

Glossary

A/D Converter	A device that converts a sampled analog signal to a digital code that represents the amplitude of the original signal.
Absolute Encoder	An encoder that gives a digital output that indicates position based on a multi-channel code.
Accessory Power	An extra source of power built into an instrument usually used to power a transducer.
Accuracy	The percentage deviation between the actual position and the theoretical position of each bit edge.
Active Output	An output form creating a square wave output that runs from zero to Vcc (power). The transducer must be powered.
Axial End Play	The variation in shaft end surface position with reference to motor mounting surface with a specified axial load applied in each direction.
Axial Load	The maximum weight an encoder shaft can have applied to it in a direction along the axis of rotation.
BCD	Binary coded decimal; a number representative system in which each decimal digit is identified by a unique arrangement of binary bits.
Bearing	Part of an encoder or generator that supports the rotational movement of another part.
Bi-directional	This refers to an encoder output code format from which direction of travel can be determined by the phasing of the outputs. Also, DC generators are used for bi-directional detection.
Closed Loop	A control system in which feedback produces an error signal from output to input. The error signal is used to adjust the output signal thus reducing the error.
Complimentary	This refers to two separate outputs that are controlled by the same logic; one is on when the other is off and both reverse state when the logic reverses.
D/A Converter	A digital to analog converter; a circuit that accepts a digital input signal and converts it into a proportional analog signal.
Differential Line Driver	An output circuit that increases the current and allows the signal greater immunity to noise due to using the difference signal between two lines, see complimentary.
Digital	Represents information in discrete form; also a type of indicator that displays values with LED or LCD Digits.
Drive	A device that alters the power to a motor to alter its speed.
Duty Cycle	A statement of energized and de-energized time in repetitious operation.
Electrical Degree	An electrical degree is 1/360 of a cycle and is related to mechanical degrees of rotation.
Encoder	An electromechanical device that translates mechanical motion or position into electrical signals.
End Play	Amount of shaft axial movement with maximum axial load.
Engineering Units	Units that represent values that are being recorded according to the measurements being made.
Excitation	The external electrical energy applied to a transducer for its proper operation.
Feed-Back	The term used to express taking information from one source and sending the data back to another to have decisions made.

Glossary continued

Frequency to Voltage Converter	An electrical device that directly converts a frequency input to a voltage output.
Gain	Any increase in the current voltage or power level of a signal. Gain is expressed as output/input.
Hysteresis	Is a switching error which is deliberately induced in an electrical circuit to prevent oscillation around a transition point.
Impedance	The opposition (measured in Ohms) of circuit elements to alternating current.
Incremental Encoder	A device that provides a series of periodic signals due to mechanical rotation.
Index	A separate output signal generated by a separate line on a disk or gear, that has a single pulse placed on a unique position on the disk.
Linearity	The percentage of maximum output that any point varies from a straight line through zero.
Line Driver	A circuit used to provide greater output current capability.
Measuring Wheel	A wheel connected to an incremental encoder or generator, thus changing linear distance to a rotational movement i.e. FPM.
NEMA 4	An enclosure type which provides protections against rain and hose directed water.
NPN	A type of output that is in a high state when the input is false or in an off state, normally an NPN transistor used with a pull-up resistor.
Open Collector	A type of output where the collector portion of the output transistor is left open for the user to complete the circuit.
Open Loop	An electrical circuit that uses no form of feedback in its operation.
Output Ripple	Variation in voltage from the ideal.
Passive Output	An output that produces a sine wave, crossing zero, where the transducer of sensor requires NO power to operate.
Phase	The electrical degrees of displacement between two encoder outputs. Typically 90 degrees in quadrature encoders.
Pulses per Revolution	The number of pulse intervals of an output signal for each revolution of the input shaft.
Quadrature	The term for two nearly identical periodic signals when the phase displacement is nominally 90 electrical degrees. Allows the user to determine speed and direction.
Radial Load	The maximum force that may be applied perpendicularly to the shaft axis at specified point along the shaft without affecting encoder performance, rate velocity or distance time.
Resolution	The availability number of divisions per turn for rotary encoders.
Shaft Runout	Amount of shaft movement while spinning.
Slew Speed	Maximum velocity.
Starting Torque	The rotary force required to overcome friction and cause the encoder shaft to begin rotation.
Variable Reluctance	VR, sensor type that utilizes a magnet wrapped in a coil, reading ferrous material, produces a passive output proportional to the speed of the ferrous material.