

Embedded Systems

Floating Point Numbers

$$32.25_{10}$$

$$\underbrace{100000}_{5 \text{ positions}} | 01_2$$

5 positions

$$1.0000001 \times 2^5$$

$$\begin{aligned} &\times 2^{-128} \\ &\times 2^{128} \end{aligned}$$

①

$$.1_2 = .5_{10}$$

$$.01_2 = .25_{10}$$

$$.001_2 = .125_{10}$$

$$.0001_2 = .0625_{10}$$

1 Sign	8 exponent	23 significant
0	1000 0100	0000/010/0000/0000/0000/000

$$5 + 127 = 132 = 128 + 4$$

This is $32.25_{10} = 100000.01_2$