

## FB Module Coefficient Add

The result of the coefficient add is complimented in three cases. The result is complimented if the unit is performing a subtract, do to unlike coefficient signs, and the subtract does not generate a carry across the binary point. The result is also complimented if a negative integer is being converted into a floating point number, or if a negative floating-point number is being converted to an integer.

### Example

Doing an add instruction

j = 3    040002.60  $\longleftrightarrow$  0

k = -2    140002.40  $\longleftrightarrow$  0

j is selected as larger, j exponent will be retained.

Larger, unshifted coefficient is complimented on FA because you have unlike signs.

j coefficient    17  $\longleftrightarrow$  7

k coefficient    40  $\longleftrightarrow$  0

*no carry*  
C    57  $\longleftrightarrow$  7

CBP • unlike signs = compliment result of coefficient add

comp  $\rightarrow$  20  $\longleftrightarrow$  0 = result of coefficient add

Intermedite answer~ 040002.20  $\longleftrightarrow$  0

Normalized answer\* 040001.40  $\longleftrightarrow$  0 = integer 1

If done in integer unit

j 040002.60  $\longleftrightarrow$  0  $\longleftrightarrow$  0  $\longleftrightarrow$  03    3  
k 140002.40  $\longleftrightarrow$  0    7  $\longleftrightarrow$  76    + -2 in 2's comp.  
C 0  $\longleftrightarrow$  01    1