

Solid State Sensors

Interpreting Operating Characteristics

INPUT CHARACTERISTICS

The input characteristics of a digital output Hall effect sensor are defined in terms of an operate point, release point, and differential. Since these characteristics change over temperature, and from sensor to sensor, they are specified in terms of maximum and minimum values.

Maximum operate point refers to the level of magnetic field which will insure the digital output sensor turns ON under any rated condition.

Minimum release point refers to the level of magnetic field that insures that the sensor is turned OFF.

Figure 1

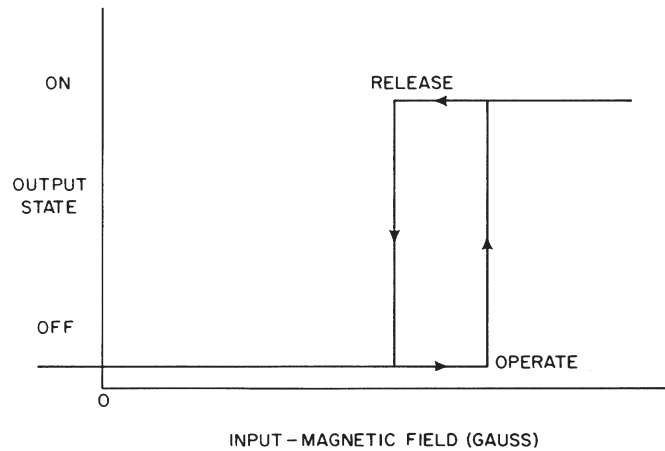
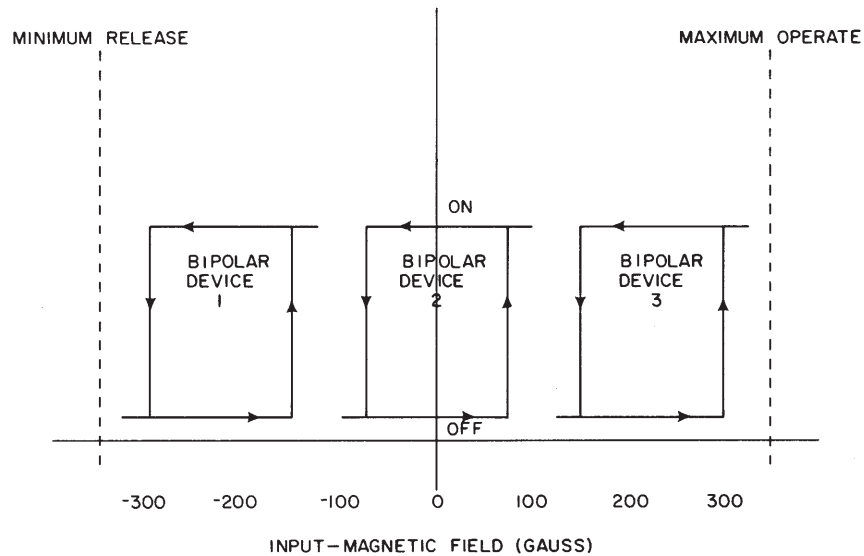


Figure 1 shows the input characteristics for a typical unipolar digital output sensor. The sensor shown is referred to as unipolar since both the maximum operate and minimum release points are positive.

Figure 2



A bipolar sensor has a maximum operate point which is positive and a minimum release point which is negative. The transfer functions are illustrated in Figure 2. Note that there are three combinations of actual operate and release points possible with a bipolar sensor. This is not a true latching bipolar device. A latching bipolar device, over the entire temperature range, would always have a positive operate point and a negative release point.