

Unit Representation Systems as of June 20, 2022 (CODATA DRUM TG)

Title	Type	Lang/Format	Website	Scope	Developers	Contact	Governance	Licensing	Maintenance	Entity	Last Update
Astropy	Library	Python	https://www.astropy.org	Units for Astronomy	Group	feedback@astropy.org	https://github.com/a	BSD-3-Clause License	GitHub project	astropy.org	6/15/22
Ayurvedic units converter	Library	Python, Flask	https://github.com/sanjaytharagesh31/Hackathon-Ayurveda	Converting ancient units	Sanjay Tharagesh	sanjay311999@gmail.com	?	?	GitHub project	?	2019
Boost Units	Library	C++	https://github.com/boostorg/units	Units for C++	Steven Watanabe	?	http://boost.org	Boost Software License	GitHub project	Boost.org	6/9/21
Caliper	Library	Java	https://github.com/point85/caliper	Units for Java	Kent Randell	point85_llc@gmail.com	?	MIT License	GitHub project	?	8/27/21
CaliperSharp	Library	C++	https://github.com/point85/CaliperSharp	Units for C++	Kent Randell	point85_llc@gmail.com	?	MIT License	GitHub project	?	8/27/21
Climate and Forecast Units	Library	Python	https://github.com/SciTools/cf-units	Wrapper for UDUNITS-2 (Climate/Forecast)	Phil Elson	pelson.pub@gmail.com	UK Met Office	LGPL-3.0 License	GitHub project	UK Project	5/4/22
Craft-Units	Library	PHP	https://github.com/nystudio107/craft-units	Units plugin for the Craft CMS	Andrew Welch	?	?	MIT License	GitHub project	https://nystudio107	3/17/22
Eclipse UOMO	Library	Java, Eclipse	http://www.eclipse.org/uomo/	Software units via the Java API (UCUM, Ma	Werner Keil	uomo@catmedia.us	Eclipse Foundation	?	Eclipse Foundation	?	6/16/21
ERDAP UDUNITS/UCUM converter	Website	REST	https://coastwatch.pfeg.noaa.gov/erddap/convert/units.html	UDUnits to UCUM Converter	Robert Simons	bob.simons@noaa.gov	NOAA	?	Web form	NOAA ERDDAO	?
Fhir.Metrics	Library	.NET	https://github.com/FirelyTeam/Fhir.Metrics	UCUM implementation for FHIR	Alexander Zautke	alexander.zautke@googlemail.com	?	BSD-3-Clause License	GitHub project	?	7/1/21
FIBO	database	RDF	https://spec.edmcouncil.org/fibo/ontology/FND/Quantities/Quantities	Ontology for Quantities and Units	EDM Council (Financial Industry	info@edmcouncil.org	FIBO	MIT License	Website	FIBO Interest Group	2021
Gu.Units	Library	C#	https://github.com/GuOrg/Gu.Units	Units for C#	Johan Larsson	joan_gavle1@hotmail.com	?	MIT License	GitHub project	?	5/30/22
GNU Units	OS	C++	https://www.gnu.org/software/units/	GNU operating system units	Adrian Mariano	adrianm@gnu.org	Free Software Foundation	GNU General Public License	Free Software Foundation	Free Software Foundation	5/29/16
IVOA	Encoding	Text	http://www.ivoa.net/documents/VOUnits/20140523/index.html	The International Virtual Observatory Alliance	Markus Demleitner, Sebastian	msdemlei@ari.uni-heidelberg.de	IVOA Semantics Working Group	?	IVOA Semantics Working Group	IVOA	5/23/14
Komucopia® ML™	Software	MatLAB	https://boditech.com/index.php/komucopia/	Computation within MatLAB	Ted Diehl	ted.diehl@boditech.com	?	Paid license (software)	https://boditech.com	BodieTech	6/8/22
LHC UCUM Library	Library	JavaScript	https://lhcncbc.github.io/ucum-lhc/	JavaScript library for validation/conversion	o Gunther Schadow, Clement J.	gunther.schadow@gmail.com	NIH	NIH License	NIH	NIH Lister Hill National Center for Biomedical Communications	1/1/21
Mathematica	Website	HTML	https://reference.wolfram.com/language/guide/Units.html	How to use units in Wolfram	Michael Trot	mtrott@wolfram.com	Wolfram	?	Wolfram	Wolfram	?
mathjs	Library	JavaScript	https://github.com/josdejong/mathjs	MathJs package for JavaScript and Node.js	Jos de Jong	wjosedjong@gmail.com	?	Apache-2.0 License	GitHub project	?	5/2/22
Measurement Units for R	Library	R	https://r-quantities.github.io/units/	Units for the R language	Edzer Pebesma	edzer.pebesma@uni-muenster.de	?	GPL-2	GitHub project	?	2/5/22
NERC Vocabulary for Units	Dataset	RDF	http://vocab.nerc.ac.uk/collection/P06/current/?profile=all	Controlled vocab of units for the oceanography	Gwen Moncoiffé	gmon@bodc.ac.uk	BODC	?	GitHub project	BODC	5/4/20
OM	Dataset	RDF	https://github.com/HajoRijgersberg/OM	Units of measurement ontology	Hajo Rijgersberg	?	?	?	GitHub project	?	2/27/22
PHP Units of Measure	Library	PHP	https://github.com/PhpUnitsOfMeasure/php-units-of-measure	PHP library for units of measurement	Jonathan Hanson	?	?	MIT License	GitHub project	?	12/7/17
PINT	Library	Python	https://github.com/hgrecco/pint	Units of measurement for Python	Herman Grecco	hgrecco@df.uba.ar	?	Special license	GitHub project	?	12/8/17
PixelMed™ Java UCUM Toolkit	Library	Java	http://pixelmed.com/ucum.html	UCUM parser/converter/validator	?	info@pixelmed.com	?	Restrictive?	Website	PixelMed Publishing	10/29/18
PYUCUM	Library	Python	https://github.com/stomioka/ucum	Python wrapper for creating UCUM units	?	?	?	?	Website	?	6/18/20
QuantityTypes for .NET	Library	.NET	https://github.com/QuantityTypes/QuantityTypes	Typed physical quantities for .NET	Oystein Bjørke	oystein.bjorke@dnv.com	?	MIT License	GitHub project	?	11/12/20
QUDT	Dataset	RDF	https://github.com/qudt/qudt-public-repo	Ontology for units, quantitykinds, and dimensions	Ralph Hodson, Steve Ray, Jacl	steve.ray@qudt.org	qudt.org	CC 4.0 Open	Board of directors	Not for profit	5/3/22
QUDV	Dataset	RDF	https://www.omgwiki.org/OMGSysML/doku.php?id=sysml-qudv:q	Library of units, quantities, dimensions and	OMG Standards Development Team	qudv-request@omg.org	OMG SysML	?	?	?	2009
Ruby Units	Library	Ruby	https://github.com/olbrich/ruby-units	Units of measurement for Ruby	Kevin Olbrich	?	?	MIT License	?	?	11/27/21
Safe Units	Library	Typescript	https://github.com/ischein/vsafe-units	Type-safe TypeScript units of measurement	Jonah Scheinerman	jonah@scheinerman.net	?	MIT License	?	?	1/31/20
SI	Text	PDF	https://www.bipm.org/en/publications/si-brochure/	Definition of the SI unit system	Martin Milton	martin.milton@bipm.org	BIPM	Open license	Website	BIPM	5/20/19
siunitx	Formatting	LaTeX	https://github.com/josephwright/siunitx	Latex formatting of SI units	Joseph Wright	joseph.wright@uea.ac.uk	?	LaTeX Project Public License	15 developers	Community group	5/3/22
SmartCom Project	Vocabulary	XML	https://www.ptb.de/siv1.3.1/SI_Format.xsd	Unit encoding	Daniel Huttschenreuter	Daniel.Huttschenreuter@ptb.de	PTB	?	https://www.ptb.de/empir2018/smartc	?	9/1/21
Squants	Library	Scala	https://github.com/typelevel/squants	Scala API for quantities, units and dimensions	Carlos Quiroz	carlos.m.quiroz@gmail.com	?	Apache-2.0 License	?	?	4/24/22
SWEET	Database	RDF	https://github.com/ESIPFed/sweet	Semantic Web for Earth and Environmental	Lewis John McGibbney	lewis.mcgibbney@gmail.com	ESIP	CC 1.0	GitHub project	ESIP	3/1/22
UCUM (Original Site)	Dataset	XML	https://ucum.org/ucum-essence.xml	Replaced by the NIH site	NLM (Regenstrief Institute)	clemmcdonald@mail.nih.gov	NIH	https://ucum.org/training	NIH	US Government	1/1/22
UCUM Transformation Webservices	API	Java, REST	https://sourceforge.net/projects/ucum-transformation-webserv/	UCUM unit conversion service	Jozef Aerts	Jozef.Aerts@XML4Pharma.com	?	?	?	?	9/4/16
UDUNITS	Library	XML	https://www.unidata.ucar.edu/software/udunits/	Units for the atmospheric community	Steve Emmerson	emmerson@ucar.edu	UCAR	UCAR license	GitHub project	US Government	12/28/20
UNECE/CEFACT	Dataset	Excel	https://github.com/unecefact/vocab	Units for international trade	Nis Jespersen	?	?	UN/CEFACT	GitHub project	UN/CEFACT	4/15/22
Unit Ontology	Dataset	RDF	https://github.com/bio-ontology-research-group/unit-ontology/	Units of measurement ontology	?	?	?	CC-BY-4.0 License	GitHub project	?	4/12/21
Units	Library	C++	https://github.com/nholthaus/units	Unit conversion library for C++	Nic Holthaus	nholthaus@gmail.com	?	?	MIT License	?	10/10/20
Units of Measurement API	Library	Java	https://github.com/unitsofmeasurement/unit-api	Java API for Units and Quantities	Werner Keil	uomo@catmedia.us	Eclipse Foundation	?	GitHub project	?	6/16/21
UnitsML	Specification	XML	https://unitsml.nist.gov/ OR https://github.com/unitsml	Units of measurement for XML	Ronald Tse (was NIST)	ronald.tse@ribose.com	Ribose Inc.	?	GitHub project	?	6/10/21
UnitsNet	Library	.NET	https://github.com/angularsen/UnitsNet	Quantities and units for .NET (stringly typed)	Andreas Gullberg Larsen	andreas.larsen84@gmail.com	?	Open license	GitHub project	?	5/4/22
Unitwise	Library	Ruby	https://github.com/joshwlewis/unitwise	Quantities and units for Ruby	Josh W Lewis	josh.w.lewis@gmail.com	?	MIT License	GitHub project	?	7/17/17
Unity	Library	C, Java	https://code.nxg.name/nxg/unity	Code in support of the IVOA units	Norman Gray	norman.gray@glasgow.ac.uk	IVOA	BSD license	Website	IVOA	5/23/14
US NIH UCUM API	API	REST	https://ucum.nlm.nih.gov/ucum-service.html	UCUM unit conversion service	NIH	?	?	NIH License	NIH	NIH Lister Hill National Center for Biomedical Communications	11/18/20
W3C Library of Quantity Kinds (Legacy)	Dataset	RDF	https://www.w3.org/2005/Incubator/ssn/ssnx/qu/qu	Library of units, quantities, dimensions and	OMG SysML	qudv-request@omg.org	OMG SysML	?	?	?	2009
Wolfram Alpha	Website	HTML	https://www.wolframalpha.com/examples/science-and-technology/	Example units and measures in Wolfram	Alf Michael Trot	mtrott@wolfram.com	Wolfram	?	Wolfram	Wolfram	?
World Meteorological Office Unit Codes	Dataset	RDF	http://codes.wmo.int/wmdr/unit	Units code registry for meteorology	Dave Reynolds	dave.e.reynolds@gmail.com	UN/WMO	?	UN/WMO	UN/WMO	?