

The template used for calculated channels consists of four terms and three operators and is presented below.

$$\begin{array}{ccccccc}
 & & \text{Math Template} & & & & \\
 (\text{CHA})(\text{KA}) \{ \text{OP1} \} & (\text{CHB})(\text{KB}) \{ \text{OP2} \} & (\text{CHC})(\text{KC}) \{ \text{OP3} \} & (\text{CHD})(\text{KD}) & & & \\
 | & | & | & | & | & | & | \\
 \text{Term 1} & \text{Op \#1} & \text{Term 2} & \text{Op \#2} & \text{Term 3} & \text{Op \#3} & \text{Term 4}
 \end{array}$$

The math template evaluates parenthetical expressions based on algebraic rules. Terms in the template are evaluated in the following order:

1. Term 1 and Term 2 are evaluated using Op #1, (TermA)
2. Term 3 and Term 4 are evaluated using Op #3, (TermC)
3. The results of the above operations, TermA & C, are evaluated using Op #2.

Variable Definitions

CHA/B/C/D One of the CPP's channels. This can be from a serial input, an A/D input, or from another computed channel. A channel number of 0 is valid and is considered a null channel, which results in a term whose value is given by the entered constant (K input). The default is 0.

OP1/2/3 Mathematical operators, listed below. When the CPP encounters a colon as an operator, no more terms in the expression are evaluated. For example, if OP #2 were a colon, then this calculated channel operation would only evaluate terms 1 & 2 using operator number 1, OP #1.

- + Addition
- Subtraction
- * Multiplication
- / Division
- : Stop
- V Term validation selection (OP #2 only)

KA/B/C/D An entered constant with a fixed format of X.XXXE±X. The default is 1.000E+0. The exponent input can be plus or minus and can be a number from 0 to 9. For example an input of 2.345E+2, is a number of 234.5.

V Operator

Inputting a V for operator #2 functions as follows. If the status associated with TermA is good then the results of TermA are stored as the result of the computed channel. If the status associated with TermA is not good, then the results of TermC are stored as the result of the channel computation. In this case, the status of TermC is stored regardless of it's validity.

The computed channel can also be set up to take the square root of the final answer.