

# IR-P Infrared Optical Sensor

## FOR CLEAR FLUIDS ONLY

### Installation and Technical Data Guide

Rev. 07/2017

#### **Description:**

The IR-P is an infrared optical sensor which is compatible with the AW Flow Meters JVK series Positive Displacement plastic gear flow meters. The sensor detects the rotation of the flow meter 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%.

IR-P 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 IR-P sensor's output configuration is: IR-PA for a sinking output, IR-PB for a sourcing output.

#### **Installation:**

- Ensure that the flowmeter sensor cavity is free of debris prior to installing pickup
- A mounting bracket is required for sensor mounting
- 4 Steps to properly install sensor:
  - 1- Securely fasten mounting bracket on flow meter
  - 2- Turn set screws counter clockwise until they are not visible inside the mounting bracket
  - 3- Install sensor into mounting bracket 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 Flow Meters Wiring Color Code:**

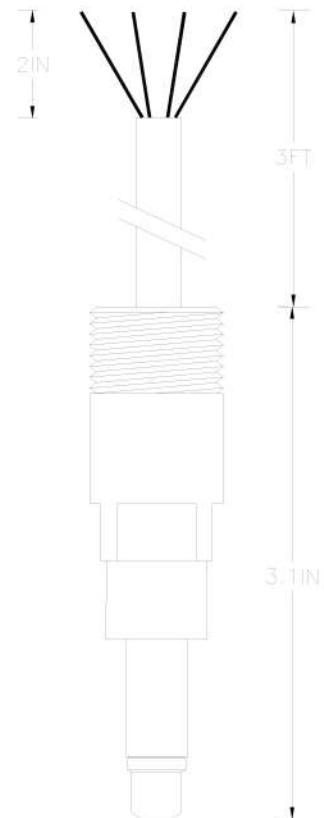
<b>IR-PA</b>	<b>IR-PB</b>	<b>Wire Color</b>
NC	NC	Green
Output	Output	White
Ground	Ground	Black
Supply	Supply	Red

#### **Part number configuration:**

IR-P sensors can be used with all AW Flow Meters JVK Positive Displacement gear flow meters only.

IR-PA for a sinking output, IR-PB for a sourcing output

**Note:** In order to receive correct mounting bracket with your sensor - you must specify meter part number when ordering



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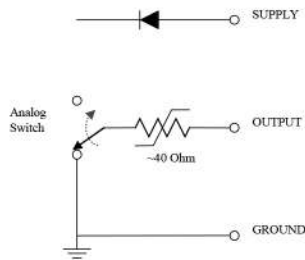
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#### Technical Data:

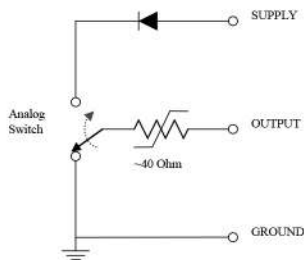
Supply Voltage:	+10 to 26 Volt DC
Supply Current:	20 mA $\pm$ 0.10
Duty Signal:	50% $\pm$ 15%
Minimum Signal:	0.5 Hz
Frequency Output:	TBD
Driving Capacity:	50 mA Max resistive load
Output Impedance:	$\sim$ 40 Ohm - analog switch and self-resetting fuse
Temperature Range:	-40° F to 185° F (-40° C to 85° C)

#### IR-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

#### IR-PB Sourcing Output Circuit



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