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OI Server and DAServer Quality Codes

SUMMARY

OI Server and DAServer Quality Codes

There are multiple conditions that determine an item's data quality. This quality status is typically indicated by a hexadecimal quality code. To determine what these codes are indicating, first lookup the hex value in the [Hexadecimal Quality Code Cross-Reference Table](#). Then, note the resulting three numbers from the *Description Cross-Reference* column. Lookup those three numbers in the [Description Table](#) to obtain the *Description* of the item's quality status.

For example, hex quality code 0x001B (1, 10, 20 cross-reference numbers) is described as follows:

- 1 Bad quality - The Value is not useful
- 10 Comm failure - Communication has failed. There is no last known value available
- 20 Constant - The value is a constant and cannot move

Hexadecimal Quality Code Cross-Reference Table

Hexadecimal Quality Flag	Description Cross-Reference
0x0000	1, 4, 17
0x0001	1, 4, 18
0x0002	1, 4, 19
0x0003	1, 4, 20
0x0004	1, 5, 17
0x0005	1, 5, 18
0x0006	1, 5, 19
0x0007	1, 5, 20
0x0008	1, 6, 17
0x0009	1, 6, 18
0x000A	1, 6, 19
0x000B	1, 6, 20
0x000C	1, 7, 17
0x000D	1, 7, 18
0x000E	1, 7, 19
0x000F	1, 7, 20
0x0010	1, 8, 17
0x0011	1, 8, 18
0x0012	1, 8, 19
0x0013	1, 8, 20
0x0014	1, 9, 17
0x0015	1, 9, 18
0x0016	1, 9, 19
0x0017	1, 9, 20
0x0018	1, 10, 17
0x0019	1, 10, 18

0x001A	1, 10, 19
0x001B	1, 10, 20
0x001C	1, 11, 17
0x001D	1, 11, 18
0x001E	1, 11, 19
0x001F	1, 11, 20
0x0040	2, 4, 17
0x0041	2, 4, 18
0x0042	2, 4, 19
0x0043	2, 4, 20
0x0044	2, 12, 17
0x0045	2, 12, 18
0x0046	2, 12, 19
0x0047	2, 12, 20
0x0050	2, 13, 17
0x0051	2, 13, 18
0x0052	2, 13, 19
0x0053	2, 13, 20
0x0054	2, 14, 17
0x0055	2, 14, 18
0x0056	2, 14, 19
0x0057	2, 14, 20
0x0058	2, 15, 17
0x0059	2, 15, 18
0x005A	2, 15, 19
0x005B	2, 15, 20
0x00C0	3, 4, 17
0x00C1	3, 4, 18
0x00C2	3, 4, 19
0x00C3	3, 4, 20
0x00D8	3, 16, 17
0x00D9	3, 16, 18
0x00DA	3, 16, 19
0x00DB	3, 16, 20

Description Table

Description Cross-Reference Number	Textual Quality Words	Description
1	Bad	The Value is not useful.
2	Uncertain	The quality of the value is uncertain.
3	Good	The quality of the value is good.
4	Non-specific	There is no specific reason for the quality state.
5	Configuration error	There is some server specific problem with the configuration. For example, the item in question has been deleted from the configuration.
6	Not connected	The input must be logically connected to some entity but it is not. This quality may reflect that no value is available at this time. For example, the value may not have been provided by the data source.
7	Device failure	A device failure has been detected.
8	Sensor failure	A sensor failure has been detected. (Numbers 17 through 20 in this table may provide additional diagnostic information in some situations.)

9	Last known value	The communication has failed. However, the last known value is available. The "age" of the value may be determined from the time stamp in the OPCITEMSTATE.
10	Comm failure	The communication has failed. There is no last known value available.
11	Out of service	The block is offscan or otherwise locked. This quality is also used when the active state of the item or the group containing the item is inactive.
12	Last usable value	Whatever device was writing this value has stopped doing so. The returned value should be regarded as "stale." This differs from Bad quality (No. 1) with Last Known Value (No. 9). The later status is associated specifically with a detectable communications error on a "fetched" value. The former status is associated with the failure of some external source to "put" something into the value within an acceptable period of time. The "age" of the value can be determined from the TIME STAMP in OPCITEMSTATE.
13	Sensor not accurate	Either the value has "clamped" at one of the sensor limits (related to No. 18 or 19) or the sensor is out of calibration through some form of internal diagnostics (related to No. 17).
14	Engineering units exceeded	The returned value is outside the limits defined for this parameter. In this case (per the Fieldbus Specification) the Limits descriptions (No. 17 - 20) indicate which limit has exceeded but they do not necessarily imply that the value cannot move farther out of range.
15	Sub-normal	The value is derived from multiple sources and has less than the required number of good sources.
16	Local override	The value has been overridden. Typically, this means that the input has been disconnected and a manually entered value has been "forced."
17	Not limited	The value is free to move up or down.
18	Low limited	The value has "clamped" at some lower limit.
19	High limited	The value has "clamped" at some high limit.
20	Constant	The value is a constant and cannot move.

ATTACHMENTS

[http://okmgcs.km.invensys.com/resources/sites/KPKA/content/live/TN/1000/TN1305/en_US/~secure/{ "SECUREDRESOURCE": "Y" }](http://okmgcs.km.invensys.com/resources/sites/KPKA/content/live/TN/1000/TN1305/en_US/~secure/{)