------------------------------|
| 3 | Q1,Q4-Q5 | NTF3055L175 | MSFET Logic Level SOT223-4        |
| 2 | Q2-Q3    | IRL2910     | N-Channel MOSFET Transistor to220 |

Sub-totals:

### 16 Miscellaneous

| <u>Quantity</u> | <u>References</u> | <u>Value</u> | <u>description</u> |
|-----------------|-------------------|--------------|--------------------|
|-----------------|-------------------|--------------|--------------------|

|   |           |                 |                             |
|---|-----------|-----------------|-----------------------------|
| 1 | F1        | 16A             | FUSE 20mm+HOLDER            |
| 3 | J1-J3     | 5202-03-N-02    | THERMINAL 3PIN              |
| 1 | J4        | MKDSN3          | THERMINAL 3PIN 5.08         |
| 1 | J5        | TBLOCK-M2       | THERMINAL 2PIN 5.08         |
| 2 | LCD1-LCD2 | LCD 16X2        | LCD DISPLAY 16X2 I2C        |
| 1 | NANO1     | ARDUINO NANO V2 |                             |
| 2 | RL1-RL2   | 12V             | Relay F4052 FINDER 12V COIL |
| 5 | SW1-SW5   |                 | Tactile Switch B3F-40XX     |

Sub-totals: