Quad-4 Hall Effect Pickup

Installation and Technical Data Guide

Description:

The Quad-4 Hall Effect Pickup is a microprocessor-based sensors for use with the JV-80/-90KL series of positive displacement flow meters. The Quad-4 sensor can detect both uni- and bi-directional flow. The sensors' mode of operation is determined by an output selection switch located inside the housing. The Quad-4 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%.

Quad-4 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 sensor has two different output configurations: sinking output when jumpers JP1 & JP2 are removed and sourcing when jumpers JP1 & JP2 are shorting pins.

The Quad-4 sensor circuit board is equipped with a red and green LED. The red LED is a status LED which, when the sensor is operating properly, will flash once every 4 seconds, a fast flash will indicate a failure of one or more of the pick-ups. The green LED indicates the pulse of the input signal. Note that signals above 20Hz will look as solid green.

Installation:

- Ensure that the flowmeter sensor cavity is free of debris prior to installing pickup
- Install flow meter and sensor CYCLE POWER or sensor will not function properly!!
- Sensor is equipped with an output test feature for readouts before initial running of your system

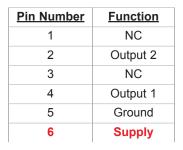
TEST FEATURE: Note: Power must be cycled for new setting to take effect

- Switch setting 8 will cause the pick-up to output a 10 Hz (+/- 20%) Phase = +90 deg pulse output, simulating low flow conditions without flow through the meter
- For sinking outputs remove shorting block from JP1 & JP2 For sourcing outputs place shorting block across JP1 & JP2 (factory default)
- Switch setting 9 will cause the pick-up to output a 250 Hz (+/- 20%) Phase = -90 deg pulse output, simulating

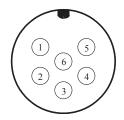
medium flow conditions without flow through the meter

NOTE: WIRING SHOULD BE INSTALLED BY A QUALIFIED INSTRUMENTATION TECHNICIAN

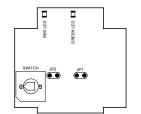
Electrical Connection for Pin Connector



Pinout looking at male connector on sensor



Top view of circuit board with view of LED's and switch



AW Company Wiring Color Code

	Pin Number	Wire Color
Signal 2:	2	Green
Signal 1:	4	White
Ground:	5 Black	
Supply Voltage:	6	Red

Quad-4 Operating Modes

Switch	Output 1	Output 2	
0	Flow Direction	Signal 2	
1	1x frequency +90 deg phase		
2	Flow Direction	2x frequency	
3	2x frequency +90 deg phase		
4	Flow Direction	4x frequency	
5	Both outputs 4x frequency in phase		
6	Reserved		
7	Forward pulses (2	2x) Reverse pulses (2x)	
8	Test: S1 & S2 == 10) Hz (+/- 20%) Phase = +90 deg.	
9	Test: S1 & S2 == 25	50 Hz (+/- 20%) Phase = -90 deg.	

Note: Power must be cycled for new setting to take effect

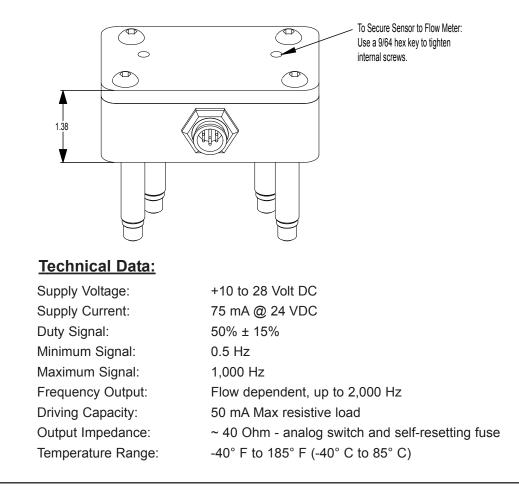


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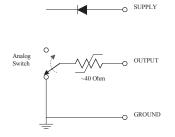
Quad-4 Dual Hall Effect Pickup

Installation and Technical Data Guide

Rev 06/17

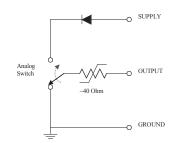


Sinking Output Circuit



- Output selection jumper off: remove shorting block from JP1 & JP2
- 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

Sourcing Output Circuit - Default from Factory



- Output selection jumper on: place shorting block across JP1 & JP2
- 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

