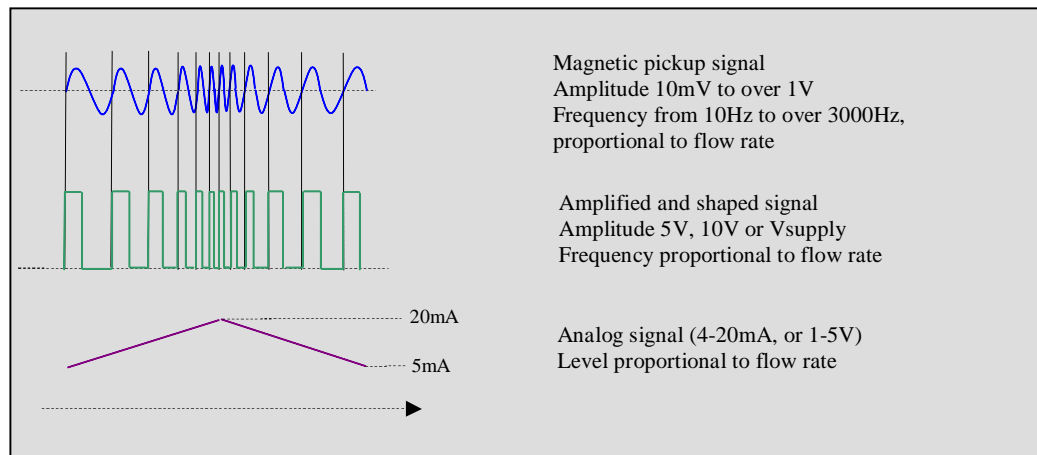


Guide To Select Electronics for Turbine Flow Meters

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Introduction

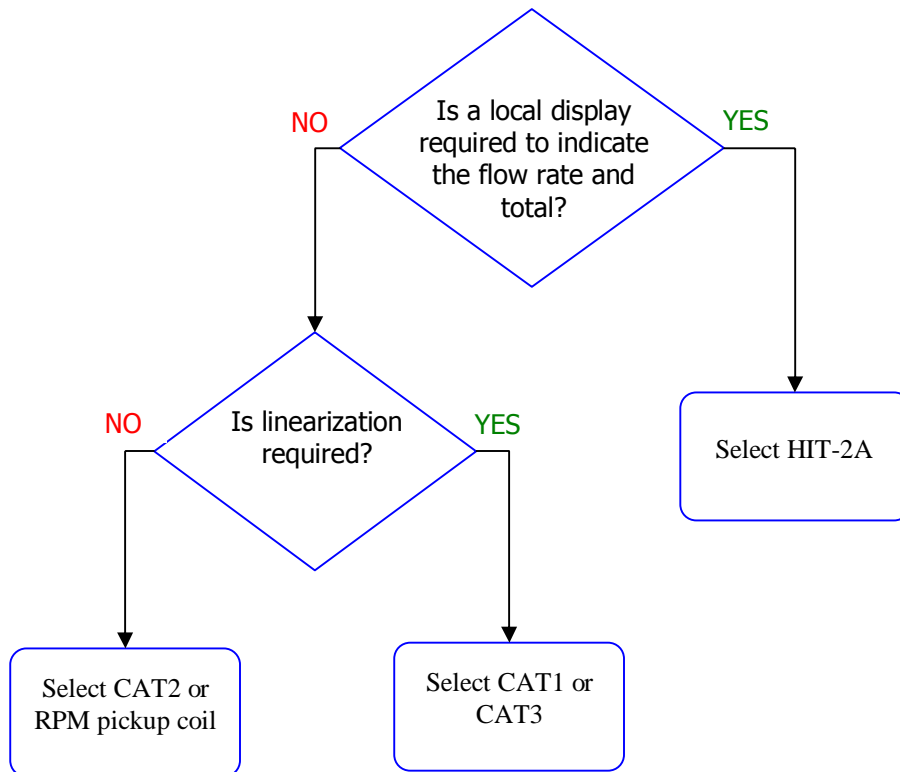
Most turbine meters use a magnetic type pickup sensor to generate an electrical signal proportional to the flow. The signal is sine-wave like, with varying amplitude and frequency proportional to the flow rate. Each pulse in the signal represents an amount of volume defined by the turbine calibration factor (k-factor). Typical industrial instruments can not directly interface with the magnetic pickup. The signal needs to be amplified and shaped to a standard electronic level. In addition it may need to be converted to an analog signal proportional to the flow.



Available Electronics Models

- Model CAT1* ó analog transmitter (4-20mA), 2-wire loop power, linearized output.
- Model CAT2* ó analog and pulse transmitter, DC power, optional alarms.
- Model CAT3* - analog and pulse transmitter, DC power, optional alarms, linearized output.
- Model HIT-2A* ó rate and total indicator/display; analog and pulse transmitter; battery, 2-wire, or DC power, alarm, linearized output.

Electronics Selection Flow Chart



Selection Notes:

If the instrument can be interfaced with the magnetic pickup directly electronics are not required if the distance to the instrument is less than 200ft (60m).

For longer distances, a meter mount amplifier is required. The most economical solution is the Hoffer Redi-Pulse pickup coil model RPM, a magnetic pickup coil with an integral amplifier. The RPM pickup coil can be used for fluid temperature ranging from -40 to 185 F.

For extreme fluid temperatures use the model CAT2 mounted on the meter. Note, that an 8" stainless steel riser will be added to the meter to protect the CAT2 from excessive heat or cold.

For improved meter accuracy, select the CAT1, CAT3 and HIT-2A microprocessor controlled amplifiers. A meter non-linearity can be compensated electronically to reduce meter uncertainty down to 0.2%. The compensation or "linearization" can be applied only to flow meters with a multipoint calibration. The 10 point calibration is included with the Precision HO and Sanitary 3A meter series.

If an analog signal is required, select model CAT1 for 2-wire 4-20mA installation, model CAT2 for 3-wire installation 4-20mA or voltage output.

If a local display indicator is required for flow rate and total, select the model HIT-2A. In addition to the local display, model HIT-2A provides meter linearization, analog output, scale pulse output, and alarm output.

If you have any questions please email our technical support at support@hitechflow.com