Sensor Specifications:

1. Pressure sensor:

Details: Flexiforce Pressure Sensor - 100lbs.
Link: https://www.sparkfun.com/products/8685
Specifications:

4.4N(0-1lb)
111N(0-25lb)
445N(0-100lb)

In order to measure forces above 100 lb (up to 1000 lb), apply a lower drive voltage (-0.5 V, -0.10 V, etc.) and reduce the resistance of the feedback resistor (1kΩ min.) Conversely, the sensitivity can be increased for measurement of lower forces by increasing the drive voltage or resistance of the feedback resistor.

Communication Protocol: analog-in pins

Arduino Sample Code:

```
// Reads A0 every 100ms and sends voltage value over serial

void setup()
{
  // Start serial at 9600 baud
  Serial.begin(9600);
}

    void loop()
{
  // Read the input on analog pin 0:
  int sensorValue = analogRead(A0);

  // Convert the analog reading (which goes from 0 – 1023)
to a voltage (0 – 5V):
  float voltage = sensorValue * (5.0 / 1023.0);

  // Print out the value you read:
  Serial.println(voltage);

  // Wait 100 milliseconds
  delay(100);
}
```

2. Voltage sensor:

Details: Phidgets Precision Voltage Sensor
Link: http://www.robotshop.com/en/phidgets-precision-volt-sensor.html
Specifications:

- Measures voltage from -30V to +30V
- Current Consumption: 3.6mA
- Typical Error: ±0.7%
- RoHS compliant

Communication Protocol: analog-in pins

3. Current sensor:

Details: Pololu ±5A ACS714 Current Sensor
Link: http://www.robotshop.com/en/pololu-5a-acs715-current-sensor.html

Specifications:

Current sense: 0.185 V/A
- Effect based linear current sensor
- logic voltage: 4.5 V - 5.5 V
- Supply current: 13 mA
- Two mounting holes on the logic side

Communication Protocol: analog-in pins