MAG-J Hall Effect Pickup

Installation and Technical Data Guide

Rev. 07/2017

Description:

The MAG-J is a Hall Effect sensor which is compatible with all AW and KEM Positive Displacement gear flow meters except ZHM-04 to the ZHM-07KL. The sensor detects the rotation of the flow meter's gears and emits a frequency signal proportional to flow. The output signal is a square wave pulse which has a duty cycle of approximately 50%.

MAG-J signal outputs are protected with a self-resetting fuse. This fuse has a 50mA nominal trip point. When a trip occurs, turn off power to the sensor and remove output load to reset fuse.

The MAG-J sensor has two different output configurations: MAG-J-PA for a sinking output and MAG-J-PB for a sourcing output.

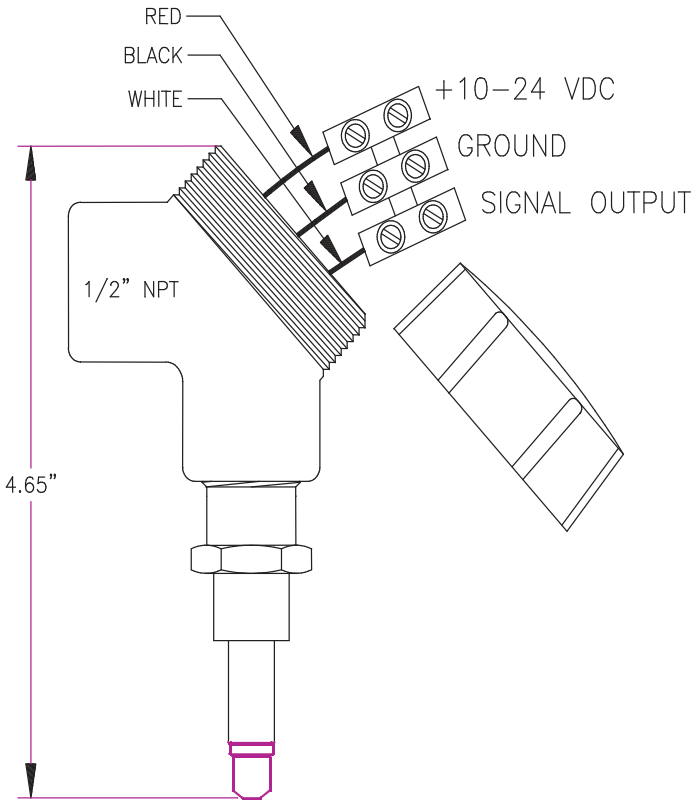
Installation:

- Ensure that the flowmeter sensor cavity is free of debris prior to installing pickup
- Swivel fitting is required for sensor mounting
- 4 Steps to properly install sensor:
    1- Securely fasten swivel fitting on flow meter
    2- Turn set screws counter clockwise until they are not visible inside the swivel fitting
    3- Install sensor into swivel fitting until sensor bottoms out in the sensor hole
    4- Tighten set screws by turning clockwise
    NOTE: DO NOT OVER TIGHTEN SET SCREWS OR SENSOR DAMAGE WILL OCCUR!

NOTE: WIRING SHOULD BE INSTALLED BY A QUALIFIED INSTRUMENTATION TECHNICIAN

AW Gear Meters wiring color code:

MAG-J-PA	MAG-J-PB	Wire Color
Output	Output	White
Ground	Ground	Black
Supply	Supply	Red



Part number configuration:

MAG-J sensors can be used with all AW and KEM Positive Displacment great flow meters except ZHM-04 to the ZHM-07KL

MAG-J-PA for a sinking output
MAG-J-PB for a sourcing output

Note: In order to recieve correct swivel fitting with your sensor - you must specify meter part number when ordering

MAG-J Hall Effect Pickup

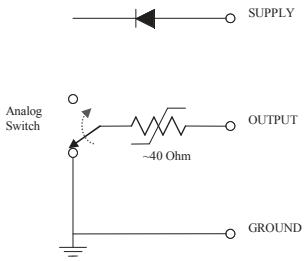
Installation and Technical Data Guide

Rev. 07/2017

Technical Data:

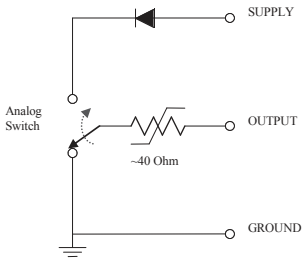
Supply Voltage:	+10 to 28 Volt DC
Supply Current:	8 mA @ 12 VDC, 12mA @ 24 VDC
Duty Signal:	50% ± 15%
Minimum Signal:	0.5 Hz
Frequency Output:	Flow dependent, up to 2,000 Hz
Driving Capacity:	50 mA Max resistive load
Output Impedance:	~ 40 Ohm - analog switch and self-resetting fuse
Temperature Range:	-40° F to 185° F (-40° C to 85° C)

MAG-J-PA Sinking Output Circuit



- User may need to add external components to interface to displays or other instruments
- User must limit output voltage to Supply -1V
- Max current sinking capability: 50mA

MAG-J-PB Sourcing Output Circuit



- Signal output square wave :
  V_{high} = Supply -1V @ no output load
  V_{low} = 0.1V
- Max sourced output voltage: Supply -0.5V
- Max current sourcing capabilities: 50mA