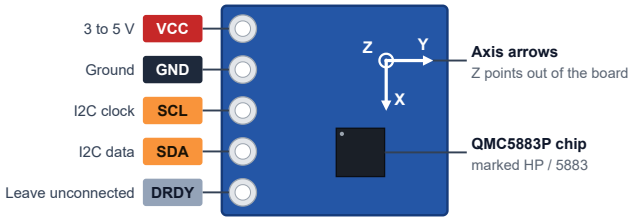
GY-271 QMC5883P Compass Module Quick Start

Solder the header, connect four wires, install one library and run the test sketch.

QMC5883P | I2C ADDRESS 0x2C | 3 V TO 5 V | LEAVE DRDY UNCONNECTED

1 WIRE IT UP



Front, 14.0 x 13.0 mm. Not to scale.
Names are printed on the back.

YOUR BOARD	VCC	SCL	SDA
Uno, Nano	5V	A5	A4
Mega 2560	5V	21	20
ESP32	3V3	GPIO22	GPIO21

GND goes to any GND pin. **Leave DRDY unconnected.** This board has no data-ready output; the sketch reads the status register instead.

VCC takes 3 V to 5 V. Use 5V on an Uno, Nano or Mega and 3V3 on an ESP32 or other 3.3 V board.

Use a QMC5883P library. This board answers at address 0x2C. Guides and libraries for QMC5883L (0x0D) or HMC5883L (0x1E) compass boards will not find it, even though some of those boards are also marked GY-271.

2 FIRST START

1. **You need** a soldering iron, four jumper wires, a USB cable and the Arduino IDE.
2. **Solder the header.** Push the short ends of the 5-pin header through the board and solder all five pads.
3. **Wire the four pins** from the table above, with your board unplugged.
4. **Install the library.** Open **Tools > Manage Libraries**, search **QMC5883P** and install **Adafruit QMC5883P Library**. Choose **Install all** so Adafruit BusIO comes with it.
5. **Upload the test sketch** on the right and open the Serial Monitor at **115200** baud.
6. **Check the result.** It shows **QMC5883P found**, then X, Y and Z values in gauss that change smoothly as you turn the board.

3 TEST SKETCH

```
// GY-271 QMC5883P first test (Click IT Electronics)
// Library: Adafruit QMC5883P (Library Manager)
// Wiring: VCC-5V or 3.3V, GND-GND, SCL-SCL,
// SDA-SDA. Leave DRDY unconnected.
#include <Adafruit_QMC5883P.h>

Adafruit_QMC5883P mag;

void setup() {
  Serial.begin(115200);
  Wire.begin();
  if (!mag.begin()) {   // address 0x2C
    Serial.println("No QMC5883P at 0x2C");
    while (1) delay(10);
  }
  mag.setMode(QMC5883P_MODE_NORMAL);
  mag.setODR(QMC5883P_ODR_50HZ);
  mag.setRange(QMC5883P_RANGE_2G);
  Serial.println("QMC5883P found");
}

void loop() {
  float x, y, z;
  if (mag.isDataReady() &&
      mag.getGaussField(&x, &y, &z)) {
    Serial.print("X "); Serial.print(x, 3);
    Serial.print("  Y "); Serial.print(y, 3);
    Serial.print("  Z "); Serial.println(z, 3);
  }
  delay(200);
}
```

4 NOT WORKING?

WHAT YOU SEE	TRY THIS
"No QMC5883P at 0x2C"	Check VCC and GND, swap SCL and SDA, and reheat any dull header joints.
An I2C scanner finds 0x2C, but another sketch says no compass found	That sketch uses a QMC5883L or HMC5883L library. Install Adafruit QMC5883P Library and start from the test sketch.
Numbers jump around	Move it away from motors, speakers, magnets, steel screws and the USB cable.
Nothing on the Serial Monitor	Set the Serial Monitor to 115200 baud and press the board's reset button.

5 USING IT AS A COMPASS

- **Calibrate in place.** Mount the board where it will live, keep it level and turn it slowly through full circles. Note the lowest and highest X and Y, then subtract each midpoint from later readings.
- **Add declination** for true north: about 19 to 27 degrees east across New Zealand (Auckland 20.3, Christchurch 24.7).
- **Heading** = atan2(Y, X) in degrees, with the X arrow pointing forward. Check it against a phone compass and negate or swap X and Y if it runs backwards.
- **The datasheet** has a calibrated heading sketch, the register map and full ratings.

This guide and the datasheet online

Scan for this guide as a PDF. The product page has the full datasheet with the heading sketch. Stuck? Email **support@nznelectronics.co.nz**

store.click-it.nz