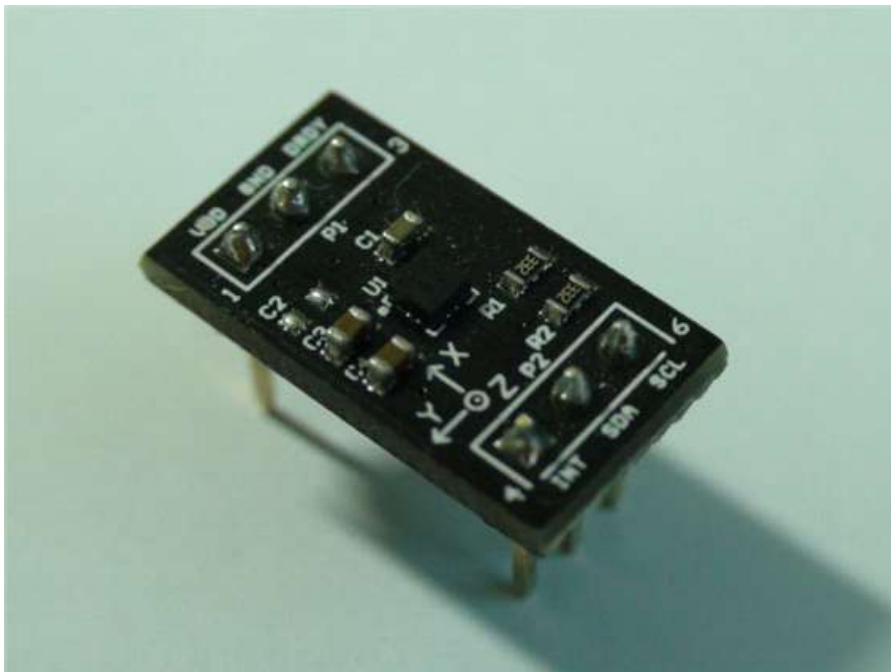


P0-MAI-00-01 Manual

(Digital 3-Axis Magnetometer Module)



1. Overview

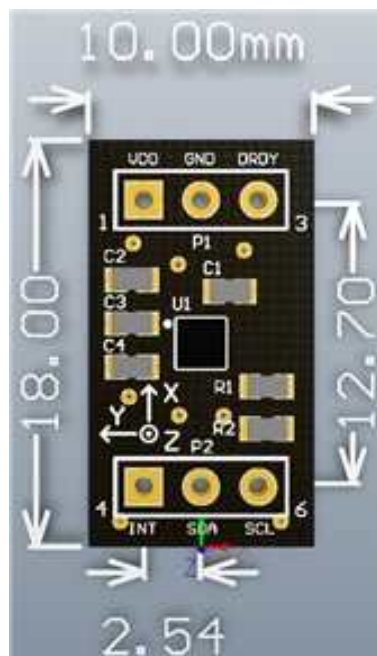
- AICHI STEEL 사의 AMI306 센서가 장착된 초소형 모듈
- 3축(X, Y, Z)의 자속밀도 및 내부온도를 측정하여 디지털 신호로 출력(I2C)
- I2C Pull-Up 내장
- 출력 데이터(자속밀도 : 2 Byte, 내부온도 : 2 Byte)
- INT(Interrupt Pin), DRDY(Completion of Measurement Output) PIN 제공
- 모든 기능 설정은 통신을 통하여 설정 가능 함.
- 핀 헤더(2.54mm)를 사용하여 브레드 보드 및 만능 기판에 장착 가능

2. Specification

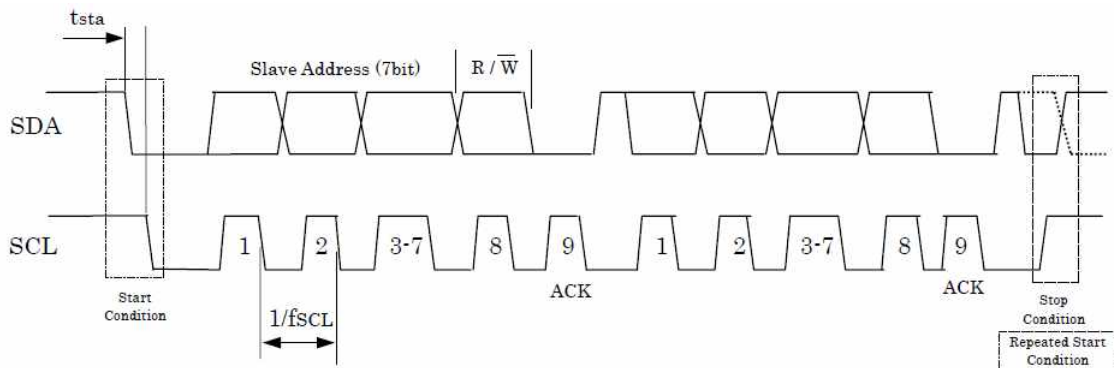
Characteristic	Value	Unit
Supply Voltage	1.7 ~ 3.6	V
Supply Current	0.15 ~ 1mA	mA
ADC Resolution	12	bit
I2C Frequency	400	kHz
Moving Range	±3	gauss
Measurable Range	±12	gauss
Magnetic Sensitivity	600	LSB/gauss
Magnetic Linearity	0.5	%FS
Magnetic Resolution	±0.9	degree
Magnetic Accuracy	±0.6	degree
ADC throughput	1000	SPS
Operating Temperature	-20 ~ +85	°C

3. Pin Out Description

Pin No.	Name	Function
1	VDD	Power Supply
2	GND	GND
3	DRDY	Completion of Measurement Output
4	INT	Interrupt Pin Output
5	SDA	I2C Signal Data I/O
6	SCL	I2C Signal Clock Input



4. I2C Bus Timing Chart



5. Interface command

가. Read Command

Master	S	SAD+W		RAD		Sr	SAD+R			A		A		N	P
Slave			A		A			A	RDA1		RDA2		.		

S	Start Condition	SAD+W	slave address + write (0x1C)
Sr	Restart Condition	SAD+R	slave address + read (0x1D)
A	ACK (SDA_Low)	RAD	Read-in address (register)
N	NACK (SDA_High)	RDA1	Read-in data 1
P	Stop Condition	RDA2	Read-in data 2

* Datasheet Resister Map 및 Example code 참조

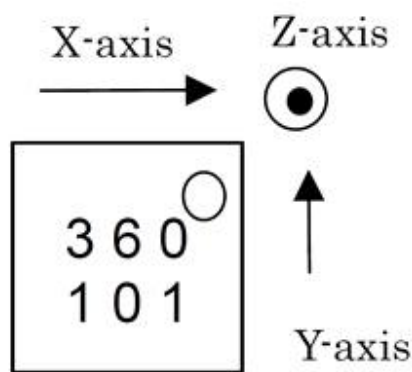
나. Write Command

Master	S	SAD+W		WAD		WDA1		WDA2		...		P
Slave			A		A		A		A			A

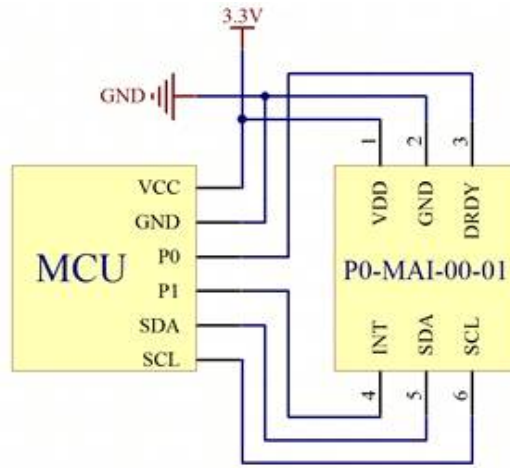
S	Start Condition	SAD+W	slave address + write (0x1C)
A	ACK (SDA_Low)	WAD	Write-in address (register)
N	NACK (SDA_High)	WDA1	Write-in data 1
P	Stop Condition	WDA2	Write-in data 2

* Datasheet Resister Map 및 Example code 참조

6. Chip & Module Notation



7. Application Circuit



8. Product

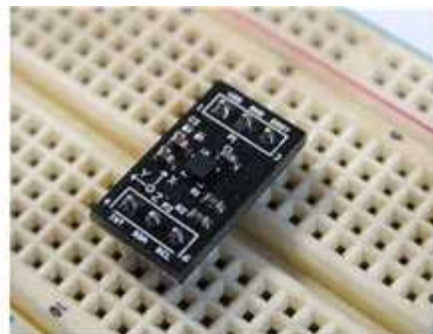
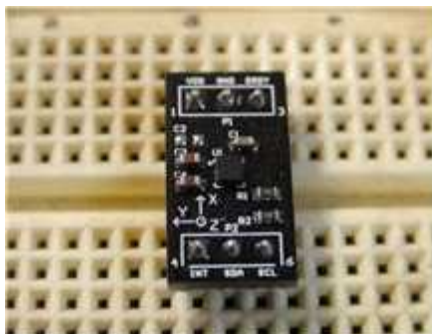


<Top View>

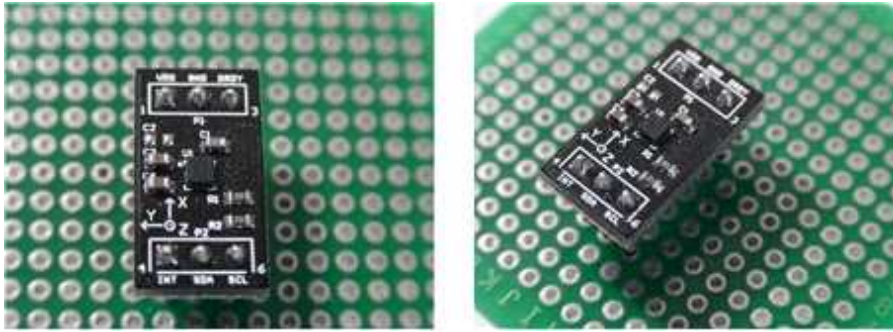


<Bottom View>

9. Application



<브레드 보드 장착>



<만능기판 장착>

10. Notes

- 제품 사용 시 본 매뉴얼을 숙지하여 사용
- 지자기센서 chip에 대한 상세 규격은 chip 매뉴얼 참조
(http://www.aichi-mi.com/3_products/110127ami306e.pdf)

11. Contact

- 판매사 : mySen(마이센)
- 주소 : 경기도 고양시 덕양구 화전동 한국항공대학교 중소벤처육성지원센터 310호
- 전화 : 070-7010-6989
- Fax. : 070-7614-3989
- Homepage : www.mysen.kr

※ 본 매뉴얼에 대한 저작권은 mySen(마이센)에 있으며, 무단 도용을 금합니다.