

Units and System Conversions

Table of Prefixes ¹⁾

prefix	symbol	factor
exa	E	10^{18}
peta	P	10^{15}
tera	T	10^{12}
giga	G	10^9
mega	M	10^6
kilo	k	10^3
deka	d	10^2
base	none	10^0
centi	c	10^{-2}
milli	m	10^{-3}
micro	μ	10^{-6}
nano	n	10^{-9}
pico	p	10^{-12}
femto	f	10^{-15}
atto	a	10^{-18}

System Dimensionality Conversions

From [Dimensional_analysis](#)

There are many possible choices of base physical dimensions. The SI standard selects the following dimensions and corresponding dimension symbols:

time (T), length (L), mass (M), electric current (I), absolute temperature (Θ), amount of substance (N) and luminous intensity (J).

Dim	SI	UCS ²⁾
L	2.54cm	1in
M	2.2046kg	1lb

Temperature Conversions

$$T_F = \frac{9}{5}T_C + 32$$

$$T_C = \frac{5}{9}(T_F - 32)$$

$$0^{\circ}\text{C} = 273.15\text{K}$$

$$0^{\circ}\text{F} = 456.67^{\circ}\text{R}$$

$$T_R = \frac{5}{9}T_K$$

IEC Binary Prefixes

The primary system in which binary unit magnitudes are represented. Intended to replace SI units for digital measurements, where numbers are represented in base-2 rather than base-10. Thus, when referring to units, generally KB is the SI interpretation of $1 \cdot 10^3$ whereas 1KiB refers to the IEC interpretation of $1 \cdot 2^{10}$ in base-2.

Prefix	Symbol	Factor
base	none	2^1
kibi	Ki	2^{10}
mebi	Mi	2^{20}
gibi	Gi	2^{30}
pebi	Pi	2^{40}
exbi	Ei	2^{50}

¹⁾

see [NIST Special Publication 1038](#)

²⁾

United States Customary Units

³⁾

Rakine is also archaically notated as $\$R\$$ or $\$^{\circ}Ra\$$

From:
<https://memex.kyaruc.moe/> - **kyaruc memex**

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Last update: **2025-12-07 Sun 18:28**

