

The `physunits` package*

Brian W. Mulligan
`bwmulligan@astronaos.com`

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1 Introduction

This package consists of several macros that are shorthand for a variety of physical units that are commonly used in introductory level physics and astronomy classes.

At present, this package provides some similar units to those in `siunitx`, but is uses slightly different macro names for each. This package also provides a number of non-SI units (e.g. `erg`, `cm`, `BTU`).

2 Prerequisites / Dependencies

2.1 General

This package requires the `physunits` package.

2.2 Generating Documentation

The `hyperref` package are required to generate the documentation (this file) for this package.

*This document corresponds to `physunits` v1.2.0, dated 2021/03/26.

3 Acknowledgements

The author would like to thank Brian Dunn for catching bugs in the temperature units and kcal, leading to changes in v1.0.4.

4 Bug Reporting

Please report bugs or issues in this package using github, at <https://github.com/astrobit/physunits/issues>.

5 Naming Convention

most macros consist of just the commonly used letter or unit, e.g. `\m` for meters. In cases where the simple form of the unit conflicts with an existing \LaTeX macro, then the full word is used, starting with a upper-case letter, e.g. `\Coulomb`.

One notable exception to the above naming convention is the use of `\gm` for grams, instead of `\g` or `\Gram`.

6 Base and Prefixes

Most units are in the base unit only, but some very commonly used prefixes are available as part of the macro, e.g. `\kg` for kilogram, `\cm` for centimeter. For base units, each macro accepts one option that can be used to specify the prefix, for example `\m[n]` will result in nm. The macros enforce math mode, so `\m[\micro]` will result in μm .

7 Macro Usage

7.1 Special Macros

`\units@separator` `\units@separator` is a special macro used to set the spacing between a quantity and the associated units.

`\micro` `\micro` is a special macro that can be used for the prefix μ (micro-). Internally it just uses `\mu`.

7.2 Electricity & Magnetism

- `\V` `\V` is a macro for Volts (V). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
- `\Volt` `\Volt` is a macro for Volts (V). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
- `\Coulomb` `\Coulomb` is a macro for Coulombs (C). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
- `\esu` `\esu` is a macro for electrostatic units (esu), the units of charge in Gaussian cgs.
- `\Ohm` `\Ohm` is a macro for Ohms (Ω). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
- `\Amp` `\Amp` is a macro for Amperes (A). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
- `\Farad` `\Farad` is a macro for Farads (F). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
- `\Tesla` `\Tesla` is a macro for Teslas (T). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
- `\Gauss` `\Gauss` is a macro for Gauss (G), the units for magnetic field strength in Gaussian cgs. This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
- `\Henry` `\Henry` is a macro for Henrys (H). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

7.3 Energy

- `\eV` `\eV` is a macro for electron Volts (eV). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
- `\keV` `\keV` is a macro for kilo-electron Volts (keV).
- `\MeV` `\MeV` is a macro for mega-electron Volts (MeV).
- `\J` `\J` is a macro for Joules (J). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
- `\Joule` `\Joule` is a macro for Joules (J). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\erg` `\erg` is a macro for ergs (erg), the unit of energy in cgs.

`\kcal` `\kcal` is a macro for kilo-calories (kcal).

`\Cal` `\Cal` is a macro for kilo=calories (Cal).

`\calorie` `\calorie` is a macro for calories (cal). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\BTU` `\BTU` is a macro for British Thermal Units (BTU).

`\tnt` `\tnt` is a macro for tons of TNT.

7.4 Power

`\Watt` `\Watt` is a macro for Watts (W). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\hpi` `\hpi` is a macro for Imperial Horsepower (hp(I)).

`\hpi` `\hpi` is a macro for Metric Horsepower (hp(M)).

`\hp` `\hp` is a macro for Horsepower (hp).

7.5 Distance

`\meter` `\meter` is a macro for meters (m). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\m` `\m` is a macro for meters (m). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\km` `\km` is a macro for kilometers (km).

`\au` `\au` is a macro for astronomical units (au).

`\pc` `\pc` is a macro for parsecs (pc). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\ly` `\ly` is a macro for light-years (ly). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\cm` `\cm` is a macro for centimeters (cm).

`\nm` `\nm` is a macro for nanometers (nm).

`\ft` `\ft` is a macro for feet (ft).
`\inch` `\inch` is a macro for inches (in).
`\mi` `\mi` is a macro for miles (mi).

7.6 Time

`\s` `\s` is a macro for seconds (s). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
`\Sec` `\Sec` is a macro for seconds (s). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
`\Min` `\Min` is a macro for minutes (m).
`\h` `\h` is a macro for hours (h).
`\y` `\y` is a macro for years (y). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
`\Day` `\Day` is a macro for days (d).

7.7 Mass

`\gm` `\gm` is a macro for grams (g). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
`\kg` `\kg` is a macro for kilograms (kg).
`\lb` `\lb` is a macro for pounds (weight) (lb).
`\amu` `\amu` is a macro for atomic mass units (amu).

7.8 Force

`\N` `\N` is a macro for Newtons (N). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
`\Newton` `\Newton` is a macro for Newtons (N). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.
`\dyne` `\dyne` is a macro for dynes (dyn). This macro accepts an optional argument for

a prefix. If no option is supplied, no prefix will be prepended.

`\lbf` `\lbf` is a macro for pounds of force (lbf).

7.9 Velocity

`\kmps` `\kmps` is a macro for kilometers per second (km s^{-1}).

`\kmph` `\kmph` is a macro for kilometers per hour (km h^{-1}).

`\mps` `\mps` is a macro for meters per second (m s^{-1}). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\miph` `\miph` is a macro for miles per hour (mi h^{-1}).

`\kts` `\kts` is a macro for knots (kts), i.e. nautical miles per hour

7.10 Acceleration

`\mpss` `\mpss` is a macro for acceleration in meters per second squared (m s^{-2}). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\gacc` `\gacc` is a macro for acceleration due to gravity (g).

`\ftps` `\ftps` is a macro for acceleration in feet per second squared (ft s^{-2}).

7.11 Temperature

`\K` `\K` is a macro for Kelvin (K). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\Kelvin` `\Kelvin` is a macro for Kelvin (K). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\Celsius` `\Celsius` is a macro for degrees Celsius ($^{\circ}\text{C}$). `\Celcius` and `\centigrade` are identical macros ($^{\circ}\text{C}$).

`\Rankine` `\Rankine` is a macro for degrees Rankine ($^{\circ}\text{R}$).

`\Fahrenheit` `\Fahrenheit` is a macro for degrees Fahrenheit ($^{\circ}\text{F}$).

7.12 Angular Velocity

`\rpm` `\rpm` is a macro for revolutions per minute (rev min^{-1}).

7.13 Frequency

`\Hz` `\Hz` is a macro for Hertz (Hz). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

7.14 Pressure

`\barP` `\barP` is a macro for bar (bar). (The use of `\barP` instead of just `\bar` is due the L^AT_EX command `\bar`.) This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\atm` `\atm` is a macro for atmosphere (atm).

`\Pa` `\Pa` is a macro for Pascals (Pa). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\mmHg` `\mmHg` is a macro for millimeters of mercury (mmHg).

`\inHg` `\inHg` is a macro for inches of mercury (inHg).

`\lbsi` `\lbsi` is a macro for pounds per square inch (psi). (Note that `\psi` is a latex command for the greek letter ψ).

`\lbsf` `\lbsf` is a macro for pounds per square foot (psf).

`\Ba` `\Ba` is a macro for Barre (Ba). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

`\Torr` `\Torr` is a macro for Torr (Torr). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

7.15 Other

`\mol` `\mol` is a macro for moles (mol).

8 Implementation

8.1 Special

`\units@separator` `\units@separator` is a special macro used to set the spacing between a quantity and the associated units.

```
1 \DeclareRobustCommand{\units@separator}{\,}
```

`\micro` `\micro` is a special macro used to typeset the symbol μ . It is compatible with the `\micro` in `siunitx`.

```
2 \ifx\micro\undefined
3 \DeclareRobustCommand{\micro}{\ensuremath{%
4 \mu}}
5 \fi
```

8.2 Electricity & Magnetism

`\V` `\V` is a macro for Volts (V). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
6 \DeclareRobustCommand{\V}[1][ ]{\ensuremath{%
7 \expandafter\units@separator\mathrm{#1V}}}
```

`\Volt` `\Volt` is a macro for Volts (V). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
8 \DeclareRobustCommand{\Volt}[1][ ]{\ensuremath{%
9 \expandafter\units@separator\mathrm{#1V}}}
```

`\Coulomb` `\Coulomb` is a macro for Coulombs (C). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
10 \DeclareRobustCommand{\Coulomb}[1][ ]{\ensuremath{%
11 \expandafter\units@separator\mathrm{#1C}}}
```

`\esu` `\esu` is a macro for electrostatic units (esu).

```
12 \DeclareRobustCommand{\esu}{\ensuremath{%
13 \expandafter\units@separator\mathrm{esu}}}
```


`\Ohm` `\Ohm` is a macro for Ohms (Ω). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
14 \DeclareRobustCommand{\Ohm}[1][ ]{\ensuremath{%
15 \expandafter\units@separator\mathrm{#1\Omega}}}
```

`\Amp` `\Amp` is a macro for Amperes (A). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
16 \DeclareRobustCommand{\Amp}[1][ ]{\ensuremath{%
17 \expandafter\units@separator\mathrm{#1A}}}
```

`\Farad` `\Farad` is a macro for Farads (F). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
18 \DeclareRobustCommand{\Farad}[1][ ]{\ensuremath{%
19 \expandafter\units@separator\mathrm{#1F}}}
```

`\Tesla` `\Tesla` is a macro for Teslas (T). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
20 \DeclareRobustCommand{\Tesla}[1][ ]{\ensuremath{%
21 \expandafter\units@separator\mathrm{#1T}}}
```

`\Gauss` `\Gauss` is a macro for Gauss (G). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
22 \DeclareRobustCommand{\Gauss}[1][ ]{\ensuremath{%
23 \expandafter\units@separator\mathrm{#1G}}}
```

`\Henry` `\Henry` is a macro for Henrys (H). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
24 \DeclareRobustCommand{\Henry}[1][ ]{\ensuremath{%
25 \expandafter\units@separator\mathrm{#1H}}}
```

8.3 Energy

`\eV` `\eV` is a macro for electron Volts (eV). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
26 \DeclareRobustCommand{\eV}[1][ ]{\ensuremath{%
27 \expandafter\units@separator\mathrm{#1eV}}}
```

`\keV` `\keV` is a macro for kilo-electron Volts (keV).

```
28 \DeclareRobustCommand{\keV}{\ensuremath{%
29 \expandafter\units@separator\mathrm{keV}}}
```

`\MeV` `\MeV` is a macro for mega-electron Volts (MeV).

```
30 \DeclareRobustCommand{\MeV}{\ensuremath{%
31 \expandafter\units@separator\mathrm{MeV}}}
```

`\J` `\J` is a macro for Joules (J). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
32 \DeclareRobustCommand{\J}[1][ ]{\ensuremath{%
33 \expandafter\units@separator\mathrm{#1J}}}
```

`\Joule` `\Joule` is a macro for Joules (J). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
34 \DeclareRobustCommand{\Joule}[1][ ]{\ensuremath{%
35 \expandafter\units@separator\mathrm{#1J}}}
```

`\erg` `\erg` is a macro for ergs (erg).

```
36 \DeclareRobustCommand{\erg}{\ensuremath{%
37 \expandafter\units@separator\mathrm{erg}}}
```

`\kcal` `\kcal` is a macro for kilo-calories (kcal).

```
38 \DeclareRobustCommand{\kcal}{\ensuremath{%
39 \expandafter\units@separator\mathrm{kcal}}}
```

`\Cal` `\Cal` is a macro for kilo=calories (Cal).

```
40 \DeclareRobustCommand{\Cal}{\ensuremath{%
41 \expandafter\units@separator\mathrm{Cal}}}
```

`\calorie` `\calorie` is a macro for calories (cal). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
42 \DeclareRobustCommand{\calorie}[1][ ]{%
43 \ensuremath{%
44 \expandafter\units@separator\mathrm{#1cal}}}
```

`\BTU` `\BTU` is a macro for British Thermal Units (BTU).

```
45 \DeclareRobustCommand{\BTU}{\ensuremath{%
46 \expandafter\units@separator\mathrm{BTU}}}
```

`\tnt` `\tnt` is a macro for tons of TNT).

```
47 \DeclareRobustCommand{\tnt}{\ensuremath{%
48 \expandafter\units@separator\mathrm{ton%
49 \expandafter\units@separator of%
50 \expandafter\units@separator TNT}}}
```

8.4 Power

`\Watt` `\Watt` is a macro for Watts (W). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
51 \DeclareRobustCommand{\Watt}[1][ ]{\ensuremath{%
52 \expandafter\units@separator\mathrm{#1W}}}
```

`\hpi` `\hpi` is a macro for Imperial Horsepower (hp(I)).

```
53 \DeclareRobustCommand{\hpi}{\ensuremath{%
54 \expandafter\units@separator\mathrm{hp(I)}}}
```

`\hpi` `\hpi` is a macro for Metric Horsepower (hp(M)).

```
55 \DeclareRobustCommand{\hpm}{\ensuremath{%
56 \expandafter\units@separator\mathrm{hp(M)}}}
```

`\hp` `\hp` is a macro for Horsepower (hp).

```
57 \DeclareRobustCommand{\hp}{\ensuremath{%
58 \expandafter\units@separator\mathrm{hp}}}
```

8.5 Distance

`\meter` `\meter` is a macro for meters (m). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
59 \DeclareRobustCommand{\meter}[1][ ]{\ensuremath{%  
60 \expandafter\units@separator\mathrm{#1m}}}
```

`\m` `\m` is a macro for meters (m). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
61 \DeclareRobustCommand{\m}[1][ ]{\ensuremath{%  
62 \expandafter\units@separator\mathrm{#1m}}}
```

`\km` `\km` is a macro for kilometers (km).

```
63 \DeclareRobustCommand{\km}{\ensuremath{%  
64 \expandafter\units@separator\mathrm{km}}}
```

`\au` `\au` is a macro for astronomical units (au).

```
65 \DeclareRobustCommand{\au}{\ensuremath{%  
66 \expandafter\units@separator\mathrm{au}}}
```

`\pc` `\pc` is a macro for parsecs (pc). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
67 \DeclareRobustCommand{\pc}[1][ ]{\ensuremath{%  
68 \expandafter\units@separator\mathrm{#1pc}}}
```

`\ly` `\ly` is a macro for light-years (ly). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
69 \DeclareRobustCommand{\ly}[1][ ]{\ensuremath{%  
70 \expandafter\units@separator\mathrm{#1ly}}}
```

`\cm` `\cm` is a macro for centimeters (cm).

```
71 \DeclareRobustCommand{\cm}{\ensuremath{%  
72 \expandafter\units@separator\mathrm{cm}}}
```

`\nm` `\nm` is a macro for nanometers (nm).

```
73 \DeclareRobustCommand{\nm}{\ensuremath{%
74 \expandafter\units@separator\mathrm{nm}}}
```

`\ft` `\ft` is a macro for feet (ft).

```
75 \DeclareRobustCommand{\ft}{\ensuremath{%
76 \expandafter\units@separator\mathrm{ft}}}
```

`\inch` `\inch` is a macro for inches (in).

```
77 \DeclareRobustCommand{\inch}{\ensuremath{%
78 \expandafter\units@separator\mathrm{in}}}
```

`\mi` `\mi` is a macro for miles (mi).

```
79 \DeclareRobustCommand{\mi}{\ensuremath{%
80 \expandafter\units@separator\mathrm{mi}}}
```

8.6 Time

`\s` `\s` is a macro for seconds (s). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
81 \DeclareRobustCommand{\s}[1][ ]{\ensuremath{%
82 \expandafter\units@separator\mathrm{#1s}}}
```

`\Sec` `\Sec` is a macro for seconds (s). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
83 \DeclareRobustCommand{\Sec}[1][ ]{\ensuremath{%
84 \expandafter\units@separator\mathrm{#1s}}}
```

`\Min` `\Min` is a macro for minutes (m).

```
85 \DeclareRobustCommand{\Min}{\ensuremath{%
86 \expandafter\units@separator\mathrm{min}}}
```

`\h` `\h` is a macro for hours (h).

```
87 \DeclareRobustCommand{\h}{\ensuremath{%
88 \expandafter\units@separator\mathrm{h}}}
```

`\y` `\y` is a macro for years (y). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
89 \DeclareRobustCommand{\y}[1][ ]{\ensuremath{%
90 \expandafter\units@separator\mathrm{#1y}}}
```

`\Day` `\Day` is a macro for days (d).

```
91 \DeclareRobustCommand{\Day}{\ensuremath{%
92 \expandafter\units@separator\mathrm{d}}}
```

8.7 Mass

`\gm` `\gm` is a macro for grams (g). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
93
94 \DeclareRobustCommand{\gm}[1][ ]{\ensuremath{%
95 \expandafter\units@separator\mathrm{#1g}}}
```

`\kg` `\kg` is a macro for kilograms (kg).

```
96 \DeclareRobustCommand{\kg}{\ensuremath{%
97 \expandafter\units@separator\mathrm{kg}}}
```

`\lb` `\lb` is a macro for pounds (weight) (lb).

```
98 \DeclareRobustCommand{\lb}{\ensuremath{%
99 \expandafter\units@separator\mathrm{lb}}}
```

`\amu` `\amu` is a macro for atomic mass units (amu).

```
100 \DeclareRobustCommand{\amu}{\ensuremath{%
101 \expandafter\units@separator\mathrm{amu}}}
```

8.8 Force

`\N` `\N` is a macro for Newtons (N). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
102 \DeclareRobustCommand{\N}[1][ ]{\ensuremath{%  
103 \expandafter\units@separator\mathrm{#1N}}}
```

`\Newton` `\Newton` is a macro for Newtons (N). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
104 \DeclareRobustCommand{\Newton}[1][ ]{\ensuremath{%  
105 \expandafter\units@separator\mathrm{#1N}}}
```

`\dyne` `\dyne` is a macro for dynes (dyn). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
106 \DeclareRobustCommand{\dyne}[1][ ]{\ensuremath{%  
107 \expandafter\units@separator\mathrm{#1dyn}}}
```

`\lbf` `\lbf` is a macro for pounds of force (lbf).

```
108 \DeclareRobustCommand{\lbf}{\ensuremath{%  
109 \expandafter\units@separator\mathrm{lbf}}}
```

8.9 Velocity

`\kmps` `\kmps` is a macro for kilometers per second (km s^{-1}).

```
110 \DeclareRobustCommand{\kmps}{\ensuremath{%  
111 \expandafter\units@separator\mathrm{km}%  
112 \expandafter\units@separator\mathrm{s}^{-1}}}
```

`\kmph` `\kmph` is a macro for kilometers per hour (km h^{-1}).

```
113 \DeclareRobustCommand{\kmph}{\ensuremath{%  
114 \expandafter\units@separator\mathrm{km}%  
115 \expandafter\units@separator\mathrm{h}^{-1}}}
```

`\mps` `\mps` is a macro for meters per second (m s^{-1}). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```

116 \DeclareRobustCommand{\mps}[1][ ]{\ensuremath{%
117 \expandafter\units@separator\mathrm{#1m}%
118 \expandafter\units@separator\mathrm{s}^{-1}}}

```

`\miph` `\miph` is a macro for miles per hour (mi h^{-1}).

```

119 \DeclareRobustCommand{\miph}{\ensuremath{%
120 \expandafter\units@separator\mathrm{mi}%
121 \expandafter\units@separator\mathrm{h}^{-1}}}

```

`\kts` `\kts` is a macro for knots (kts).

```

122 \DeclareRobustCommand{\kts}{\ensuremath{%
123 \expandafter\units@separator\mathrm{kts}}}

```

8.10 Acceleration

`\mpss` `\mpss` is a macro for acceleration in meters per second squared (m s^{-2}). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```

124
125 \DeclareRobustCommand{\mpss}[1][ ]{\ensuremath{%
126 \expandafter\units@separator\mathrm{#1m}%
127 \expandafter\units@separator\mathrm{s}^{-2}}}

```

`\gacc` `\gacc` is a macro for acceleration due to gravity (g).

```

128 \DeclareRobustCommand{\gacc}{\ensuremath{%
129 \expandafter\units@separator\mathrm{g}}}

```

`\ftps` `\ftps` is a macro for acceleration in feet per second squared (ft s^{-2}).

```

130 \DeclareRobustCommand{\ftps}{\ensuremath{%
131 \expandafter\units@separator\mathrm{ft}%
132 \expandafter\units@separator\mathrm{s}^{-2}}}

```

8.11 Temperature

`\K` `\K` is a macro for Kelvin (K). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.


```
133 \DeclareRobustCommand{\K}[1][ ]{\ensuremath{%
134 \expandafter\units@separator\mathrm{#1K}}}
```

`\Kelvin` `\Kelvin` is a macro for Kelvin (K). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
135 \DeclareRobustCommand{\Kelvin}[1][ ]{\ensuremath{%
136 \expandafter\units@separator\mathrm{#1K}}}
```

`\Celsius`

```
137 \DeclareRobustCommand{\Celsius}{\ensuremath{\expandafter\units@separator{}%
138 ^\circ\mathrm{C}}}
```

```
139 \DeclareRobustCommand{\Celcius}{\Celsius}
140 \DeclareRobustCommand{\centigrade}{\Celsius}
```

`\Rankine` `\Rankine` is a macro for degrees Rankine ($^{\circ}\text{R}$).

```
141 \DeclareRobustCommand{\Rankine}{\ensuremath{%
142 \expandafter\units@separator{}^\circ\mathrm{R}}}
```

`\Fahrenheit` `\Fahrenheit` is a macro for degrees Fahrenheit ($^{\circ}\text{F}$).

```
143 \DeclareRobustCommand{\Fahrenheit}{\ensuremath{%
144 \expandafter\units@separator{}^\circ\mathrm{F}}}
```

8.12 Angular Velocity

`\rpm` `\rpm` is a macro for revolutions per minute (rev min^{-1}).

```
145
146 \DeclareRobustCommand{\rpm}{\ensuremath{%
147 \expandafter\units@separator\mathrm{rev}}%
148 \expandafter\units@separator\Min^{-1}}}
```

8.13 Frequency

`\Hz` `\Hz` is a macro for Hertz (Hz). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

149

```
150 \DeclareRobustCommand{\Hz}[1][ ]{\ensuremath{%  
151 \expandafter\units@separator\mathrm{#1Hz}}}
```

8.14 Pressure

`\barP` `\barP` is a macro for bar (bar). (The use of `barP` instead of just `bar` is due the L^AT_EX command `\bar`.) This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
152 \DeclareRobustCommand{\barP}[1][ ]{\ensuremath{%  
153 \expandafter\units@separator\mathrm{#1bar}}}
```

`\atm` `\atm` is a macro for atmosphere (atm).

```
154 \DeclareRobustCommand{\atm}{\ensuremath{%  
155 \expandafter\units@separator\mathrm{atm}}}
```

`\Pa` `\Pa` is a macro for Pascals (Pa). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
156 \DeclareRobustCommand{\Pa}[1][ ]{\ensuremath{%  
157 \expandafter\units@separator\mathrm{#1Pa}}}
```

`\mmHg` `\mmHg` is a macro for millimeters of mercury (mmHg).

```
158 \DeclareRobustCommand{\mmHg}{\ensuremath{%  
159 \expandafter\units@separator\mathrm{mmHg}}}
```

`\inHg` `\inHg` is a macro for inches of mercury (inHg).

```
160 \DeclareRobustCommand{\inHg}{\ensuremath{%  
161 \expandafter\units@separator\mathrm{inHg}}}
```

`\lbsi` `\lbsi` is a macro for pounds per square inch (psi). (Note that `\psi` is a latex command for the greek letter ψ).

```
162 \DeclareRobustCommand{\lbsi}{\ensuremath{%  
163 \expandafter\units@separator\mathrm{psi}}}
```

`\lbf` `\lbf` is a macro for pounds per square foot (psf).

```
164 \DeclareRobustCommand{\lbf}{\ensuremath{%
165 \expandafter\units@separator\mathrm{psf}}}
```

`\Ba` `\Ba` is a macro for Barre (Ba). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
166 \DeclareRobustCommand{\Ba}[1][ ]{\ensuremath{%
167 \expandafter\units@separator\mathrm{#1Ba}}}
```

`\Torr` `\Torr` is a macro for Torr (Torr). This macro accepts an optional argument for a prefix. If no option is supplied, no prefix will be prepended.

```
168 \DeclareRobustCommand{\Torr}[1][ ]{\ensuremath{%
169 \expandafter\units@separator\mathrm{#1Torr}}}
```

8.15 Other

`\mol` `\mol` is a macro for moles (mol).

```
170 \DeclareRobustCommand{\mol}{\ensuremath{%
171 \expandafter\units@separator\mathrm{mol}}}
```

Change History

v1.0	General: Initial version	1	common to typeset the ° with the unit instead of the number. Corrects both of these issues . 17
v1.0.1	General: Clean up formatting, fix index	1	<code>\Fahrenheit</code> : had ° outside of <code>ensuremath</code> , causing problems for text mode. It is also more common to typeset the ° with the unit instead of the number. Corrects both of these issues . 17
v1.0.2	General: External changes in makefile	1	
v1.0.3	General: External changes in makefile	1	<code>\Rankine</code> : had ° outside of <code>ensuremath</code> , causing problems for text mode. It is also more common to typeset the ° with the unit instead of the number. Corrects both of these issues . 17
v1.0.4	<code>\Celsius</code> : had ° outside of <code>ensuremath</code> , causing problems for text mode. It is also more		

<code>\kcal</code> : kcal appeared to take a prefix, but the prefix was ignored; removed the prefix.	10	v1.1.0	<code>\Celsius</code> : corrected spelling of Celsius and added duplicate macro with incorrect spelling (“Celcius”)	17
<code>\micro</code> : Corrected version number and date in documentation	8		General: Corrected spelling of Celsius	1
General: Added section for acknowledgements.	2		Corrected spelling of Celsius.	6
Added section for bug reporting.	2	v1.2.0		
Added section for dependencies.	1		<code>\Celsius</code> : Added centigrade	17
Corrected version number and date in documentation	1		General: Added centigrade	1
			Added centigrade.	6

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