Operators

The Scan Tool provides a number of operators that you can use to construct calculated PID expressions. The operators are similar to the 'C' programming language operators.

The operators are listed in precedence order. Operators closer to the top of the list will be evaluated before operators below. For example, in the expression 2+3*4 the * operator has a higher precedence than the + operator and will be evaluated first, as in 2+12=14, not as in 5*4=20.

Use parenthesis to override operator precedence. For example (2+3)*4 will be evaluated as 5*4=20.

When evaluating logical expressions, 0 indicates FALSE and non-zero indicates TRUE.

Operator	Description	Example
+	unary positive	**+**2 = 2
-	Arithmetic negative	**-**4 = -4
!	Logical negation	**!**(5<10) = 0
~	Bitwise negation	**~**00101101 = 11010010
*	Arithmetic multiplication	2*****3 = 6
/	Arithmetic division	10**/**5 = 2
%	Arithmetic modulus (remainder)	123**%**10 = 3
+	Arithmetic addition	1**+**2 = 3
-	Arithmetic addition	5**-**4 = 1
<<	Bitwise shift left	00010110 << 2 = 01011000
>>	Bitwise shift right	00010110 >> 2 = 00000101
>	Greater than	10**>**5 = 1
>=	Greater than or equal to	10**>=**10 = 1
<	Less than	10**<**5 = 0
<=	Less than or equal to	10**<=**10 = 1
=	Equal to	10**=**10 = 1
<>	Not equal to	10**<>**10 = 0
&	Bitwise AND	00101101 **&** 00001111 = 00001101
|	Bitwise OR	00101101 **|** 00001111 = 00101111
^	Bitwise XOR	00101101 **^** 00001111 = 00100010
&&	Logical AND	(10>5) **&&** (6>10) = 0
||	Logical OR	(10>5) **||** (6>10) = 1