

AH5 Series

Analog Hall Sensor

- Polarity sensitive analog output that changes in relation to the magnetic field strength, 2.5V offset
- 5.0 mV/G gain
- Non-contact, solid-state design with no moving parts
- Ideal for speed, position, and proximity sensing in mobile and industrial systems



CUSTOMER FOCUSED ENGINEERING + MODULAR DESIGN

Part Description: **M12-AH5-5KSA5**

Housing	Series	Electrical Option	Connection Type
See page 2-3	AH5	See page 4	See page 5-6

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

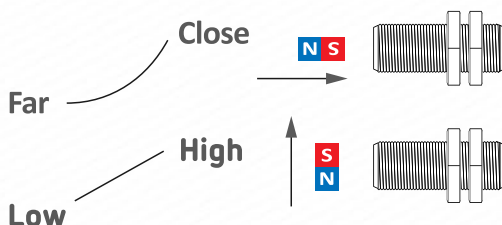
HOUSING - Aluminum, stainless steel, plastic, threaded, flange mount, customer specific

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

Analog Output Proportional to Field Strength, Gap or Height



FEATURES

- Non-contact
- Easy to install
- Internal hysteresis
- Temperature stable
- Shock and vibration resistant
- Solid-state (no wearing parts)

APPLICATIONS

- Alignment or proximity of manufacturing bins/carts/trays
- Count feedback of production and testing components
- Resolve speed of industrial and agricultural attachments
- Shaft and gear speed in agricultural equipment

MARKETS

- Aerospace & Defense
- Medical Devices
- Agricultural Machinery
- Marine & Transportation

- True zero speed operation
- Detect non-standard steel targets
- Harsh environment durability
- Flexible electrical options: NPN or PNP outputs
- Easy installation with threaded or flange mount housings

- Monitors speed in conveyor systems and assembly lines
- Speed of automation equipment
- Measure cranes/winch feed rate
- Resolving engine RPMs
- Measuring vehicle/wheel speed
- Pulley systems in manufacturing
- Monitoring gears in transmissions
- Cam and Crank shaft timing

- Automotive & Heavy Equipment
- Power Generation Systems
- Consumer Electronics
- Manufacturing & Industrial Automation

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HOUSING TYPES AND CUSTOMIZATION OPTIONS

The AH5 Series offers a wide range of housing styles, mounting types, and material options to cover a variety of application environments. If the housing style you need is not shown, Standex can work with you on your custom housing needs to fulfill your application requirements.

HOUSING MATERIALS

- Aluminum
- Plastic (Glass Filled Nylon)
- Stainless Steel

MOUNTING TYPE

- Threaded Barrel
- High Pressure

THREAD PITCH

- 1/2-20
- 15/32-32
- 3/4-20
- 7/16-20
- M12x1
- M18x1

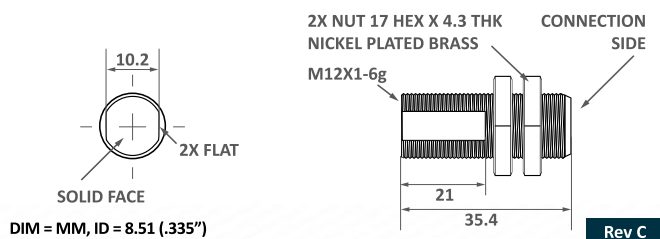
Plastic Glass Fill Nylon (150°C)

PART NUMBER M 1 2 - A H 5 - 5 K S A 5 - CONNECTION

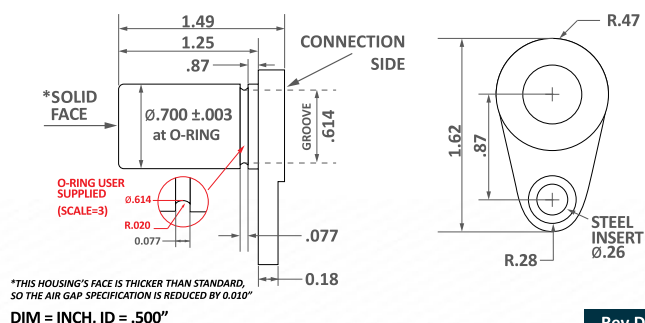
EXAMPLE

HOUSING ELECTRICAL

M12 Thread Mount M12x1mm, 35mm

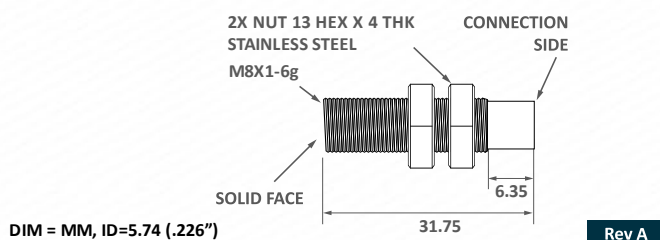


MFM7 Flange Mount

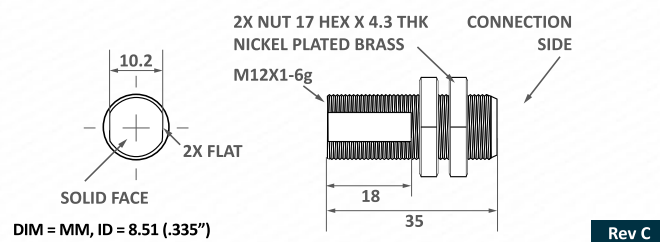


303 Stainless Steel

S8Thread Mount M8x1mm, 32mm



S12 Thread Mount M12x1mm, 35mm



AH5 Series

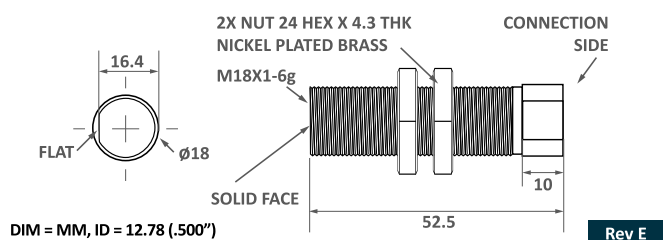
Analog Hall Sensor

303 Stainless Steel

PART
NUMBER
EXAMPLE

M 1 2 - A H 5 - 5 K S A 5 — CONNECTION
HOUSING ELECTRICAL

S18 Thread Mount M18x1mm, 53mm



AH5 Series

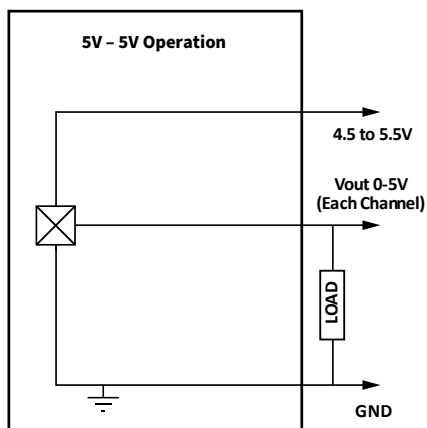
Analog Hall Sensor

Electrical Output Logic Options

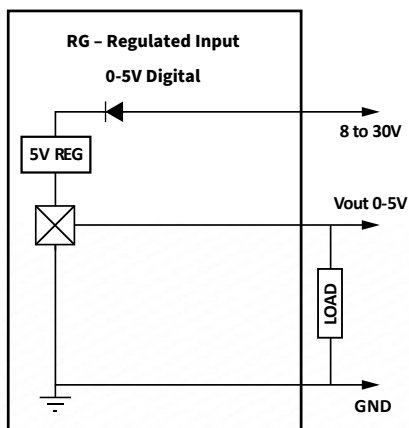
**PART
NUMBER
EXAMPLE**

M 1 2 - A H 5 - 5 K S A 5 — CONNECTION
HOUSING ELECTRICAL

5V



RG



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	Into Vcc	(typ 7)	+10	mA
Output Current	Continuous	-1	+1	mA
Load Capacitance	Cable and Load	n/a	+1.0	µF
Frequency Range **	Std Programmable	0	500	Hz
Frequency Range **	Max Programmable	0	2000	Hz
Digital Voltage Low Vol	I sink < 1.0 mA	0	(typ 0.2)	Volts
Digital Voltage High Voh	I source < 1.0 mA	(typ 4.8)	Vcc	Volts
Output Rise Time 10-90%	Ro=10k, C<100 pF	-	5	µS
Output Fall Time 90-10%	Ro=10k, C<100 pF	-	5	µS

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

** Frequency, Detection and Hysteresis are Factory Programmable.

Rev D

Electrical Specifications	Conditions	Min	Max	Unit
Temperature Range*	Operating	-40	+110*	Deg C
Supply Voltage, Vcc	Over temperature	+8.0	+30	Volts DC
Supply Current, Output Off	Into Vcc	(typ 8)	+12	mA
Output Current	Continuous	-1	+1	mA
Load Capacitance	Cable and Load	n/a	+1.0	µF
Frequency Range **	Std Programmable	0	500	Hz
Frequency Range **	Max Programmable	0	2000	Hz
Digital Voltage Low Vol	I sink < 1.0 mA	0	(typ 0.2)	Volts
Digital Voltage High Voh	I source < 1.0 mA	4.60	5.5	Volts
Output Rise Time 10-90%	Ro=10k, C<100 pF	-	5	µS
Output Fall Time 90-10%	Ro=10k, C<100 pF	-	5	µS

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

** Frequency, Detection and Hysteresis are Factory Programmable.

Rev D

AH5 Series

Analog Hall Sensor

CONNECTION TYPES AND CUSTOMIZATION OPTIONS

The AH5 Series offers a wide range of connection configurations to meet diverse installation and environmental requirements. Whether you need rugged connectors for industrial environments or flexible wiring for compact assemblies, Standex provides tailored solutions:



CONNECTOR OPTIONS

- Deutsch & Amphenol: Industry-standard sealed connectors for harsh environments
- Other Brands Available: Custom connector integration upon request
- Integral Connectors: Built directly into the sensor housing for streamlined installation
- Pigtail Connectors: Short lead wires with pre-installed connectors for plug-and-play use

FREE-END WIRE OPTIONS

- Free-End Jacketed: Durable, protective outer layer for added mechanical strength
- Free-End Ribbon Cable: Flat, flexible cable ideal for tight spaces
- Free-End Shielded: EMI-resistant for electrically noisy environments
- Free-End Wires: Standard stripped leads for direct wiring
- Wire Specifications
- Wire Gauges: 20 AWG and 22 AWG standard
- Lengths: Available in 0–6", 1–4', 5–9', or custom lengths to suit your application

INSULATION MATERIALS

- PVC: Economical and flexible
- Teflon: High-temperature and chemical-resistant
- XLPE: Cross-linked polyethylene for enhanced thermal and abrasion resistance
- High-Temp Options: For extreme operating conditions

Cable Harness & Connector Options

PART
NUMBER
EXAMPLE

M 1 2 - A H 5 - 5 K S A 5 — CONNECTION
HOUSING ELECTRICAL

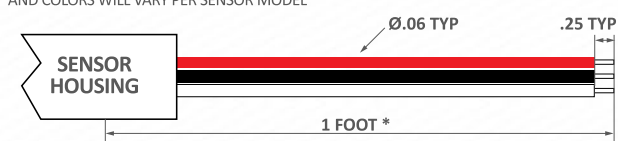
P21, Free End PVC 22 AWG Wires

Connections

Red = Vcc White = Vout Black = Ground

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

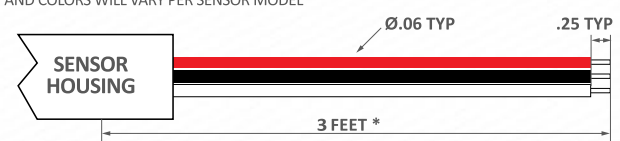
P23, Free End PVC 22 AWG Wires

Connections

Red = Vcc White = Vout Black = Ground

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

AH5 Series

Analog Hall Sensor

Cable Harness & Connector Options

PART NUMBER M 1 2 - A H 5 - 5 K S A 5 — CONNECTION
EXAMPLE HOUSING ELECTRICAL

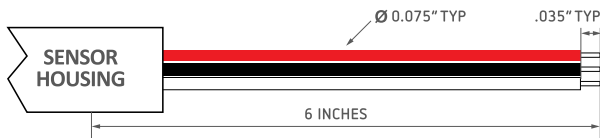
X0B, Free End XLPE 20 AWG Wires

Connections

Red = Vcc White = Vout Black = Ground

FREE END WIRE LEADS
 20 AWG, XLPE, 125°C, 19/32
 3 WIRES SHOWN. THE NUMBER OF WIRES
 AND COLORS WILL VARY PER SENSOR MODEL

OTHER STANDARD LENGTHS:
 3', 1', 2', 5', 10' AND 20'



DIM = INCH

Rev A

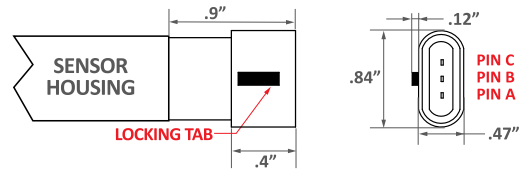
CP13, Integral 3-Way Metri Pack Male Connector

Compatible with Housings – MFM7, MFM610 Only

Connections

Pin A = Vcc Pin B = Vout Pin C = Ground

CONNECTOR: METRI-PACK 150.2, 3-WAY MALE
 MATES WITH DELPHI-APTIV HOUSING 12162280 AND TERMINAL 12124075



DIM = INCH

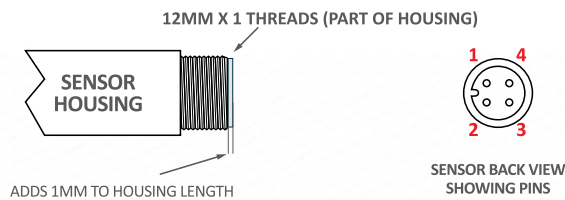
Rev A

CB2, Integral 4 Pin Male 12mm Micro Connector

Compatible with Housings – S12, S12H, M12 Only

Connections

Pin 1 = Vcc Pin 2 = Vout Pin 3 = Ground Pin 4 = Program, Leave Open



Rev A

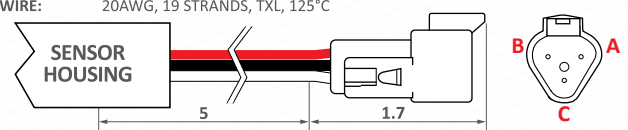
CD3, 3 Pin Deutsch DT03 TXL 20 AWG Wires

Connections

Pin A (White) = Vout Pin B (Red) = Vcc Pin C (Black) = Ground

CONNECTOR: AMPHENOL AT04-3P-RD01 BODY OR
 DEUTSCH DT04-3P-C015 BODY
 DEUTSCH 060-16-0622 TERMINALS
 DEUTSCH W3P WEDGELOCK
 WIRE: 20AWG, 19 STRANDS, TXL, 125°C

A = WHITE
 B = RED
 C = BLACK



DIM = INCH

Rev D

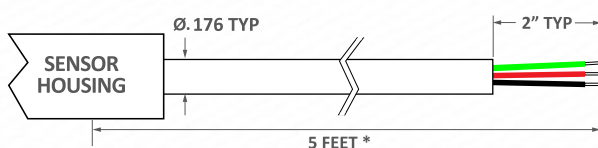
JA5, Jacketed 3 Wire PVC 22 AWG Wires

Connections

Red = Vcc Green = Vout Black = Ground

FREE END JACKETED 3 WIRE PVC, 22 AWG
 7/30, RED, BLK, GRN, 80°C

*OTHER STANDARD LENGTHS:
 1', 2', 10', AND 20'



DIM = INCH

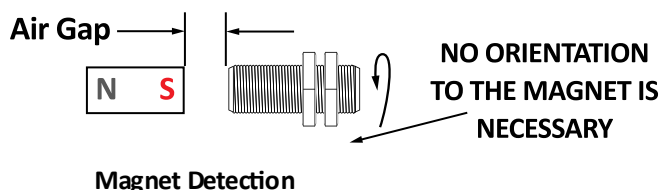
Rev C

AH5 Series

Analog Hall Sensor

Environmental & Performance Specifications

Sensor Function

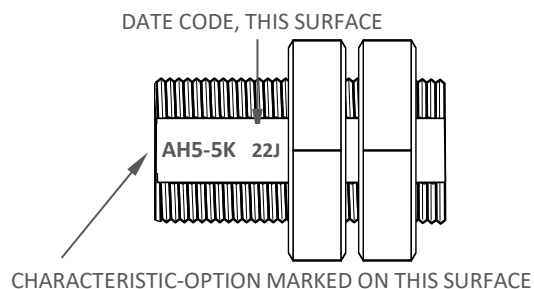


Magnetic Characteristics	Min	Typ	Max	Units
Quiescent Vo (0 Gauss, Vcc=5, T=25°C)	2.4	2.5	2.6	Volts
Change in Q-Vo Over Temp	-.030	0	+.030	Volts
Sensitivity at Vcc = 5, T = 25°C	4.5	5.0	5.5	mV/G
Change in Sensitivity at T = 150°C	-2.5	+2.5	+7.5	%
Change in Sensitivity at T = -40°C	-9	-1.3	+1	%

Environmental Specifications

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

Marking



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.

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