Associated Status of a Channel

Alarm info addition

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One can request associated status of an analog channel to obtain 1 or 2 bits of digital status that is related to the channel. This status is intimately tied in with the job of updating bits of text on a parameter page line. This note describes an enhancement to the returned status information to include alarm information as well. In this way, a host program can decide whether to display the status in green or red, for example, based upon whether the status bit is in alarm.

Each status bit, independent of its possible association with an analog channel, can optionally be in the alarm scan. If a bit is in the alarm scan, it can have a good/bad attribute. (When it is not in the alarm scan, it has no good/bad-ness, for the purpose of this discussion.) A bit in the alarm scan can also optionally "inhibit beam" when it is in the bad state. (Inhibit beam here refers to the assertion of a control line external to the local station whenever any channel or bit with that option selected is in alarm.)

The current use of listype #5, using a channel-type ident, provides the status information for 1 or 2 associated bits in a single byte. The bits used begin with the most-significant bit and work down from there. Bit#7 refers to the status for the first associated bit, and bit#6 is used for the second. Further details on the database entries that support this feature can be found in the document "Digital Control Pulse Delays."

In order to provide alarm information in addition to the status data, one merely requests more than one byte of data using listype #5. The additional data will be supplied in the second and following bytes. The bits used in the byte are the same ones used for the status byte.

The complete information available requires a data request of 4 bytes. The meaning of the hi order bits in the bytes are:

0: status (same as always)
1: active bit (1= Bit is in the alarm scan)
2: good/bad bit (1= Bit is bad *and* in alarm scan)
3: inhibit bit (1= Bit is inhibiting beam *and* bad *and* in alarm scan)