

HALL-EFFECT SENSORS

DH-X Dual Hall Effect Pickup

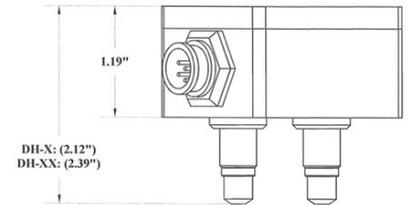
Used with JV-CG and JV-KG (excluding JVM-01CG)

The DH Dual Hall Effect Pickups are microprocessor-based sensors for use with the JV-CG and JV-KG series of positive displacement flow meters. The DH sensors 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 output signal can be configured for either 2X pulse resolution in a single pulse train (default) or a quadrature signal which has a 90° phase shift. This signal can be used to determine flow direction. The output is a NPN, sourcing square wave pulse and 6-pin connector.

The sensor has two different output configurations: sinking and sourcing.

- DH-A:** sinking pulse output (for KG & CG meters up to 30 size)
- DH-B:** sourcing pulse output (for KG & CG meters up to 30 size)
- DH-AA:** sinking pulse output (for 60-KG & 60-CG meters)
- DH-BB:** sourcing pulse output (for 60-KG & 60-CG meters)



QUAD-4 Hall Effect Sensor

Used with JV-80 and -90KL meters only

QUAD-4-Sourcing: Sourcing Output, 1X, 2X, 4X Resolution 90° Phase Shift

The Quad-4 Hall Effect Sensor 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 is equipped with a 6-pin connector.



MAG-Px Hall Effect Sensor (A and B)

Used with AW Gear Meters and SABRE Turbine meters

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 and includes a 24" cable. Two different output configurations:

- MAG-PA:** Sinking Pulse Output
- MAG-PB:** Sourcing Pulse Output



MAG-J-Px Sensor

Used with all JV-KG, JVM-CG & SABRE flow meters

Identical to MAG-Px but with junction box instead of leads with 1/2" NPT(F) conduit connection

- MAG-J-PA:** Sinking Pulse Output, junction box connection
- MAG-J-PB:** Sourcing Pulse Output, junction box connection.



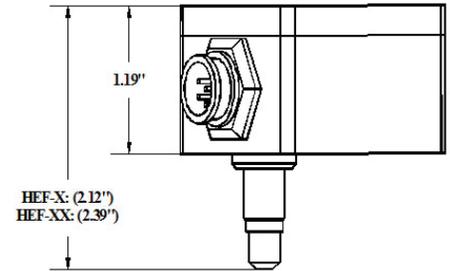
HALL-EFFECT SENSORS

HEF Sensor

Used with JV-CG and JV-KG meters (excluding JVM-01CG)

The HEF is a Hall Effect sensor which is compatible with the Aluminum, 303 Stainless Steel and 316 Stainless Steel body JV-CG and JV-KG series of flow meters. 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%. HEF 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.

- HEF-A:** sinking pulse output for use up to size 30, 6-pin connector
- HEF-B:** sourcing pulse output for use up to size 30, 6-pin connector
- HEF-AA:** sinking pulse output (for size 60 only), 6-pin connector
- HEF-BB:** sourcing pulse output (for size 60 only), 6-pin connector
- HEF-A3:** sinking pulse output for use up to size 30, 3-pin connector
- HEF-B3:** sourcing pulse output for use up to size 30, 3-pin connector
- HEF-AA3:** sinking pulse output (for size 60 only), 3-pin connector
- HEF-BB3:** sourcing pulse output (for size 60 only), 3-pin connector



HUB-40SD and EX Sensor

Used with all JV-CG-Ex and JV-KG-Ex Meters

Pulse output hall effect single sensor, EX version available

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. Connection to the meter is via 3/8" NPT thread and the sensor is spring loaded to be resistant to vibration. Includes an integral union to allow for 360° rotation of the sensor and terminal blocks for wiring.

- HUB-40SD - NEMA 4x sensor for non-hazardous areas
- HUB-40EX - Hazardous area rated sensor



IR-PX Dual Hall Effect Sensor

Used with JVK-60

- IR-PA:** Optical, sinking pulse output sensor for JVK meter series
- IR-PB:** Optical, sourcing pulse output sensor for JVK meter series



VHE / VHD Hall Effect Pulse Amplifier

Used with ZHA & ZHM Gear Meters

The VHE / VHD sensors have a frequency range of 1 to 3,000 Hz, temperature range of 0* to 70*C and are equipped with a 5-pin connector.

- VHE single pickup:** square wave pulse output
- VHD dual pickup:** available in square wave pulse, double measuring frequency, and reverse flow detection



ANALOG OUTPUT SENSORS

FIP [FIP-xxx] Analog Output Sensor

Used with all KG and CG Gear Meters & Turbine Meters

Meter mounted current or voltage signal output sensor

FIP converts frequency to an analog output (includes sensor) and uses a 3-pin connector. Version with conduit connection also available.

FIP-5HS: 0 to 5 VDC output

FIP-4HS: 4 to 20 mA output

FIP-4TS: 4 to 20 mA output for TW turbines

FIP-10HS: 0 to 10 VDC output

FIP-XXX-HT: (for stainless meters only) high temperature (400 deg F) meter mounted current or voltage signal



WT.02 / WI.02 Analog Output Sensor

Used with SRZ Helical Gear Meters

The WT.02/WI.02 sensors are passive 4-20 mA sensors with carrier-frequency-input stage (WT.02) or inductive input stage (WI.02). In addition to the analog output, the sensors provide a galvanically isolated open collector output, which can be used either as a switch or frequency output. The frequency output is freely scaleable, which allows for a calibration to the volume flow independent of the type of flow meter. Both analog and frequency output can be linearized with up to 10 points.

WT.02: for use with low flow due to the lower cut off frequency (<0.5 Hz)

WI.02: for use with higher medium temperatures (up to 150°C)



FIBER OPTIC SENSORS

FOP-20 Fiber Optic Sensor

Used with KG and CG Gear Meters

The system consists of a FOP 20 Reluctance Pickup with a Fiber Optic Transmitter, Fiber Optic Cable and OPTV-20 Fiber Optic Receiver. The FOP-20 is in an Explosion Proof Housing for use with JVM or JVS series flow meters.

FOP-20/S/30: FOP System 30 Ft. Cable

FOP-20/S/45: FOP System 45 Ft. Cable

FOP-20/S/60: FOP System 60 Ft. Cable

FOP-20/S/100: FOP System 100 Ft. Cable



FOP-30 Fiber Optic Sensor

Used with HPM-SLG and JVS-SLG Style Meters

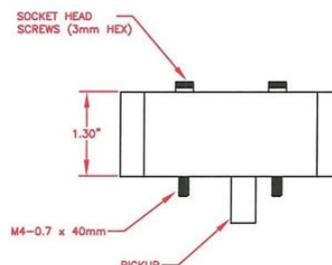
The system consists of a FOP-30 Reluctance Pickup with a Fiber Optic Transmitter, Fiber Optic Cable and OPTV-20 Fiber Optic Receiver. The FOP-30 is an intrinsically safe housing for use with HPM-SLG or JVS-SLG series.

FOP-30/S/30: FOP System 30 Ft. Cable

FOP-30/S/45: FOP System 45 Ft. Cable

FOP-30/S/60: FOP System 60 Ft. Cable

FOP-30/S/100: FOP System 100 Ft. Cable



CARRIER FREQUENCY SENSORS (NOT FOR USE WITH ALUMINUM METERS)

CAPM-2 and CAPM-2o Carrier Frequency Pickup Module

Used with KG and CG Meters

Sourcing Output, CAPM-2o version IS safe

The CAPM-2o is a UL & CUL approved, intrinsically safe pickup sensor for use in Class 1, Div. 1 locations. The output signal is a frequency proportional to flow in a square wave voltage form of approximate amplitude: Supply – 1.5V. The sensor must be installed with an intrinsic safety barrier in accordance with the guidelines detailed in document # CAP2902 – CAPM INSTALLATION IN HAZARDOUS AREA. Recommended barriers such as Pepperl & Fuchs Z787 (12-28V) are available from AW Gear Meters. The output is a sourcing open collector transistor (NPN Type). An NPN sinking type is available and is designated as CAPM-2i. It is equipped with a 3-pin connector.



CAPM-3 and CAPM-3o Carrier Frequency Pickup Module

Used with HPM-SLG and JVS-SLG Style Meters

Sourcing Output, CAPM-3o version IS safe flush mount



The CAPM-3 is a Carrier Frequency sensor which means there is no permanent magnet in the pickup, and any magnetic drag on the flowmeter is avoided. The CAPM-3 requires a supply voltage between 10 VDC to 30 VDC. A diode in the supply input prevents damage to the module in case the polarity of the supply voltage is wrong. The output signal is a square wave, voltage pulse of approximate amplitude (supply - 1.5 V). The frequency is proportional to the flow rate. The output is a sourcing open collector transistor (PNP Type). An NPN, sinking type is available and is designated as CAPM-3N. It is equipped with a 3-pin connector.

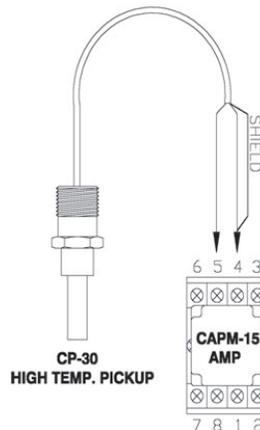


CAPM-15 High Temperature Pickup System

Used with JV-KG and JV-CG Meters
(NOT FOR USE WITH TRG TURBINES)

High Temp Sensor to 400° F, external amplifier included

The CAPM-15 High Temperature Pickup System consists of a CAPM-15/AMP signal amplifier module and the CP-30 high temperature carrier frequency pickup. The CAPM-15/AMP will work on a supply voltage between 10 Volt DC and 30 Volt DC. The length of wire between the CP-30 and the CAPM-15/AMP module should not be extended over 20 feet. The CP-30 is supplied with a 7 foot cable only.



VTEEx/P Sensors

Used with ZHM, HM, and SRZ Series Flow Meters.
Also JV-CG, JV-KG and TRG Turbines for higher temps.

Carrier Frequency Sensor for 120°C fluid temp

The VTEEx/P sensor is equipped with a 5-pin connector.

- VTER/P: for ZHM-01 and SRZ or JV series
- VTES/P: (up to 150 deg C) for ZHM-01 and SRZ or JV series
- VTEK/P: (up to 120 deg C) for ZHM-02 to ZHM 04 or HM series
- VTEL/P: (up to 150 deg C) for ZHM-02 to 07 or JV and HM series



CARRIER FREQUENCY SENSORS (NOT FOR USE WITH ALUMINUM METERS)

TD-Ex Carrier Frequency Amplifier with Dual Pickup

Used with ZHM Gear Meters

Sourcing Output, CAPM-2o version IS safe



The TD-Ex sensor is an intrinsically safe pickup sensor for use in Class 1, Div. 2 locations. The output signal is a frequency proportional to flow in a square wave. The sensor must be installed with an intrinsic safety barrier (barriers are available from AW Gear Meters). The output is a sourcing open collector transistor (NPN Type).



INDUCTIVE SENSORS

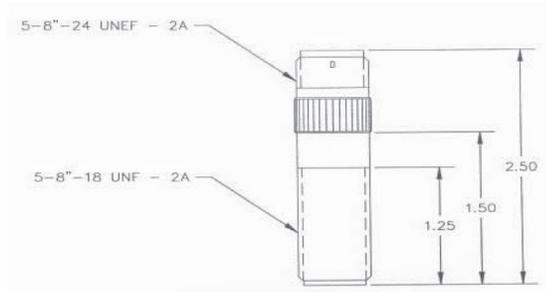
MG-300 and MG-450 Inductive Sensors

Used with TW & TR Turbine Meters

Inductive sensor with 30mV p-p output, with a 2-pin connector. Interchangeable with NuFlo or Blancett sensors.

Use in conjunction with JV-400 signal amplifier.

- MG-300:** up to 300°F
- MG-450:** up to 450°F

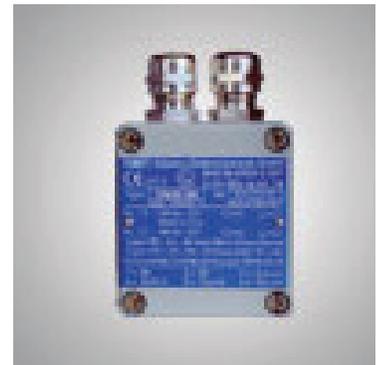


IF & VIE Inductive Sensors & Amplifiers

Used with TRG Series Turbine Meters

Inductive sensor for high temperature applications.

- VIER:** compact version with short pickup
- VIEL:** compact version with long pickup
- VIEG:** separated version without pickup
- IFK:** ATEX approved, short version
- IFL:** ATEX approved, long version



FLOW DISPLAYS

RT-30SD & RT-30EX Local Flow Rate Transmitter

See Below for usage

Rate and Total Display, Available with EX rating

- **CSA/CUS Explosion-proof certification for use in hazardous areas in US and Canada:**
This transmitter has been certified by CSA as “explosion-proof” and rated for use in hazardous areas. (Class I, Div. 1 Groups C & D; Class II, Div. 1 Groups E, F, G; Class III) for US and Canadian use.
- **HART® communication protocol option for remote monitoring and programming**
- 4-20 mA analog output
- Built-in 30-point linearizer
- Three Opto-Isolated Open-Collector Outputs



The RT-30EX transmitter is available with the HUB-40EX sensor or no sensor (for remote mount). The RT-30SD transmitter is available with these sensors:

- | | | |
|------------|-----------|----------|
| • HUB-40SD | • CAPM-15 | • MG-300 |
| • MAG-PB | • IRPB | • MG-450 |

RT-10 Meter Mounted Flow Monitor

See Below for usage

Rate and Total Display (no EX rating)

Battery operated display, NEMA 8 enclosure (out door use)

- RT-Ex10A:** for use with JV and TRG meters
- RT-Ex10C:** add 4 to 20 mA output
- RT-Ex10J:** for use with EX meters
- RT-Ex10J-HP:** for use with JVHS-KG-EX high pressure meters
- RT-Ex10N:** same as J with 4 to 20 mA output
- RT-Ex10R:** for use with TW or TR turbines
- RT-Ex10T:** same as 10R with 4 to 20 mA output





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