

Definition of Binary Status Codes

A definition of the binary status codes stored and printed by the CPP is presented below.

First Status Byte

Status Code Bit	Meaning
M	7 - 00 = Missing Bits 7 & 6 are decoded 6 - 10 = Good as given here
B	- 01 = Bad
o	- 11 = Other
R	5 - 1 = Instrument No response
L	4 - 0 = Instrument On Line, 1 = Off Line
P	3 - 1 = Instrument Parameter Alarm
A	2 - 1 = Data High Alarm
a	1 - 1 = Data Low Alarm
C	0 - 1 = In Cal, 0 = In Sample

Second Status Byte

F	7 - 1 = Power Fail
>	6 - 1 = Not All Samples , But More Than Required
<	5 - 1 = Not All Samples, And Less Than Required
H	4 - 1 = Value being held
D	3 - 1 = Downed By Operator
	2 = Encoded 0 = U - Nothing 4 = S - Smp Delay
	1 = " 1 = Z - In Initialization 5 = Undefined
	0 = " 2 = Y - A/D Calibration 6 = Undefined
	3 = V - Validity 7 = * Cal Alarm

The first status byte contains status information that is normally provided by most instrumentation. The status conditions in byte number one can also be generated inside the CPP. For example, the high/low alarms may not be set up in the instrument, but are set up in the CPP. In this case these status bits would be provided by the CPP. Obviously both could be set up. If the status condition is set by one it will not be reset by the other.

A good data value does not have a modifier printed. The status modifiers M and B indicate Missing and Bad, respectively. If any other status bits are set, then a secondary flag indicator may be also be printed. In highest to lowest priority these are printed as; F, Y, Z, R, L, C, D, H, I, A, a, >, <.

Bits 2, 1, an 0 of the second status byte are available to be encoded to provide additional data status. If they are used they are defined in a special applications section. These bits are defined in the standard CPP in several categories.

Hexadecimal to Binary Conversion

Hex	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Binary	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111

	Bytes (8 bits)			
Upper Part	7	6	5	4 (how bits are numbered)
Lower Part	3	2	1	0

Common CPP Status Indications

Status	Condition	CPP Flag	DataLink Flag	Effect on Data
0000	Missing (No response from instrument or A/D)	M	B	Not Used
4000	Bad	B	B	Not used
8000	Good, no other status conditions	None	None	Used
C003	Bad because of status	S	F	Not used
C001	In Initialization	Z	F	Not used
C004	Sample Delay (Purge)	P	F	Not used
C400	Data value, High Alarm	A	+	Used
C200	Data Value, Low Alarm	a	-	Used
C100	In Calibration	C	C	Not used
C080	Power Fail	F	P	Not used
C040	Good - Not all samples in average, but meets set up criteria	>	<	Used
4020	Bad - Not all samples in average, and fails set up criteria	<	F	Not used
4008	Bad - operator downed	D	F	Not used
2000	Instrument or A/D no response	R	F	Not used
D000	Instrument off line	L	F	Not used
C800	Instrument parameter alarm	I	>	Used
C007	Cal alarm	*	F	Used
8010	Value being held	H	None	Used

An instrument parameter alarm flag indicates that the instrument is returning a status indication that some internal operating parameter is out of specification.