

# MFM7-AH5-5VP21

## Analog Hall Sensor

- Analog hall, 2.5V offset
- 5.0 mV/G gain
- 5V input voltage
- Plastic .7" flange mount 1.5" long housing
- Free end PVC 22 AWG wires (1 foot length)



### CUSTOMER FOCUSED ENGINEERING + MODULAR DESIGN

Part Description: **MFM7-AH5-5VP21**

Housing	Sensor Type & Function	Electrical Option	Connection Type
Glass Filled Nylon Flange Mount $\varnothing .7"$ x 1.5" Long	Analog Hall, 5mV/G	5V Input Voltage	P21 = Free End PVC 22AWG Wires

Modify, update, or enhance any sensor with our modular features and functionality.

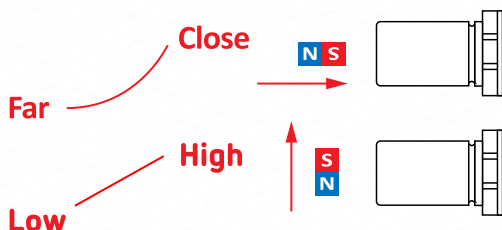
**HOUSING** - Aluminum, stainless steel, plastic, threaded, flange mount, customer specific

**ELECTRICAL** - Every sensor function available in various electrical options (NPN, PNP, TTL, etc.)

**CONNECTION** - Deutsch, Amphenol, many other brands, free end wires, pigtails, any length

Need a Custom Sensor Solution?... Send us your application specific requirements at [sensorso.com](https://www.sensorso.com)

## Analog Output Proportional to Field Strength, Gap or Height



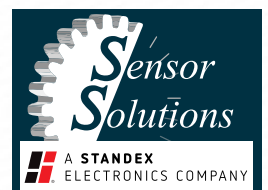
Type - AH

### DESCRIPTION

- The AH5 Analog Hall Sensor provides an analog output that changes in relation to the magnetic field strength perpendicular to the sensor's face. These sensors are polarity sensitive.
- No field present provides a 2.5V output (offset voltage), this output changes by 5.0 mV per gauss (gain).
- Other gain options available, contact our Sales Engineer to discuss your requirements
- The Ratiometric version (-5V) has an output voltage proportional to the supply voltage. A regulated version (-RG) is available.
- For resolving the height, position, and movement of external magnets, the amplitude of current traveling down a conductor, the magnitude of field present in an electro- coil, etc.

### FEATURES

- Low Cost, Potted and Sealed
- Ratiometric
- Shock & Vibration Resistant
- Solid State (Nothing to wear out!)
- Infinite Resolution



# MFM7-AH5-5VP21

## Analog Hall Sensor

We also offer analog output Hall Effect sensors with several different offset voltages and gains. PAH and PAM sensors are also available programmed to your application. Contact us or check our website to see other Analog Hall sensors.

Note: Check our website or contact us to discuss all of our magnetic speed, count, and position detection sensors.

South pole increases output voltage 5.0 mV/Gauss  
North pole decreases output voltage 5.0 mV/Gauss

Electrical Specifications	Conditions	Min	Max	Unit
Temperature Range*	Operating	-40	+110	Deg C
Supply Voltage, Vcc	Over temperature	+4.5	+5.5	Volts DC
Supply Current, Output Off	Into Vcc I o = 0	+2	+10	mA
Frequency Range	8x over sample	0	30	kHz
Saturation Voltage High	I out = 1 mA	Typ .2	0.4	Volts
Saturation Voltage Low	I out = 1 mA, Vcc = 5 V	4.5	Typ 4.7	Volts
ESD (Human Body Model)	Nondestructive	-	8000	Volts
EMI (Human Body Model)	20k to 1 G Hz	-	100	V / M

\* T max = 150°C is available, contact factory.

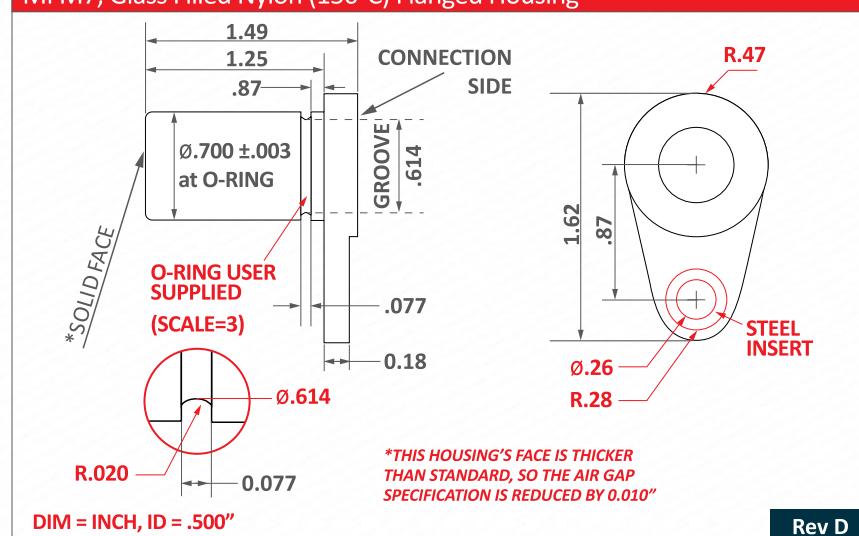
Absolute Max Limits	Min	Max	Unit
Supply Voltage, Vcc	-0.1	+8	Volts DC
Voltage Applied to Output	-0.1	+8	Volts
Current Into Output	-	10	mA
Current Out of Output	-	10	mA
Load Dump, 40 mS	-	TBD	Volts

## Environmental Specifications

<b>Corrosion Resistance</b>	500 hours salt spray ASTM B-117
<b>Installation Torque</b>	13 Foot-Pounds Maximum
<b>Enclosure</b>	Nema 1,3,4,6,13 & IEC IP67
<b>Vibration</b>	10 G's 2 to 2000 Hz Sinusoidal
<b>Mechanical Shock</b>	100 G's, 11 ms Half-Sine

Magnetic Characteristics	Min	Typ	Max	Units
Quiescent Vo (0 Gauss, Vcc=5, T=25°C)	2.4	2.5	2.6	Volts
Change in Q-Vo Over Temp	-.030	0	+.030	Volts
Sensitivity at Vcc = 5, T = 25°C	4.5	5.0	5.5	mV/G
Change in Sensitivity at T = 150°C	-2.5	+2.5	+7.5	%
Change in Sensitivity at T = -40°C	-9	-1.3	+1	%

## MFM7, Glass Filled Nylon (150°C) Flanged Housing



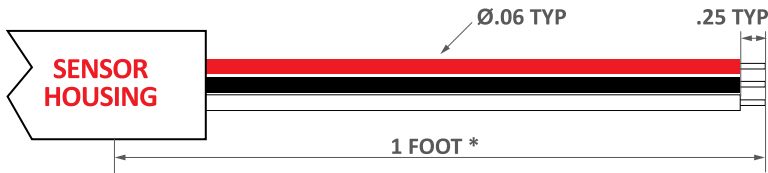
# MFM7-AH5-5VP21

## Analog Hall Sensor

### P21, Free End PVC 22 AWG Wires

FREE END WIRE LEADS  
22 AWG, 7/30, PVC 80°C  
3 WIRES SHOWN. THE NUMBER OF WIRES  
AND COLORS WILL VARY PER SENSOR MODEL

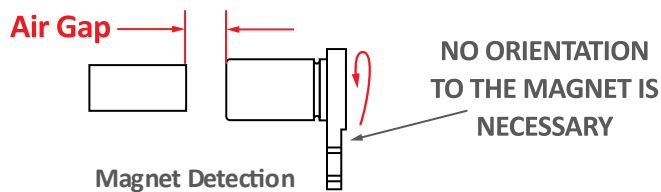
OTHER STANDARD LENGTHS:  
3", 6", 2', 5', 10', AND 20'



DIM = INCH

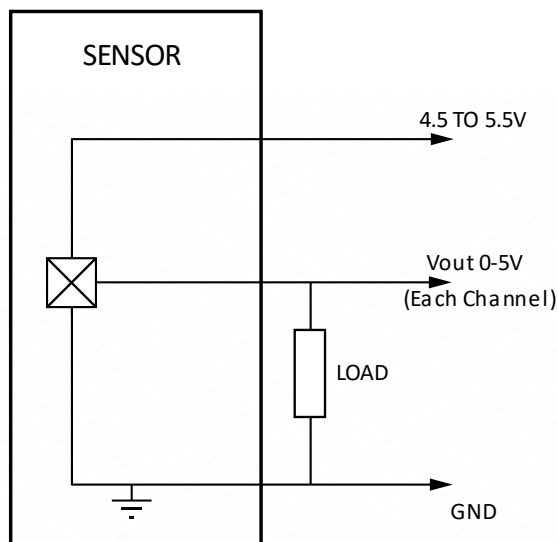
Rev A

### Sensor Function



MFM7-AH5

### 5V, 5V Operation



### Connections Chart

Red	Vcc	Green	Analog Vout
Black	Ground		

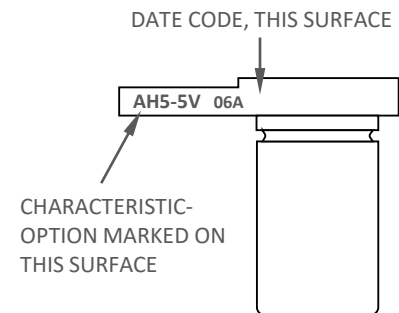
P21-AH5

### Date Code 'YYM'

YY = YEAR, M = MONTH

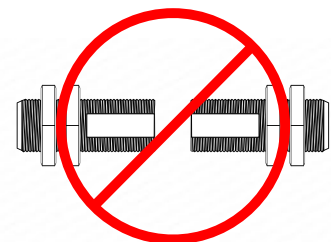
A	JAN	D	APR	H	JUL	L	OCT
B	FEB	E	MAY	J	AUG	M	NOV
C	MAR	G	JUN	K	SEP	N	DEC

### Marking



### Handling Instructions

**DO NOT CONTACT  
FACE TO FACE**



**CONTACT WITH OTHER MAGNETS MAY  
REDUCE THE MAXIMUM OPERATING GAP**

Please note: All technical specifications on this series datasheet refer to the standard product range. Modifications in the sense of technical progress are reserved. For general information only. For more specific information, please consult the product datasheet, available upon request.

This series datasheet could contain technical inaccuracies or typographical errors. Changes are periodically made to the information herein. These change will be incorporated in future revisions.

For deviating values, most current specifications and products please contact your nearest sales office.