```
float value1;
int x=0;
void setup() {
  // put your setup code here, to run once:
pinMode(13,OUTPUT);   //pin 13 as output(relay)
pinMode(12,INPUT);    //pin 12 as input (reset)
pinMode(11,INPUT);    //pin 11 as input (arduino2 fault)
digitalWrite(13,LOW); //pin 13 is low
Serial.begin(9600);   //start serial
}

void loop() {
  // put your main code here, to run repeatedly:
  value1=(analogRead(A0)*1.8180048077);  //voltage across shunt resistor or current
since R=1 // 4882.8125=5*1000/1024
 if(x==0){Serial.print("I1=");Serial.print(value1);Serial.println(" mA, ");}//print
current value to serial monitor
  if(value1>=100 && digitalRead(11)==HIGH ){digitalWrite(13,HIGH);x=1;}  //if
current >100ma & arduino2 has fault, activate the relays
  if(digitalRead(12)==HIGH){digitalWrite(13,LOW);x=0;} //if reset button os pressed,
close the relays
  delay(1);
}
```