

| | BINARY COUNT | GRAY COUNT | |
|---|-----------------|---------------|---------------------------------------------|
| 0 | 000 | 000 | BAD GRAY CODE IF COUNT GOES TO FIVE |
| 1 | 001 | 001 | |
| 2 | 010 | 011 | |
| 3 | 011 | 010 | |
| 4 | 100 | 110 | |
| 5 | 101 | 111 | GOOD GRAY CODE IF COUNT GOES TO SEVEN |
| 6 | 110 | 101 | |
| 7 | 111 | 100 | |

Figure 5 A Gray encoder targeting counting from zero to seven for a full 3-bit counter will fail when the pointer moves from five to zero.