

Electus Distribution Reference Data Sheet: UNITCONV.PDF

UNITS & CONVERSION TABLES

It is quite common to see all sorts of conversion tables in engineering journals, wall charts or even the odd phone book! Inevitably they all tend to be less than totally comprehensive. We are attempting to do something about this by bringing together every unit for physical quantities we have ever heard of (and some we hadn't!) and publish them hopefully with a useful conversion. We dare not say that this list is complete and, quite possibly there may even be an error in there amongst some of those exotic numbers — but we've fixed all we know about. We hope to make this compendium a feature of all future Electus Catalogue data sections, and an ongoing feature on our website. We welcome corrections and especially additions to some of the weirder imperial or, heaven forbid, metric measurements. Mail, fax or Email (info@electusdistribution.com.au) your suggestions to: 'Furlongs per Fortnight' here at Electus, and it will get to the right person!

NOTE: This is not an attempt to undermine the metric system. Thanks to the Brits, the Asians & the Americans, many of these 'archaic' units of measurement are still in common use.

Unit or Quantity Metric	Imperial	Symbol or Abbreviation	Scale or Conversion
LENGTH			
Angstrom		Å	10 ⁻¹⁰ m, 0.1nm
Micrometre		µm	10 ⁻⁶ m
	Microinch	µin	0.0254µm
	Thou, Mil or milli-inch		25.4µm, 0.001 in
Millimetre		mm	0.03937 inch
Nanometre		nm	10 ⁻⁹ m, 10 angstroms
Centimetre		cm	0.3937 inch
	Inch	in or "	25.4mm
	Foot	ft or '	304.8mm
	Yard	yd(s)	914.4mm (0.9144m)
Metre (SI)		m	1,000mm, 1.094yd, 3.28ft
	Fathom		6ft, 1.8288m
	Chain	ch	22yd, 20.1168m, 0.0125mi
	Furlong		220yd, 201.2m, 10ch, 0.125mi
	Mile (Statute)	mi	1.6093km, 1,760yds
Kilometre		km	1,000m, 0.621m, 0.540Nm
	Nautical Mile	Nm	1.852km, 1.15mi
	Lightyear	lyr	9,460,730,472,581km
Parsec		pc	3.262 light years, 3.0857 x 10 ¹⁶ m
AREA			
	Circular Mil		506.7075m ²
Square Centimetre		cm ²	0.135 in ²
	Square inch	in ²	6.45cm ² , 645.16mm ²
	Square foot	ft ²	0.092903m ² , 929cm ²
	Square yard	yd ²	0.836127m ²
Square Metre		m ²	1.2yd ² , 10,000cm ²
	Acre	ac	4840yd ² , 4047m ² , 0.4047ha
Hectare		ha	2.47ac, 10,000m ²
Square Kilometre		km ²	0.386mi ² , 1,000,000m ²
	Square Mile	mi ²	2.5899km ² , 3,097,600yd ²
VOLUME & FLUID VOLUME			
Cubic centimetre or Millilitre		mL	0.0610in ³ , 0.0352 Fl.oz.
	Cubic inch	in ³	16.387mL
	Fluid ounce	Fl.oz.	28.413mL
	Pint	pt	568mL, 16 Fl.oz.
Litre		L	1,000mL, 1.76pt, 0.220imp gal, 0.264US gal
	Quart	qt	1.1365L, 40Fl.oz., 2.5pt
	US Gallon	US gal	3.7879L, 0.833 imp.gal.
	Gallon (Imperial)	imp.gal	4.55L, 4qt
	Cubic foot	cuft	28.316847L
	Bushel	bus	0.0364m ³
	Cubic yard	yd ³	0.765m ³
Cubic Metre		m ³	1,000L (water), 35.3cuft, 27.5bus, 1.31yd, 220gal
MASS			
Milligram		mg	0.001g, 0.01538gr
	Grain	gr	64.79891mg, 0.323995k
Carat		k	0.2g
	Dram (avoirdupois)	dr	1.77185g, 0.0625oz
	Dram (US)	k	60gr, 0.0039kg, 3.8879g
	Pennyweight		24gr, 0.05tr oz
Gram		g	0.0352oz, 5k, 1.555pennyweight
	Ounce	oz	28.3495g, 0.0625lb
	Troy ounce	tr oz	31.103477g
	Pound	lb	453.5923745g, 16oz
Kilogram (SI)		kg	2.205lb
	Stone	st	6.3502932kg, 14lb

Unit or Quantity Metric	Imperial	Symbol or Abbreviation	Scale or Conversion
	Quarter	qr	12.7006kg, 2st, 28lb
	Slug		14.5939kg (Fps unit of mass)
	Central (or short hundredweight US/Can.)		110lb, 49.886kg
	Hundredweight (long)	cwt	112lb, 50.802kg, 4qr
Metric Hundredweight			50.0kg
Tonne		t	1,000kg, 2205lb
	Ton	t	1016.05kg, 2240lb
	Ton (US)	t	907.18kg, 2,000lb
FORCE, PRESSURE & TORQUE			
Pascal (SI)		Pa	1.45 x 10 ⁻⁴ psi
Kilopascal		kPa	0.145psi, 0.009867Bar
	Pounds per sq. foot	psf	47.8803Pa
	Pounds per sq. inch	psi	6.89476kPa
	1 inch of water		249.089Pa
	1 foot of water		2.98907kPa
	1 inch Mercury (Hg)		3.38639kPa
Bar			10 ⁶ dynes/cm ² , 100kPa, 14.5psi
Millibar		mb	0.0295in hg (mercury), 10 ² Pa
Dyne		d	10 ⁻⁵ N, 7.233 x 10 ⁻⁶ pd, 1.02x10 ⁻³ g
	Poundal	pd	0.138255N, 1.383 x 10 ⁴ dyne
Newton (SI)		N	0.2248lb, 7.233pd, 10 ⁵ dyne
	Foot-ounce	oz-f	0.278014N-m
	Foot-pound	lb-ft	4.45N-m
	Foot-ton	ton-ft	9.96402kN-m
Newton-metre (force x unit length)		N-m	0.06852 lb-ft
	Foot pound force/ft	lb-ft	1.35582N-m
ILLUMINATION, ENERGY & WORK			
Milli-Candela		mcd	10 ⁻³ cd
	Foot candle	cd/ft ²	10.764Lux, 1 lm/ft ²
Lux (SI)		lx	lumen/m ² , 0.092892cd/ft ²
Lumen (SI)		lm	1.46mW @ 555nm monochrom.
Candle		I	1 lumen/steradian
Lambert		L	1 candle/cm ²
Electron-volt		eV	1.602 x 10 ⁻¹⁹ J
Million electron-volt		MeV	1.602 x 10 ⁻¹³ J
Erg		erg	7.376 x 10 ⁻⁸ ft/lb, 10 ⁻⁷ J
	Foot-poundal	ftpd	0.042140J
Joule		J	1N-m Newton-metre
Kilojoule		kJ	0.948BTU, 0.239cal
Calorie		cal	4.1868J
	British Thermal Unit	BTU	1.05506kJ, 252 cal
	Foot pound	ftlb	0.042140J, 3.766 x 10 ⁻⁷ kWh
Kilowatt-hour		kWh	3.6MJ, 2.655 x 10 ⁶ ftlb
	Horsepower-hour	hp-h	2.68452MJ
	Therm	therm	105.506mJ
POWER & MISCELLANEOUS			
	Horsepower	hp	745.7W, 550 ftlbs/sec
Watt		W	0.00134hp, 1J/s, 10 ⁷ erg/sec
Kilowatt		kW	1.341hp, 1,000W
	Foot pounds force/sec		0.001356kW
	Inch/minute	in/min	0.4233mm/s
	Inch/second	in/sec	25.4mm/s
	Foot/minute	ft/min	0.00508m/s
	Foot/second	ft/sec	0.3048m/s
Kilometre/hour		km/h	0.6213mph
	Mile/hour	mph	1.60934km/h, 0.44704m/s
	Knots (nautical mile/hour)	kt	1.1508mph, 1.852km/h
Gauss		gauss	6.45 line/in ²
Tesla		T	10,000gauss, 1 weber/m ²
Ampere		A	1 coulomb/second
Coulomb		C	6.242 x 10 ¹⁸ electron charges