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REF: B21-AGY271

ARDUINO GY-271 QMC5883 3-AXIS ELECTRONIC COMPASS MODULE



Description

The QMC5883 is a high-precision, three-axis digital compass featuring a magnetoresistive sensor with a 16-bit ADC for excellent resolution and accuracy, providing compass direction precision of 1° to 2°. With an I2C interface for easy integration into microcontroller-based projects, it includes advanced signal conditioning features like amplification, automated degaussing strap drivers, and offset cancellation to enhance measurement reliability. Operating on a 3.3V to 5V DC power supply, it is energyefficient and suitable for portable, low-power applications. The sensor also offers temperature compensation, selectable output data rates, and is ideal for uses in navigation, robotics, augmented reality, and geophysical measurements, with easy integration into systems like Arduino and Raspberry Pi.

Specifications

- I2C interface
- Compatible with 3.3V-5.0V voltage level
- Max 200Hz output rate
- High heading accuracy



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Pin connection

The connections are straightforward. Begin by connecting VCC to the Arduino's 3.3V pin and GND to ground. Connect the signal pin SCL to Arduino's A4. Next, connect the signal pin SDA to Arduino's A5

Arduino UNO (PIN)	QMC5883 (PIN)
3.3V	VCC
GND	GND
SCL	A4
SDA	A5

Circuit diagram

to not be confused I let the HMC5883L module in the wiring because the "fake" one is marked like the real one





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Pin diagram



Library

QMC5883LCompass											
by MPrograms Version 1.2.3 INSTALLED Library for using QMC5583L series chip boards as a compass. QMC5883L Compass is a Arduino library for using QMC5583L series chip boards as a compass.											
						More info					
Select version 🗸	Install										
UncleRus											
Code Arduino 1.8.19	- o x										
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Examples	A										
Close Ctrl+W	Adafruit PWM Servo Driver Library >										
Save Ctrl+S	Addruit SleepyDog Library > <u>BB3Compan</u>										
Save As Ctrl+Shift+S	Addriut SSD1300 2										
Page Setup Ctrl+Shift+P	Addrive united sensor / pre stable readings.										
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0.2 04.0	bijnik / / / / / / / / / / / / / / / / / / /										
44 Ctil+Q	Dallas Temperature >										
13 #include <qmc5883lc< th=""><th>DHT sensor library ></th></qmc5883lc<>	DHT sensor library >										
14	DHT sensor library for ESPx >										
16	DistanceSensor >										
178 void setup() {	EmotiBit External EEPROM >										
18 Serial.begin(9600	ESP Async WebServer >										
<pre>19 compass.init();</pre>	Keybaard >										
21日 /*	Keypad >										
22 * call setSmoo	LiquidCrystal I2C >										
23 +	NewPing >										
24 * STEPS =	OneWire smooth the results by. Valid 1 to 10.										
25	Ophicader e smoothing but longer process time.										
27 * ADVANCED =	Pushouton										
28	RF24 bearing in even more smoothing but will take longer to process.										
29 *	Rtc by Makuna calibration										
30 */	RTCD51307 direction										
31 compass.setSmooth	Servo smoothing										
22	SIM808 xyz										
34E void loop() {	TFT_eSPI 2										
35 int x, y, z;	TinyGPSPlus >										
36	Illoof for FT = SPI >										
37 // Read compass v											
Done Saving.											
avrdude done. Thank you.											
(
41	Adduina Une an COMB										
	🔹 🚵 🧑 Televram W. 😨 🧮 File Fordever 🐮 Checklist 20. 👓 smoothing. 📯 OBS 30.2.3. 🖉 OBS 30.2.3. 🖉 OBS 30.2.3.										



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CODING

The sketch below will provide you with a thorough understanding of how to read compass readings from a QMC5883 Sensor and can serve as the foundation for more practical experiments and projects.

🥯 smoothing Arduino 1.8.19			
File Edit Sketch Tools Help			
0			
sm	oothing		
18	Serial.begin(9600);		
19	compass.init();		
20			
210	/*		
22	* call setSmoothing(STEPS, ADVANCED);		
23	*		
24	* STEPS = int The number of steps to		
25	* Higher steps equals mor		
26	*		
27	* ADVANCED = bool Turn advanced smmothing		
28	Turning this feature or		
29	*		
30	*/		
31	compass.setSmoothing(10,true);		
32	1		
33	(mid low () (
391	Vold Loop() (
20	100 x, y, z;		
27	3b		
38	37 // Read compass values		
39	compass.read();		
40	// Return XY2 readings		
41	<pre>// Recurn Aiz readings // Recurn Aiz readings // Recurn Aiz readings</pre>		
42	42 v = compass.getv();		
43	<pre>43 z = compass.getz(); 43 z = compass.getZ();</pre>		
44	44		
45	5 Serial.print("X: ");		
46	6 Serial.print(x):		
47	<pre>Serial.print(" Y: ");</pre>		
48	Serial.print(y);		
49	<pre>Serial.print(" Z: ");</pre>		
50	Serial.print(z);		
51	<pre>Serial.println();</pre>		
52			
53	delay(250);		
54	1		

Result

Here's what the output looks like on the serial monitor

💿 сомв	– 🗆 X
	Send
15:46:30.953 -> X: 963 Y: 483 Z: -1178	^
15:46:31.233 -> X: 962 Y: 484 Z: -1176	
15:46:31.467 -> X: 964 Y: 483 Z: -1175	
15:46:31.701 -> X: 964 Y: 483 Z: -1176	
15:46:31.982 -> X: 965 Y: 483 Z: -1175	
15:46:32.219 -> X: 966 Y: 483 Z: -1175	
15:46:32.499 -> X: 968 Y: 483 Z: -1177	
15:46:32.733 -> X: 968 Y: 484 Z: -1177	
15:46:32.966 -> X: 965 Y: 486 Z: -1177	
15:46:33.248 -> X: 962 Y: 487 Z: -1181	
15:46:33.484 -> X: 960 Y: 492 Z: -1185	
15:46:33.719 -> X: 957 Y: 495 Z: -1194	
15:46:34.003 -> X: 951 Y: 498 Z: -1199	
15:46:34.237 -> X: 946 Y: 500 Z: -1204	
15:46:34.474 -> X: 941 Y: 503 Z: -1209	0-
	×
Autoscroli 🗹 Show timestamp	No line ending 🧹 9600 baud 🗸 Clear output