

Unit Conversion Table

This conversion table package allows conversion from one set of units to another. It is for manual use and does no calculations. Most of the conversion factors are taken from the public domain information of the U.S. National Institute of Standards and Technology, NIST.

Standard Prefixes		
Prefix used in code	Prefix for written unit	Multiplier
da-	deka-	10
h-	hecto-	100
k-	kilo-	1000
M-	mega-	1e6
G-	giga-	1e9
T-	tera-	1e12
P-	peta-	1e15
E-	exa-	1e18
Z-	zeta-	1e21
Y-	yotta-	1e24
d-	deci-	1e-1

c-	centi-	1e-2
m-	milli-	1e-3
mu-	micro-	1e-6
n-	nano-	1e-9
p-	pico-	1e-12
f-	femto-	1e-15
a-	atto-	1e-18
z-	zepto-	1e-21
y-	yocto-	1e-24

Standard Units

Unit	Symbol	Definition	Comments
Time			
second	sec	1 s	
minute	min	60 s	
hour	hr	60 min	
hour	hour	1 hr	alternate symbol

hour	h	1 hr	alternate symbol
day	day	24 hr	
shake	shake	10 ns	
Hertz	Hz	1 s ⁻¹	
Length or Distance			
international foot	ft	0.3048 m	
inch	in	1.0/12.0 ft	
international mile	mile	5280.0 ft	
international mile	mi	1 mile	alternate symbol
milli-inch	mil	0.001 in	
Parsec	pc	3.085678e16 m	
League	league	3 mile	
Astronomical Unit	ua	1.49598e11 m	
Astronomical Unit	AU	1.49598e11 m	alternate symbol
yard	yd	3 ft	
Angstrom	Ang	1e-10 m	
Angstrom	\\AA	1 Ang	alternate symbol

furlong	furlong	220 yd	
fathom	fathom	6 ft	
Rod	rd	16.5 ft	
U.S. survey foot	sft	(1200./3937.) m	
U.S. survey mile	smi	5280 sft	also called statue mile
point	pt	1./72. in	Typeface Point
pica	pica	1./6. in	Typeface Pica
Temperature			
Celsius	C	1 K -273.15	
Rankine	R	5.0/9.0 K	
Fahrenheit	F	1 R -459.67	
Mass			
gram	g	0.001 kg	This is case sensitive.
gram	gm	g	(alternate symbol)
pound mass	lbm	0.45359237 kg	(avoirdupois)
Troy pound	lbt	0.3732417 kg	(apothecary)
carat (metric)	carat	0.2 g	

slug	slug	1 lb sec ² /ft	
snail	snail	1 lb sec ² /in	
Short Ton	ton	2000 lbm	
Long Ton	ton_l	2240 lbm	
Ounce	oz	28.34952 g	(avoirdupois)
Grain	gr	64.79891 mg	
Pennyweight	dwt	1.55174 g	
Force or Weight			
Newton	N	1 kg m/s ²	
Dyne	dyn	1e-5 N	
pound force	lb	lbf	
pound force	lbf	lbf	
poundal	poundal	1 lbf ft/sec ²	
kilopound	kip	1000 lbf	
kilogram force	kgf	kg G	
Energy			
Joule	J	1 N m	

British Therm. Unit	BTU	1055.056 J	(International Table)
British Therm. Unit	Btu	1 BTU	alternate symbol
British Therm. Unit	BTU_th	1054.350 J	(Thermochemical)
calorie	cal	4.1868 J	(International Table)
calorie	cal_th	4.184 J	(Thermochemical)
Calorie	Cal	4.1868 kJ	(nutritionists)
electron volt	eV	1.602177e-19 J	
erg	erg	1e-7 J	
Ton of TNT	TNT	4.184e9 J	
Power			
Watt	W	1 J/s	
Horse Power	hp	550 ft lb/s	
Pressure			
bar	bar	1e5 N/m ²	
Pascal	Pa	1 N/m ²	
Pounds per sq. inch	psi	1 lb/in ²	
Pounds per sq. ft.	psf	1 lb/ft ²	

kilo psi	ksi	1000.0 psi	
atmospheres	atm	1.01325e5 N/m ²	
inches of Mercury	inHg	3.387 kPa	
millimeters Mercury	mmHg	0.1333 kPa	
Torr	torr	1.333224 Pa	
Volume or Area			
Liter	L	1/1000.0 m ³	
gallon	gal	3.785412 L	
Pint (U.S. liquid)	pint	1/8. gal	
Quart (U.S. liquid)	qt	2 pint	
Pint (U.S. dry)	dpint	0.5506105 L	
Quart (U.S. dry)	dqt	2 dpint	
Acre	acre	1/640.0 smi ²	
Hectare	ha	10000 m ²	
Barrel (petroleum)	barrel	158.9873 L	
Fluid Ounce	oz_fl	29.57353 mL	
Gill (U.S.)	gi	0.1182941 L	

Peck (U.S.)	pk	8.809768 L	
Tablespoon	tbl	1/32. pint	
Teaspoon	tsp	1/3. tbl	
Cup	cup	16. tbl	
Electromagnetism			
Coulomb	Co	1 A s	Electric Charge
Volt	V	1 W/A	Electric Potential
Ohm	ohm	1 V/A	Electric Resistance
Ohm	\\Omega	1 V/A	alternate symbol
Faraday	faraday	96485.31 Co	Electric Charge
Farad	farad	Co/V	Capacitance
Stokes	stokes	1e-4 m ² /s	
Oersted	Oe	79.57747 A/m	
Webber	Wb	V s	Magnetic flux
Tesla	Tesla	Wb/m ²	Magnetic flux density
Henry	H	Wb/A	Inductance
Siemens	S	A/V	Electrical Conductance

Light and Radiation

Lux	lux	cd/m ²	Illuminance
Lux	lx	cd/m ²	
Lumen	lm	cd	Luminous Flux
Stilb	sb	10000 cd/m ²	
Phot	ph	10000 lx	
Becquerel	Bq	s ⁻¹	activity
Gray	Gy	J/kg	Absorbed Dose, kerma
Sievert	Sv	J/kg	Dose equivalent

Other Quantities

pound mole	lbmole	1 mol lbm/g	quantity
poise	poise	1 g /sec cm	viscosity
Gravity's accel.	G	9.80665 m/sec ²	Gravity on Earth
Degree	deg	Pi/180	Can be used to convert from degrees to radians for trig functions.
Percent	%	0.01	
Knot	knot	1852 m/hr	velocity
Miles per Hour	mph	1 mi/hr	velocity

Gallon/minute	gpm	1. gal/min	flow rate
Revolution/minute	rpm	360 deg/min	