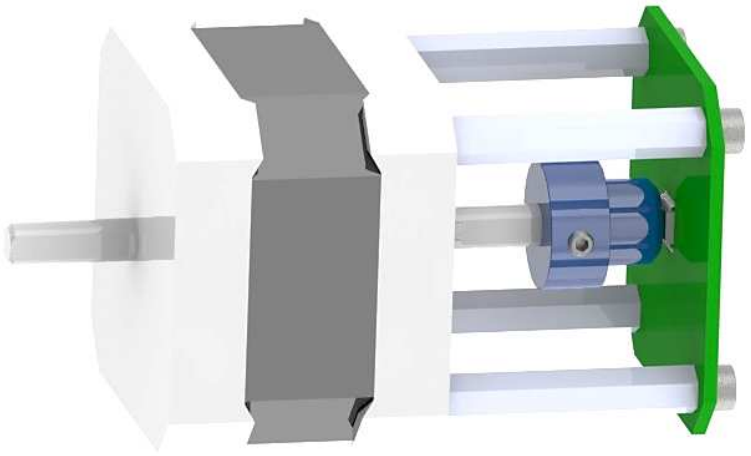
Operation Manual: AS5048-EK-AB-STM1.0



AS5048 Eval-Kit Stepper Motor

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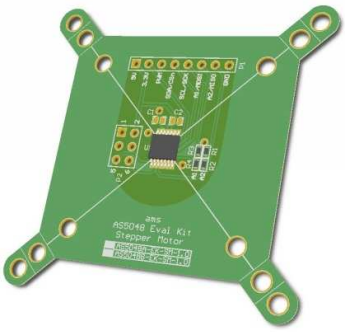
1. General Description

The AS5048 Eval-Kit is designed to adapt standard size stepper motors with a contactless rotary position sensor. Rotation of the magnet holders is sensed by the rotary position sensor, soldered on the PCB board.

2. Package and Board Description

Content of the Eval-Kit:

- AS5048 board



- 4 magnet holders



Ø 5mm Ø 6mm Ø 8mm Ø 10mm

- 1 allen key (1.5mm)



- 1 quick start user guide

Figure 1:
Connector

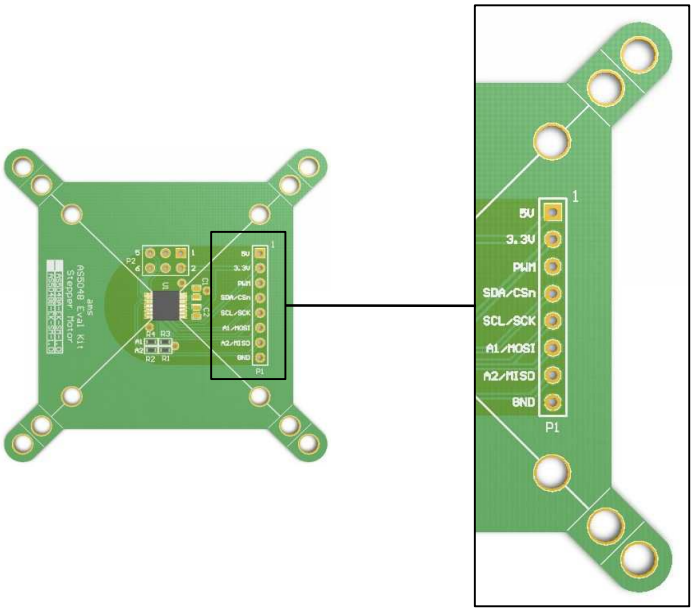


Table 1:
Connector pinout

Pin	Description	Info
1	GND	Ground
2	A2/MISO	SPI master in/slave out; shared with I2C address selection A2
3	A1/MOSI	SPI master out/slave in; shared with I2C address selection A1
4	SCL/SCK	SPI clock input; shared with I2C clock input
5	SDA/CSn	SPI chip select - active low; shared with I2C data pin
6	PWM	Pulse Width Modulation output
7	3V3	3.3V-Regulator Output.
8	5V	Positive Supply Voltage.

3. How to get the Eval-Kit running

Figure 2:
5V Power Option

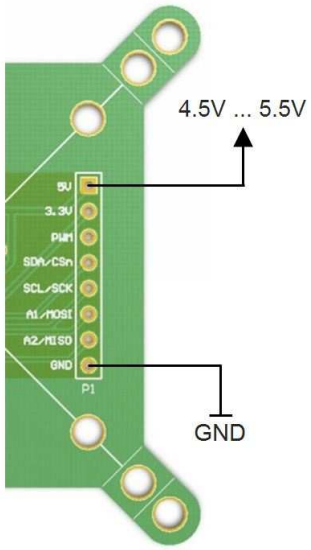
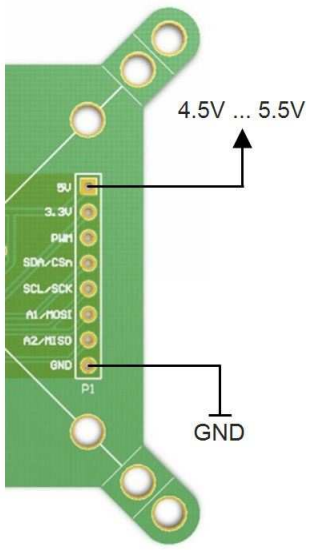


Figure 3:
3V Power Option



4. Mechanical Design Considerations

Table 2:
Motor References (Examples)

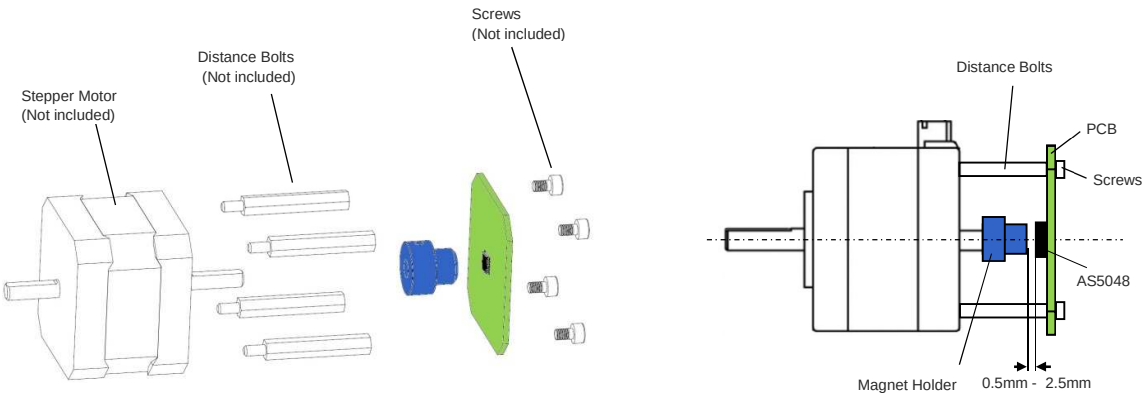
Part Number	Web Page	Manufacturer
17PY-X0XX	www.nmbtc.com	NMB Technologies Corporation - Motor Group
17PY-X8XX		
17PY-X4XX		
17H018D series	www.portescap.com	Portescap
17H118D series		
17H218D series		

Table 3:
Used Magnet

Part Number	Web Page	Manufacturer
2910041-1	www.dextermag.com	Dexter Magnetic Technologies

Additional recommended magnet suppliers refer to our hompage:
http://www.ams.com/eng/Products/Magnetic-Encoders/Magnets2/Recommended-Magnet-Suppliers

Figure 4:
Mounting the AS5048 Eval-Kit



The AS5048 board can be mounted on double shaft motors. (See figure 4)

Screws and distance bolts are not included.

5. Schematics, Layout

Figure 5:
Schematic

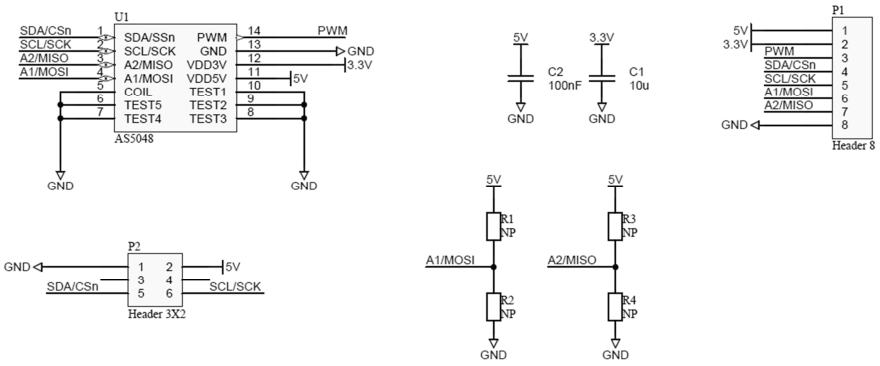


Figure 6:
Top Layer

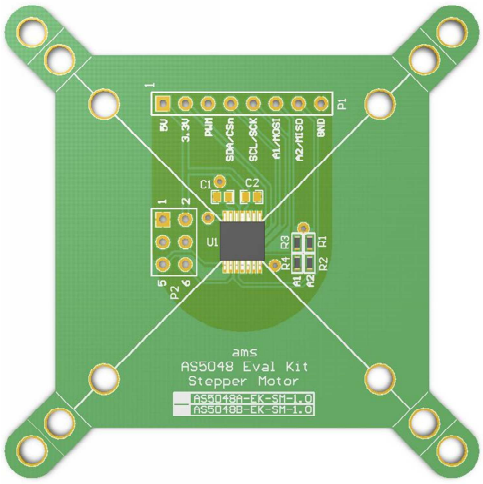


Figure 7:
Bottom Layer

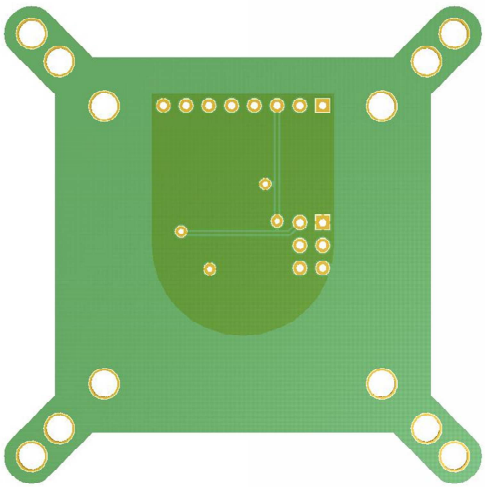


Table 4:
Bill of Materials

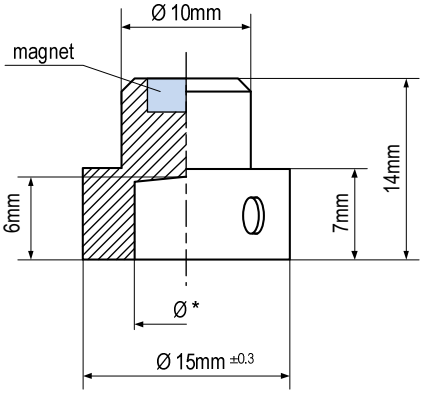
Pos	Part Number	Reference
1	PCB Board	PCB1
2	U1	AS5048
3	C1	10uF/10V/0603
4	C2	100nF/10V/0603

Figure 8:
Magnet Holder



Grub screw for fixing on the shaft of the motor.

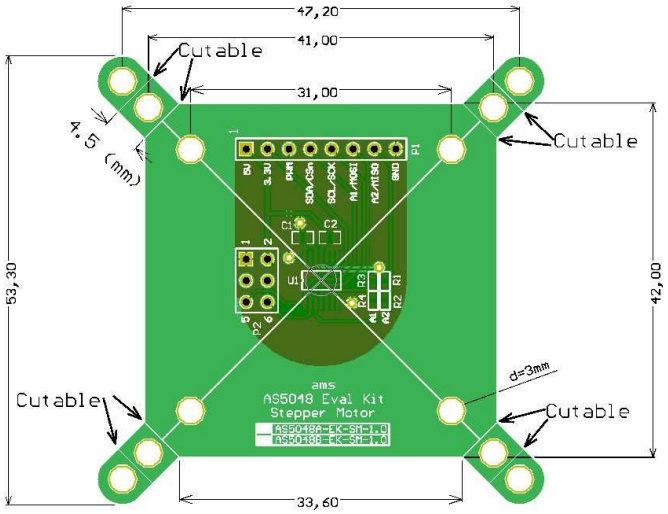
Figure 9:
Magnet Holder Dimensions



*Ø 5mm
*Ø 6mm
*Ø 8mm
*Ø 10mm

Figure 10:
Layout Dimensions

All values in mm



6. Ordering Information

Table 5:
Ordering Information

Ordering Code	Description
AS5048A-EK-AB-STM1.0	AS5048A Eval-Kit Stepper Motor with SPI interface
AS5048B-EK-AB-STM1.0	AS5048B Eval-Kit Stepper Motor with I2C interface

Revisions History

Revision	Date	Description
1.0	August 6, 2012	First version

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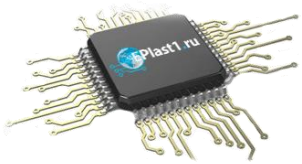
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