

Package ‘smetlite’

November 9, 2023

Type Package

Title Read and Write SMET Files

Version 0.2.10

Description Simple class to hold contents of a SMET file as specified in Bavay (2021) <https://code.wsl.ch/snow-models/meteoio/-/blob/master/doc/SMET_specifications.pdf>. There numerical meteorological measurements are all based on MKS (SI) units and timestamp is standardized to UTC time.

License GPL (>= 3)

Encoding UTF-8

Imports readr, stringr

RoxygenNote 7.2.3

Suggests tinytest

URL <https://github.com/BaselDataScience/smetlite>,
<https://baseldata-science.github.io/smetlite/>

Depends R (>= 3.5.0)

LazyData true

NeedsCompilation no

Author Reinhold Koch [aut, cre, cph]

Maintainer Reinhold Koch <rei@reinholdkoch.com>

Repository CRAN

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header	<i>retrieve header</i>
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Description

retrieve header

Usage

```
header(smet)
```

Arguments

smet object of class smet

Value

named list of header information

Examples

```
header(read_smet(system.file('examples/test.smet', package = 'smetlite')))
```

read_smet	<i>Read a SMET file into a smet dataframe</i>
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Description

Read a SMET file into a smet dataframe

Usage

```
read_smet(filename)
```

Arguments

filename file or connection to be read by readr::read_table()

Value

dataframe with all

Examples

```
read_smet(system.file('examples/test.smet', package = 'smetlite'))
```

smet_dict	<i>A named list explaining the permissible time and measurement variable names.</i>
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Description

A named list explaining the permissible time and measurement variable names.

Usage

smet_dict

Format

'smet_dict'

P Air pressure, in Pa

TA Temperature Air, in Kelvin

TSS Temperature Snow Surface, in Kelvin

TSG Temperature Surface Ground, in Kelvin

RH Relative Humidity, between 0 and 1

VW_MAX Maximum wind velocity, in m/s

VW Velocity Wind, in m/s

DW Direction Wind, in degrees, clockwise and north being zero degrees

ISWR Incoming Short Wave Radiation, in W/m²

OSWR Reflected Short Wave Radiation, in W/m²

ILWR Incoming Long Wave Radiation, in W/m²

OLWR Outgoing Long Wave Radiation, in W/m²

PINT Precipitation Intensity, in mm/h, as an average over the timestep

PSUM Precipitation accumulation, in mm, summed over the last timestep

HS Height Snow, in m

timestamp ISO 8601 Combined date and time formatted

julian the decimal number of days and fractions of a day since January 1, 4713 BC Greenwich noon, Julian proleptic calendar³. If both timestamps and julian are present, they must be within less than 1 second of each other.

Source

https://models.slf.ch/docserver/meteoio/SMET_specifications.pdf

test_smet

Test SMET data

Description

Artificial data derived from rifugio Vaccarone

Usage

test_smet

Format

'test_smet' A data frame with 47 rows and 5 columns:

timestamp Timestamp of measurement

VW Velocity Wind, in m/s

DW Direction Wind, in degrees, clockwise and north being zero degrees

TA Temperature Air, in Kelvin

HS Height Snow, in m

Source

<<http://webgis.arpa.piemonte.it/webmeteo/meteo.php?CODTOT=001114901>>

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