









# LamaPLC: BMP/BME Bosch Temperature/Humidity/Pressure sensors with I<sup>2</sup>C communication

Bosch BMP sensors primarily measure barometric pressure and temperature, while Bosch BME sensors are more comprehensive, adding humidity and, in newer models, gas/air quality sensing.

Type of measurement	Model	Power voltage	Measurement, range, accuracy	Communication	Note
 Temperature Humidity Air pressure	Bosch <b>BME280</b> 	<b>3.3 V</b> (1.71 .. 3.6V)	Temperature measurement range: -40 .. +80 °C Temperature measurement accuracy: ±0.5°C (-40..85) Humidity measurement range: 0..100% RH Humidity measurement accuracy: ±3% Air pressure Range: 300 .. 1100 hPa Air pressure accuracy: ±0.25%	I <sup>2</sup> C default addr.: <b>0x76/77</b> SPI	-
 Temperature Humidity Air pressure	Bosch <b>BME680</b> 	<b>3.3 V</b> (1.71 .. 3.6V)	Temperature measurement range: -40 .. +80 °C Temperature measurement accuracy: ±1.5°C Humidity measurement range: 0..100% RH Humidity measurement accuracy: ±3% Air pressure Range: 300 .. 1100 hPa Air pressure accuracy: ±0.25%	I <sup>2</sup> C default addr.: <b>0x76/77</b> SPI	Direct output of IAQ: Index for Air Quality

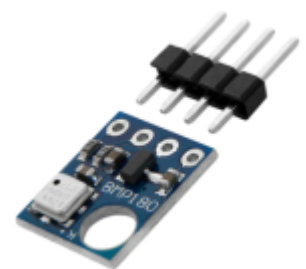
Type of measurement	Model	Power voltage	Measurement, range, accuracy	Communication	Note
 Temperature Air-pressure	Bosch <b>BMP180</b> 	<b>3.3 V</b> (1.62 .. 3.6V)	Temperature measurement range: -40 .. +85 °C Temperature measurement accuracy: ±1.5°C Air pressure Range: 4.35PSI .. 15.95PSI (30kPa .. 110kPa) Air pressure accuracy: ±2%	I <sup>2</sup> C default addr.: <b>0x77</b> (fix)	Maximum Pressure: 145.04PSI (1000kPa) Temperature resolution: 0.1 °C Pressure resolution: 1 Pa
 Temperature Air-pressure	Bosch <b>BMP280</b> 	<b>3.3 V</b> (1.71 .. 3.6V)	Temperature measurement range: -40 .. +85 °C Temperature measurement accuracy: ±1.5°C Air pressure Range: 4.35PSI .. 15.95PSI (30kPa .. 110kPa) Air pressure accuracy: ±2%	I <sup>2</sup> C SPI default addr.: <b>0x76</b>	Maximum Pressure: 290.08PSI (2000kPa) Temperature resolution: 0.01 °C Pressure resolution: 0.16 Pa

The BME/BMP sensors can be integrated with the [Tasmota](#) system. For more details, see here:

- BMP085, BMP180 and BMP280 sensors: <https://tasmota.github.io/docs/BME280/>
- BME280: <https://tasmota.github.io/docs/BME280/>
- BME680: <https://tasmota.github.io/docs/BME680/>

## BME/BMP Modules

### BMP180 Temperature/Barometric Pressure Module

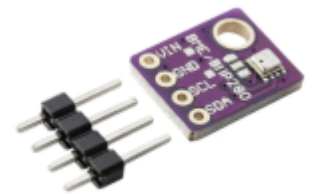


Another name for the **GY-68** module is a breakout board that integrates the [Bosch BMP180](#) sensor to measure atmospheric pressure, temperature, and altitude. The two terms refer to different components of the same product for hobbyist use: the BMP180 is the sensing chip on the GY-68 printed-circuit board.

The GY-68 BMP180 sensor module is known for its high precision, low power consumption, and ease of use via the I2C interface, making it popular for a wide range of DIY and IoT projects.

Feature	Specification
Chipset	<a href="#">Bosch BMP180</a>
Operating Voltage	<b>3.3V-5.5V</b> (module input voltage, includes voltage regulator); the chip itself runs on 1.8V-3.6V
Power Consumption	Ultra-low power, typically 0.5 $\mu$ A in standard mode (at 1 Hz sampling)
Interface	I <sup>2</sup> C (Serial Data Line/SDA and Serial Clock Line/SCL)
Multiple modules on the I <sup>2</sup> C	No. Default address <b>0x77</b> is fixed, making it impossible to add multiple sensors to the same I <sup>2</sup> C bus
Pressure Range	300 to 1100 hPa (+9000m to -500m relative to sea level)
Pressure Accuracy	Up to $\pm 0.03$ hPa ( $\sim 0.25$ m resolution) in high resolution mode
Temperature Range	-40°C to +85°C
Temperature Accuracy	$\pm 0.5$ °C
Calibration	Fully calibrated at the factory, and data is stored in internal E2PROM

## BME280 Temperature/Humidity/Barometric Pressure module



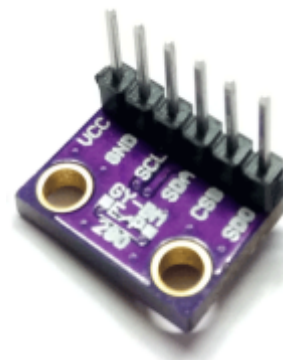
Another name, **GY-BME280**, is a sensor module that integrates the [Bosch BME280](#) environmental sensor chip and measures temperature, humidity, and atmospheric pressure. It is an upgrade to the BMP280 and is widely used in hobbyist electronics and IoT projects for comprehensive environmental monitoring.

The Bosch BME280 sensor features high precision and low power consumption, making it suitable for battery-powered systems. The GY-BME280 module often includes a voltage regulator and a logic-level converter, allowing it to operate with both 3.3V and 5V microcontrollers such as Arduino and Raspberry Pi.

Feature	Specification
Chipset	<a href="#">Bosch BME280</a>
Measurements	Temperature, Humidity, and Pressure
Operating Voltage	<b>3.3V-5V</b> (via onboard regulator on some modules; chip runs on 1.71V-3.6V)
Interface	I <sup>2</sup> C (default) and SPI (optional)
Multiple modules on the I <sup>2</sup> C	Max. 2 modules. The module's default I <sup>2</sup> C address is <b>0x76</b> , which can be easily changed to 0x77 using the provided solder jumper *
Temperature Range	-40°C to +85°C
Humidity Range	0% to 100% relative humidity ( $\pm 3\%$ accuracy)
Pressure Range	300 to 1100 hPa ( $\pm 1.0$ hPa accuracy)
Power Consumption	As low as 0.1 $\mu$ A in sleep mode, or 3.6 $\mu$ A at 1 Hz for all three measurements

\*: To change the I<sup>2</sup>C address to 0x77, cut the trace between the middle and left copper pads with a sharp knife. Then add a solder blob between the middle and right copper pads to short them.

## BMP280 (HW-611) Temperature/Barometric Pressure module



The GY-BMP280-3.3 is a sensor module featuring the [Bosch BMP280](#) environmental sensor chip, which precisely measures atmospheric pressure and temperature. This module operates from a 3.3V DC power supply, making it a low-power solution for applications such as weather monitoring, altimetry, and navigation systems.

The Bosch BMP280 improves on its predecessors (BMP085/BMP180) by delivering better performance and lower power consumption in a smaller form factor. The GY-BMP280-3.3 module features versatile interfacing and precise measurements.

Feature	Specification
<b>Chipset</b>	<a href="#">Bosch BMP280</a>
<b>Measurements</b>	Pressure and Temperature (Does not measure humidity)
<b>Operating Voltage</b>	3.3V DC (module input voltage; chip runs on 1.71V–3.6V)
<b>Power Consumption</b>	Ultra-low power, typically 2.7 $\mu$ A at 1 Hz sampling rate
<b>Interface</b>	I <sup>2</sup> C (up to 3.4 MHz) and SPI (up to 10 MHz)
<b>Multiple modules on the I<sup>2</sup>C</b>	Max. 2 modules. Default I <sup>2</sup> C is: <b>0x76</b> (SDO pin low). 2nd I <sup>2</sup> C address is: <b>0x77</b> *
<b>Pressure Range</b>	300 to 1100 hPa (+9000m to -500m relative to sea level)
<b>Pressure Accuracy</b>	Up to $\pm 1$ hPa absolute accuracy, allowing for $\sim \pm 1$ m altitude resolution
<b>Temperature Range</b>	-40°C to +85°C
<b>Temperature Accuracy</b>	$\pm 1.0^\circ$ C
<b>Calibration</b>	Factory-calibrated, with data stored in internal E2PROM

\*: To set the I<sup>2</sup>C address to **0x77**, connect pin 6 of the module (SDO) to Vcc, typically the 3.3V supply, and connect pin 5 of the module (CSB) to Vcc to select the I<sup>2</sup>C interface.

### GY-BMP280-3.3 Pinout

Pin	Name	I <sup>2</sup> C Function	SPI Function (4-wire)	Description
1	VCC	Power ( <b>3.3V</b> )	Power ( <b>3.3V</b> )	Supply voltage (1.71V to 3.6V)
2	GND	Ground	Ground	Common ground
3	SCL	SCL	SCK	Serial clock line
4	SDA	SDA	SDI (MOSI)	Serial data line

Pin	Name	I <sup>2</sup> C Function	SPI Function (4-wire)	Description
5	CSB	High (I <sup>2</sup> C)	CS	Chip select. Pull High for I <sup>2</sup> C (default via onboard resistor) or Low for SPI
6	SDO	ADR	SDO (MISO)	Sets I <sup>2</sup> C address: High for 0x77, Low for 0x76 (default). <i>Never leave the SDO pin floating. If it is not tied to GND or VCC, the I<sup>2</sup>C address may fluctuate randomly between the two values, causing communication errors.</i>



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## GY-BMP280/HW-611 Arduino code

```
// include
#include <Wire.h>
#include <Adafruit_Sensor.h>
#include <Adafruit_BMP280.h> // BMP280/HW-611

// variable
float bmp_280_temp;
float bmp_280_press;
bool bmp_280_ready;
String unitID = "abcd";

// init
Adafruit_BMP280 bmp_280; // BMP280/HW-611

// call block
void bmp_280_function () {
  bmp_280_temp = bmp_280.readTemperature();
  bmp_280_press = bmp_280.readPressure() / 100.0F;
  Serial.print("unitID: "); Serial.print(unitID); Serial.print(";
bmp_280_temp: "); Serial.print(bmp_280_temp); Serial.println(" ; unit: C");
  Serial.print("unitID: "); Serial.print(unitID); Serial.print(";
bmp_280_press: "); Serial.print(bmp_280_press); Serial.println(" ; unit:
hPa");
}

void setup() {
  Serial.begin(115200);
```

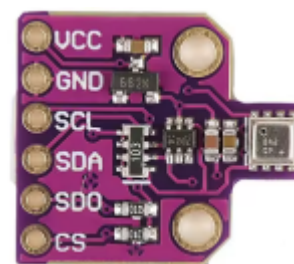
```

// unit works?
bmp_280_ready = bmp_280.begin(0x76);
if (!bmp_280_ready) {
Serial.println("BMP280/HW-611 Sensor not found");
} else {
Serial.println("BMP280/HW-611 Sensor works");
}
}

void loop() {
// call all units with 2 sec raster
static unsigned long lastTime = 0;
if (millis() - lastTime > 2000) {
lastTime = millis();
// units call, if works
if (bmp_280_ready) {bmp_280_function ();}
}
}

```

## CJMCU-680 Temperature/Humidity/Barometric Pressure/Gas (VOC) Module



The **CJMCU-680** is an environmental sensor breakout board based on the Bosch BME680 chip. It is a versatile "4-in-1" module designed for DIY electronics and IoT projects.

### Core Capabilities

The module measures four distinct environmental parameters:

- **Temperature:** Provides ambient temperature readings.
- **Humidity:** Measures relative humidity.
- **Barometric Pressure:** Can be used to calculate altitude or track weather changes.
- **Gas (VOC):** Features a heated metal-oxide sensor that detects Volatile Organic Compounds (VOCs) to estimate indoor air quality.

Feature	Specification	Details
Model	CJMCU-680 / BME680	4-in-1 Environmental Sensor
Operating Voltage	1.7V - 3.6V	Often compatible with 5V via onboard regulator
Communication	I <sup>2</sup> C or SPI	I <sup>2</sup> C (up to 3.4 MHz), SPI (up to 10 MHz)

Feature	Specification	Details
<b>Multiple modules on the I<sup>2</sup>C</b>	Max. 2 modules. Default I <sup>2</sup> C is: <b>0x76</b> (SDO pin low). 2nd I <sup>2</sup> C address is: <b>0x77</b> *	
<b>Current (Sleep)</b>	0.15 $\mu$ A	Extremely low standby power
<b>Current (Active)</b>	2.1 $\mu$ A - 12 mA	Varies by mode; gas sensor heater uses most power
<b>Dimensions</b>	~30 x 14 x 10 mm	Compact breakout board size

## Sensor Performance

Parameter	Measurement Range	Accuracy / Tolerance
<b>Temperature</b>	-40°C to +85°C	$\pm 1.0^\circ\text{C}$
<b>Humidity</b>	0% to 100% RH	$\pm 3\%$ RH
<b>Pressure</b>	300 to 1100 hPa	$\pm 1$ hPa (absolute) / $\pm 0.12$ hPa (relative)
<b>Gas (VOC)</b>	Qualitative IAQ Index	Detects ethanol, CO, and other VOCs

**Gas Sensor Note:** For accurate air quality readings, it is recommended to “burn-in” the sensor for 48 hours during the first use and allow 30 minutes of warm-up time for each subsequent session.

## Response Times:

- **Gas Sensor:** < 1 second ( $\tau_{33-63\%}$ )
- **Humidity Sensor:** ~8 seconds ( $\tau_{0-63\%}$ )

## CJMCU-680 Pinout

The standard CJMCU-680 module uses the following pin arrangement:

Pin	Name	Function
<b>1</b>	VCC	Power Supply (1.7V to 3.6V; commonly used with 3.3V)
<b>2</b>	GND	Ground
<b>3</b>	SCL	I <sup>2</sup> C Clock (SCL) or SPI Clock (SCK)
<b>4</b>	SDA	I <sup>2</sup> C Data (SDA) or SPI Data In (SDI/MOSI)
<b>5</b>	SDO	SPI Data Out (MISO). Also sets the I <sup>2</sup> C Address: connect to GND for 0x76 (default) or VCC for 0x77. <i>Never leave the SDO pin floating. If it is not tied to GND or VCC, the I<sup>2</sup>C address may fluctuate randomly between the two values, causing communication errors.</i>
<b>6</b>	CS	Chip Select for SPI. Pulling this high or leaving it disconnected defaults the module to I <sup>2</sup> C mode

## Arduino wiring

- SCL: A5
- GND: GND
- SDA: A4
- Vdd: **3.3V** (or **5V** if your breakout board has a regulator).

## Arduino code

Install the Adafruit BME680 Library (this will also prompt you to install the Adafruit Unified Sensor and Adafruit BME680 Library, which you need)

```
/*
 * BME680 Sensor - Arduino Uno/Nano
 * Connection: I2C
 * Data: Temperature, Humidity, Pressure, Gas (Air Quality)
 *
 * Required Libraries (Arduino Library Manager):
 * - "Adafruit BME680 Library" by Adafruit
 * - "Adafruit Unified Sensor" by Adafruit
 *
 * Wiring (I2C):
 * BME680 --> Arduino Uno/Nano
 * VCC     --> 3.3V (or 5V depending on module)
 * GND     --> GND
 * SDA     --> A4
 * SCL     --> A5
 */

#include <Wire.h>
#include <Adafruit_Sensor.h>
#include <Adafruit_BME680.h>

// Sea level pressure for altitude calculation (adjust to your location in
// hPa!)
#define SEA_LEVEL_PRESSURE_HPA 1013.25

// Create BME680 object (I2C address: 0x76 or 0x77)
Adafruit_BME680 bme;

void setup() {
  Serial.begin(9600);
  while (!Serial); // Wait until Serial is ready

  Serial.println(F("====="));
  Serial.println(F("  BME680 Sensor - Arduino  "));
  Serial.println(F("====="));

  // Initialize sensor
  if (!bme.begin(0x76)) {
    Serial.println(F("ERROR: BME680 not found!"));
    Serial.println(F("Please check your wiring."));
    Serial.println(F("Trying address 0x77 ..."));

    if (!bme.begin(0x77)) {
      Serial.println(F("ERROR: BME680 not found on 0x77 either!"));
      while (1); // Halt program
    }
  }
}
```

```
    }  
  }  
  
  Serial.println(F("BME680 found successfully!"));  
  
  // Configure sensor settings  
  bme.setTemperatureOversampling(BME680_OS_8X);  
  bme.setHumidityOversampling(BME680_OS_2X);  
  bme.setPressureOversampling(BME680_OS_4X);  
  bme.setIIRFilterSize(BME680_FILTER_SIZE_3);  
  bme.setGasHeater(320, 150); // Heater temperature: 320°C, Heating time:  
150ms  
  
  Serial.println(F("Sensor configured. Starting measurements...\n"));  
  delay(2000);  
}  
  
void loop() {  
  // Start measurement and wait for result  
  if (!bme.performReading()) {  
    Serial.println(F("ERROR: Reading failed!"));  
    delay(2000);  
    return;  
  }  
  
  // Print sensor values  
  Serial.println(F("-----"));  
  
  // Temperature  
  Serial.print(F("Temperature:      "));  
  Serial.print(bme.temperature, 1);  
  Serial.println(F(" °C"));  
  
  // Humidity  
  Serial.print(F("Humidity:          "));  
  Serial.print(bme.humidity, 1);  
  Serial.println(F(" %"));  
  
  // Pressure  
  Serial.print(F("Pressure:          "));  
  Serial.print(bme.pressure / 100.0, 2);  
  Serial.println(F(" hPa"));  
  
  // Altitude above sea level (calculated)  
  Serial.print(F("Altitude (approx): "));  
  Serial.print(bme.readAltitude(SEA_LEVEL_PRESSURE_HPA), 1);  
  Serial.println(F(" m"));  
  
  // Gas resistance (air quality)  
  Serial.print(F("Gas Resistance:    "));  
  Serial.print(bme.gas_resistance / 1000.0, 2);
```

```

Serial.println(F(" kΩ"));

// Air quality as simple rating
Serial.print(F("Air Quality:      "));
Serial.println(getAirQuality(bme.gas_resistance));

Serial.println();

// Wait 3 seconds until next measurement
delay(3000);
}

// Simple air quality rating based on gas resistance
String getAirQuality(uint32_t gasResistance) {
  uint32_t kOhm = gasResistance / 1000;

  if (kOhm >= 300) {
    return F("Very Good");
  } else if (kOhm >= 150) {
    return F("Good");
  } else if (kOhm >= 50) {
    return F("Moderate");
  } else if (kOhm >= 10) {
    return F("Poor");
  } else {
    return F("Very Poor");
  }
}

```

## I<sup>2</sup>C topics on lamaPLC

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• <a href="#">lamaPLC Communication: I<sup>2</sup>C</a>	2025/09/23 21:25	<a href="#">i2c</a> , <a href="#">i c</a> , <a href="#">smbus</a> , <a href="#">philips</a> , <a href="#">bus</a> , <a href="#">communication</a> , <a href="#">arduino</a>
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• <a href="#">LamaPLC: APDS - Avago ALS and proximity detection sensors with I<sup>2</sup>C communication</a>	2026/04/23 21:52	<a href="#">avago</a> , <a href="#">apds-9900</a> , <a href="#">apds-9930</a> , <a href="#">apds-9960</a> , <a href="#">als</a> , <a href="#">proximity</a> , <a href="#">detection</a> , <a href="#">gesture recognition</a> , <a href="#">gesture</a> , <a href="#">i2c</a> , <a href="#">communication</a> , <a href="#">sensor</a> , <a href="#">arduino</a> , <a href="#">code</a>
• <a href="#">lamaPLC: Arduino Modul: BME680</a>	2026/05/12 18:40	<a href="#">code</a> , <a href="#">c</a> , <a href="#">2026</a> , <a href="#">arduino</a> , <a href="#">bme680</a> , <a href="#">sensor</a> , <a href="#">i2c</a> , <a href="#">comunication</a>

• lamaPLC: AS5600 Magnetic Induction Angle Measurement Sensor Module	2026/05/13 00:06	communication, i2c, as5600, as-5600, magnetic, induction, angle, sensor
• lamaPLC: Bi-Directional Logic Level Converter 3.3V ↔ 5V	2026/04/12 00:34	bi-directional, logic level converter, i2c, uart, spi
• LamaPLC: BMP/BME Bosch Temperature/Humidity/Pressure sensors with I <sup>2</sup> C communication	2026/04/23 21:52	bme280, bme680, bme688, bmp180, bmp280, hw-611, hw611, bosch, temperature, humidity, pressure, sensor, arduino, i2c, communication, ai, cjmcu, volatile organic compounds, vocs, volatile sulfur compounds, vscs, iaq
• LamaPLC: CJMCU-219/INA-219 breakout board/IC with I <sup>2</sup> C communication	2026/04/23 21:52	cjmcu-219, ina-219, ina219, breakout board, i2c, communication, sensor, voltage, current, arduino, code, cjmcu
• LamaPLC: CJMCU-3216 / AP-3216 integrated digital ambient light and proximity sensor module/IC with I <sup>2</sup> C communication	2026/04/23 21:52	cjmcu-3216, cjmcu, ap-3216, ap3216, ambient light, proximity, sensor, arduino, code, i2c, communication
• lamaPLC: CJMCU-811 CCS811 Gas Sensor (VOCs TVOC CO <sub>2</sub> )	2026/04/23 21:52	cjmcu-811, ccs811, gas, sensor, vocs, tvoc, eco2, co2, arduino, air quality metal oxide, mox, i2c, micropython, rp2040-eth
• LamaPLC: D6T Omron Non-Contact Thermal Sensors with I <sup>2</sup> C communication	2026/04/23 21:52	d6t, d6t-32l, d6t-44l, d6t-8l, d6t-1a, omron, non-contact, thermal, sensor, i2c, arduino, code
• LamaPLC: DPS Infineon Temperature/Pressure sensors with I <sup>2</sup> C communication	2026/04/23 21:52	dps310, infineon, temperature, pressure, sensor, arduino, i2c, communication, code
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• LamaPLC: ENS ScioSense Multi-gas sensors with I <sup>2</sup> C communication	2026/04/23 21:52	ens160, sciosense, gas-quality, i2c, communication, sensor, arduino, code, eco <sub>2</sub> , tvoc, aqi, indoor air quality, iaq, co <sub>2</sub> , voc
• lamaPLC: ESP32 / ESP8266	2025/11/22 00:07	esp8266, esp32, esp32-c2, esp32-c3, esp32-c5, esp32-c6, esp32-c61, esp32-h2, esp32-s2, esp32-s3, esp32-p4, espressif systems, communication, ethernet, ip, wi-fi, thread, zigbee, matter, homekit, bluetooth, mqtt, adc, spi, uart, i2c, i2s, rmt, pwm, usb, usb otg, twai
• LamaPLC: Gas sensors	2023/07/01 17:29	gas, sensor, i2c, onewire, communication, mq-3, mq-4, mq-5, mq-6, mq-7, mq-8, mq-9, mq-135, gm-102b, gm-302b, gm-502b, gm-702b, alcohol, ch4, natural gas, smoke, lng, co, co2, lpg, h2, iso-butane, nox, nh3, benzene, town gas, formaldehyde, propane, humidity, temperature, voc, grv gas sens v2

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• <a href="#">LamaPLC: HDC Texas Instruments Temperature/humidity sensors with I<sup>2</sup>C communication</a>	2026/04/23 21:52	<a href="#">sht21</a> , <a href="#">htu21</a> , <a href="#">si7021</a> , <a href="#">gy-21</a> , <a href="#">gy-213v</a> , <a href="#">hdc1080</a> , <a href="#">gy-213v-hdc1080</a> , <a href="#">cjmcu</a> , <a href="#">cjmcu-1080</a> , <a href="#">texas instruments</a> , <a href="#">temperature</a> , <a href="#">humidity</a> , <a href="#">sensor</a> , <a href="#">i2c</a> , <a href="#">communication</a> , <a href="#">arduino</a> , <a href="#">code</a>
• <a href="#">lamaPLC: HT16K33 display controller</a>	2026/04/23 21:51	<a href="#">i2c</a> , <a href="#">7-segment display</a> , <a href="#">display</a> , <a href="#">ht16k33</a> , <a href="#">arduino</a>
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• <a href="#">lamaPLC: INA226 - current/voltage/power monitor with I<sup>2</sup>C communication</a>	2026/04/23 21:52	<a href="#">i2c</a> , <a href="#">i c</a> , <a href="#">communication</a> , <a href="#">arduino</a> , <a href="#">energy</a> , <a href="#">power</a> , <a href="#">current</a> , <a href="#">monitor</a> , <a href="#">sensor</a> , <a href="#">ina226</a> , <a href="#">ina219</a> , <a href="#">ina</a>
• <a href="#">lamaPLC: LCD 1602/2004 with I<sup>2</sup>C communication</a>	2026/02/14 18:27	<a href="#">communication</a> , <a href="#">i2c</a> , <a href="#">display</a> , <a href="#">lcd</a> , <a href="#">1602</a> , <a href="#">2004</a> , <a href="#">hd44780</a> , <a href="#">pcf8574</a> , <a href="#">pcf8574t</a> , <a href="#">pcf8574at</a> , <a href="#">arduino</a>
• <a href="#">LamaPLC: MAX30100/MAX30102 Heart Rate Click Sensor Module</a>	2026/04/23 21:52	<a href="#">max30102</a> , <a href="#">max30100</a> , <a href="#">heart rate click</a> , <a href="#">sensor</a> , <a href="#">communication</a> , <a href="#">i2c</a> , <a href="#">arduino</a> , <a href="#">code</a>
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• <a href="#">lamaPLC: RP2040_ETH_Modul: I<sup>2</sup>C scanner</a>	2026/05/12 16:20	<a href="#">code</a> , <a href="#">micropython</a> , <a href="#">2026</a> , <a href="#">rp2040 eth</a> , <a href="#">i2c</a> , <a href="#">comunication</a>
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