**SenseMe Arduino Libraries**

# General information

* SenseMe driver file location are located under Arduino IDE  
  \arduino-1.6.0\hardware\SenseMe\avr\libraries

# Prepare Arduino

1. Select board => SenseMe
2. Select com PORT => Only on Windows
3. Select programmer => USBasp

# SenseMe Example Sketches

Arduino=> Examples=>200.SenseMe

# Libraries reference

|  |  |  |
| --- | --- | --- |
| **Thermistor** | | |
| Header | #include <SenseMeThermistor.h> |  |
| Object name | **Thermistor/ SenseMeThermistor** | Can use one of these names |
| Functions | .begin(); | Initialise thermistor *(optional)* |
|  | .temperature(); | Get temperature value in Celsius to 0.1oC |
|  | .temperature(CELSIUS); | Get temperature value in Celsius to 0.1oC |
|  | .temperature(FAHRENHEIT); | Get temperature value in Fahrenheit to 0.1oC |
|  | .temperatureRaw(); | Get raw ADC values between 0 and 1024 |
| **LED Matrix** | | |
| Header | #include <SenseMeLEDMatrix.h> |  |
| Object name | **SenseMeLEDMatrix/LEDMatrix/Matrix** | Can use one of these names |
| Functions | .begin(0x70); | Initialise LED Matrix with address 0x70 |
|  | .clear(); | Clear the display |
|  | .writeDisplay(); | Write the display after setting it |
|  | .drawBitmap(x, y, \*bitmap, w, h, LED\_ON); | Draw a bitmap defined as const uint8\_t |
|  | .drawPixel( x, y, LED\_ON); | Light up a pixel |
|  | .setBrightness(uint8\_t b); | Set brightness 0-255 |
|  | .blinkRate(uint8\_t b); | Set clink rate 0-255 |
|  | .drawCircle(x, y, r, LED\_ON); | Draw an outlined circle |
|  | .fillCircle(x,y, r, LED\_ON); | Draw a filled circle |
|  | .drawTriangle(x0, y0, x1, y1,x2, y2, LED\_ON), | Draw an outlined triangle |
|  | .fillTriangle(x0, y0, x1, y1,x2, y2, LED\_ON), | Draw a filled triangle |
|  | .drawRoundRect(x0, y0, w, h, r, LED\_ON), | Draw an outlined round rectangle |
|  | .fillRoundRect(x0, y0, w, h, r, LED\_ON), | Draw a filled round rectangle |
|  | .setCursor(x, y), | Set cursor location |
|  | .setFace(Mood) | Mood is a string can be “happy”, “sad”, “neutral”, “frown”, “sleep”, “yawn” |
|  | .setTextSize(s), | Size in pixels |
|  | .setTextWrap(TF); | True or false |
|  | .setRotation(r); | Rotation: 0,1,2,3 = 0,90,180,270 |
|  | .print(Str) | Print the string on LEDdisplay |
| **Accelerometer** | | |
| Header | #include <SenseMeAccelerometer.h> |  |
| Object name | **SenseMeAccelerometer** |  |
| Functions | .begin() | Initialise the accelerometer |
|  | .xyz(xyz) | Read in values in G. xyz is a 3-D array of float type. i.e. float xyz[3]; |
|  | .xyzRaw(xyz) | Read in 12 bit raw ADC value. xyz is unsigned integer, i.e. uint16\_t xyz[3] |
| **Magnetomer** | | |
| Header | #include <SenseMeMagnetometer.h> |  |
| Object name | **SenseMeMagnetometer** |  |
| Functions | .begin() | Initialise the magnetometer |
|  | .xyz(xyz) | Read in values in G. xyz is a 3-D array of float type. i.e. float xyz[3]; |
|  | .xyzRaw(xyz) | Read in 12 bit raw ADC value. xyz is uint16\_t xyz[3] |
| **Temperature and Humidity Sensor (SHT21)** | | |
| Header | #include <SHT2x.h> |  |
| Object name | **SHT2X** |  |
| Header | #include <SHT2x.h> |  |
| Functions | .GetTemperature() | Return a float value to 0.1oC |
|  | .GetHumidity() | Return a float value |
| **EEPROM** | | |
| Header | #include <EEPROM.h> |  |
| Object name | **EEPROM** |  |
| Functions | .read(addr) | Address to read (int), output (uint8\_t) |
|  | .write(int, uint8\_t) | Address to write(int), content(uint8\_t) |
| **Bluetooth** | | |
| Header | #include <SenseMeBluetooth.h> |  |
| Object name | **SenseMeBluetooth** |  |
|  | .begin() |  |
|  | .printVersion() | Send ATcommand to Bluetooth module request for version number |
|  | .setModuleName("SenseMe”) |  |
|  | .getModuleName(); |  |
|  | .getDeviceAddr() |  |
|  | .setMaster() |  |
|  | .setSlave() |  |
|  | .readChar() |  |
|  | .print(str) | Send String down the Bluetooth serial |
|  | .println(str) |  |
| **Speaker** | | |
| Header | #include <SenseMeSpeaker.h> |  |
| Object name | **SenseMeSpeaker** |  |
|  | .begin() |  |
|  | .playTone(note, duration) | Both are integers |
|  | .mute() |  |
| **Light** **Sensor** | | |
| Header | #include <SenseMeLightSensor.h> |  |
| Object name | **SenseMeLightSensor** |  |
|  | .begin() |  |
|  | .lightLevel() | Output uint16\_t |
| **Neopixel** | | |
| Header | #include <SenseMeNeopixel.h> |  |
| Object name | **SenseMeNeopixel** |  |
| Header | #include <SenseMeNeopixel.h> |  |
|  | .begin() |  |
|  | .setColor(r,g,b) | r,g,b uint8\_t 0 to 255 |
|  | .setColor(c) | c uint32\_t: r = c>>16, g = c>>8 |
|  | .setBrightness(b) | 0-255 |
|  | .setColor(r, g, b, brightness) | All input range 0-255 |