ALVASYS-DR-SOLAR Driver

Software installation and configuration manual.

Ver: 1.1.0.0

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Author: S. M.Meriano

1 History

Filename: ALVASYS-DR-SOLAR_v1.1.0.0.odt			
Rev.	Date	Author	Description
1.0	26.06.2024	M.Marcello	First draft

2 Index

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4   . Introduction

Requirements

- Niagara 4.x (>= 4.7)
- A license to use the ALVASYS-DR-SOLAR driver. Other device limit or proxy-point limits may apply to your license. For license details and options, see the ALVASYS-DR-SOLAR price list.

Module

The ALVASYS-DR-SOLAR Driver is contained in two files:

- **`alvassiSolar-rt.jar`**

Compatibility

Platforms

The ALVASYS-DR-SOLAR driver runs on Niagara 4.x (>= 4.7) platforms.

Tested versions

Niagara 4.10.x +4.13

5 . License

The licence there you need is the only one and you can add more than one location on the Host.

6 . Installing the software

Installing the ALVASYS-DR-SOLAR driver is simple.

It requires a basic knowledge of the Tridium Niagara 4 and execute a few steps as described hereafter.

The driver, a Java "`.jar`" executable file, is usually shipped in a zip file.

Its name is generated according to the following structure:

`alvassiSolar-rt_<version number>` (i.e. alvassiSolar-rt_v1.1.0.0)

The number of the version characterises the features included in the driver and may vary from time to time.

An additional text file is normally added to the zip file, in order to explain the main features of the release.

Its name may appear as follow:

`Note on SwVer <version number>` (i.e. Note on SwVer 1.0.0)

Installing the driver on your PC

The following procedures describe how to set-up the driver.

Step 1	First of all unzip the files which contains the driver and technical notes.
Step 2	Rename the files, changing theirs name into **alvassiSolar-rt** Extension `.jar` should remain as well.
Step 3	Copy the two `jar` files into the `modules` directory of your Niagara `Work Bench`.
Step 4	Restart your `Work Bench`.
Step 5	After restarting, the file should appears in the list of available software, which can be shown clicking on the `Software Manager` section of the `Platform` of your `Work Bench`.

Installing the driver into the JACE/HAWK unit

Step 1	Through the `Work Bench` get connected to a JACE/HAWK running unit.
Step 2	Transfer the `alvassiSolar` module into the unit under the folder `modules`.
Step 3	This can be done by activating the standard Tridium procedure for software upgrading or simply copying the `jar` files by the `File Transfer Client` procedure, available under the list of the `Platform` options in your `Work Bench`. Destination directory inside the Jace8000 is: `/opt/niagara/modules` For further details on how to transfer files from `Work Bench` to JACE/HAWK units, refer to the official Tridium documentation.
Step 4	After copying the driver into the JACE/HAWK unit, force a reboot.

7 . Driver configuration

Installing the alvasysSolar Service

The first step of the driver configuration is the installation of the **alvasysSolar Service** under the station running in the JACE/HAWK unit.
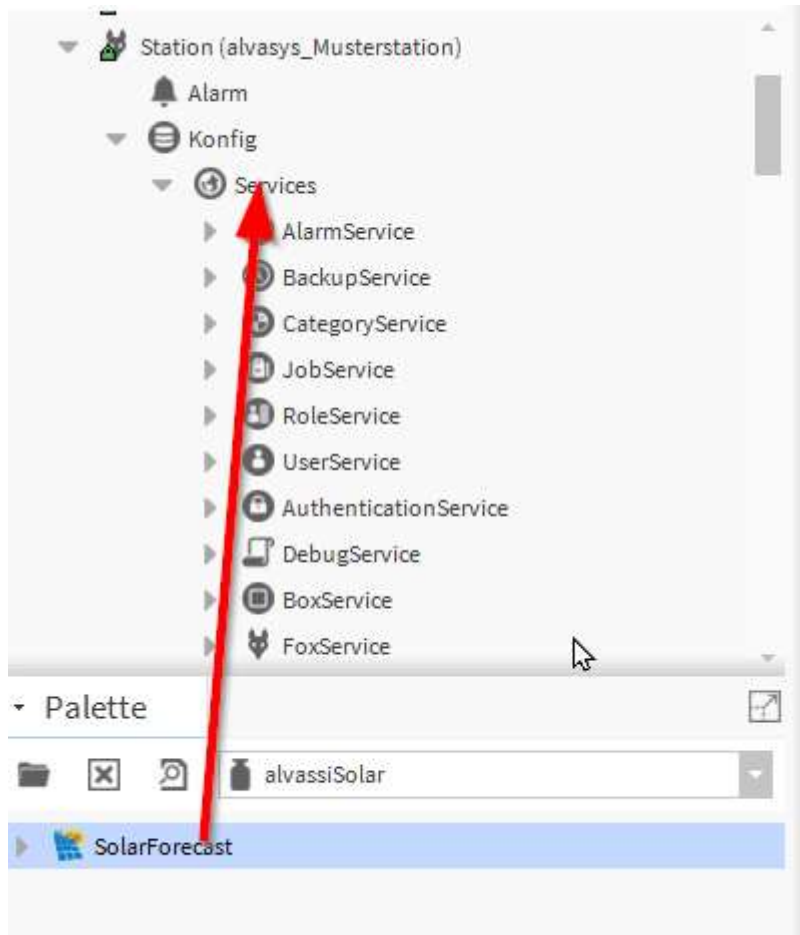
A simple way to complete this task is to open the **Palette** named **alvassiSolar** (see figure below), select the **AlvasysSForcast** component and drag and drop it under the **Services** folder of the running station.

This component is a network-level component in the Niagara architecture.

Configuring the Parameters

To proceed with this task, right click on the `AlvasysForcast` (just dragged to station Services) and open its `Property Sheet:`

|		
Enable:	**true**	activate forecast Service
Update Period:	**1h**	in one hour you can only ask the service 12 time per IP address!
Last Update:	**(time)**	information when the service has updated the value.
Last Failure		last message error

Latitude:	of location, −90 (south) … 90 (north); handeled with a precission of 0.0001 or abt. 10 m
Longitude:	of location, −180 (west) … 180 (east) handeled with a precission of 0.0001 or abt. 10 m
Dec:	plane **declination**, 0 (horizontal) … 90 (vertical) - always in relation to the earth's surface
Az:	plane **azimuth**, −180 … 180 (-180 = north, -90 = east, 0 = south, 90 = west, 180 = north)
Kwp:	installed **modules power** in `kilo watt`; float

Latitude and Longitude information from https://www.google.ch/maps

1. number is Latitude **47.3943291804062**

2. number is Longitude **8.474159297817193**
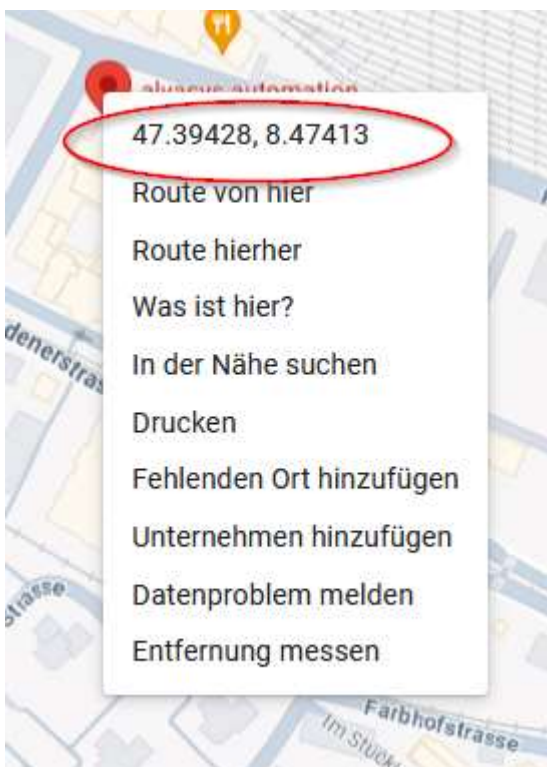
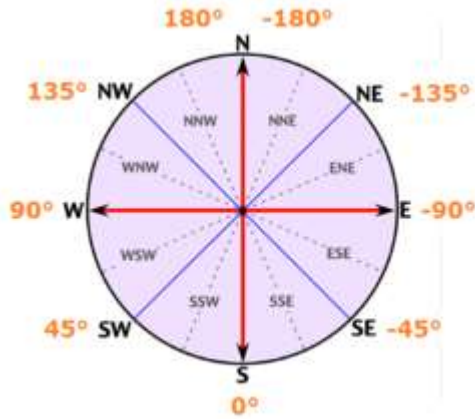

`Dec` plane **declination**, 0 (horizontal) … 90 (vertical) - always in relation to the earth's surface

0 %   90 %   45 %
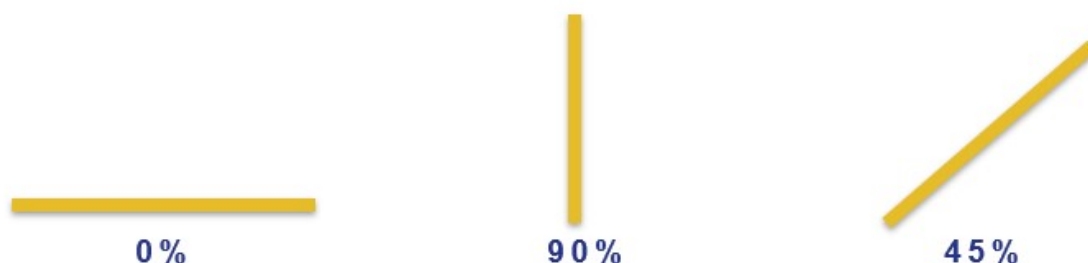
Az: Azimuth

Please note that e.g. Home Assistant uses internal a `0°` … `360°` logic, so make sure to translate for direct API calls …
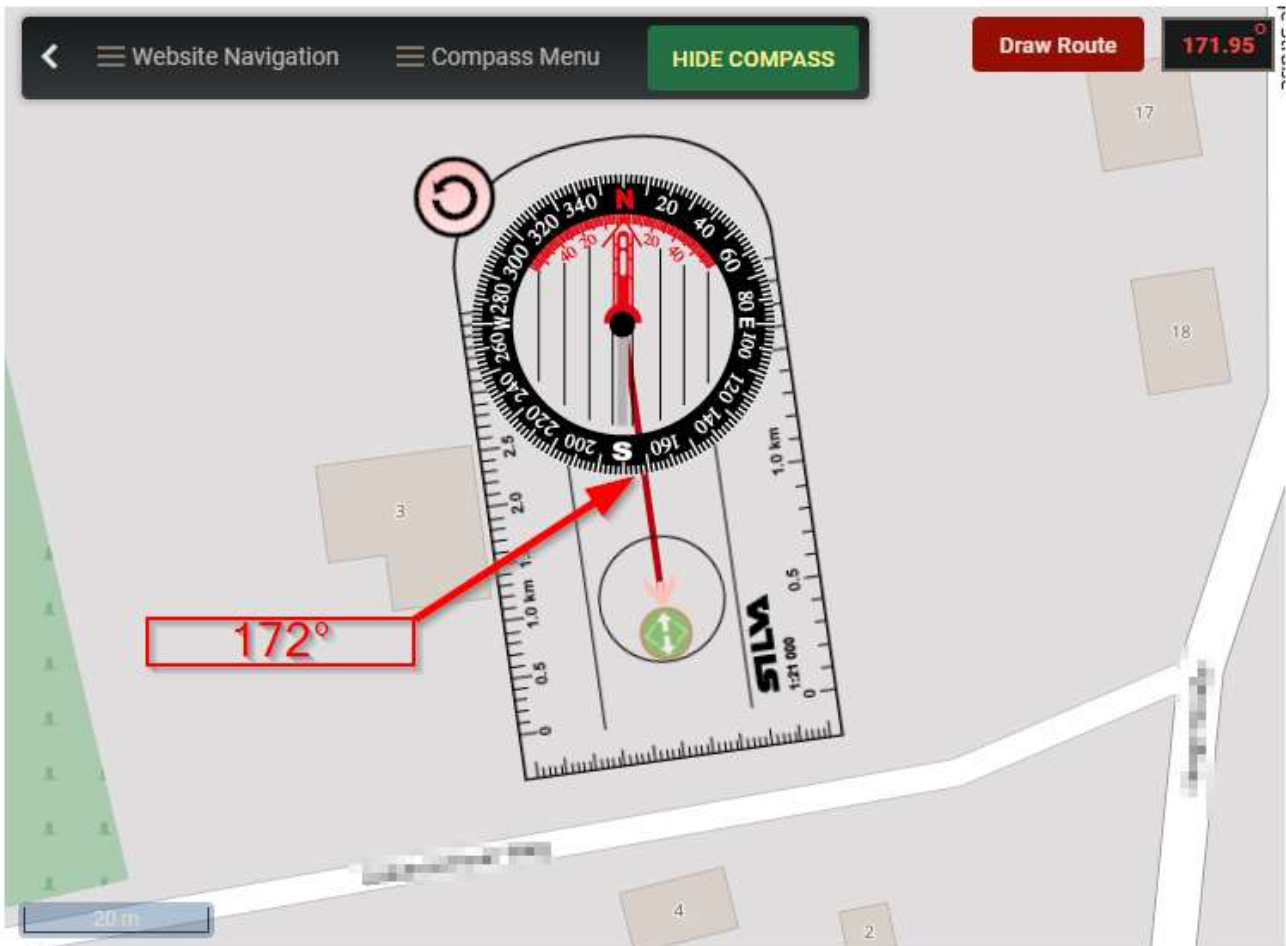
Value Output

All value are arrive from the https://forecast.solar/ and we are using the

https://doc.forecast.solar/account_models#public (Public)

Watts Today:

▼ ◯ Watts Today	Solar Folder	
▼ ◯ Sunrise Sunset	Sun Folder	
▶ 🖼 SunriseTime	05:31:30 {OK}	
▶ 🖼 SunriseValue	0,00 W {OK}	
▶ 🖼 SunsetTime	21:27:06 {OK}	
▶ 🖼 SunsetValue	0,00 W {OK}	
▶ 🖼 01:00:00	0,00 W {OK}	
▶ 🖼 02:00:00	0,00 W {OK}	
▶ 🖼 03:00:00	0,00 W {OK}	
▶ 🖼 04:00:00	0,00 W {OK}	
▶ 🖼 05:00:00	0,00 W {OK}	
▶ 🖼 06:00:00	105,00 W {OK}	
▶ 🖼 07:00:00	302,00 W {OK}	
▶ 🖼 08:00:00	510,00 W {OK}	
▶ 🖼 09:00:00	630,00 W {OK}	
▶ 🖼 10:00:00	773,00 W {OK}	
▶ 🖼 11:00:00	1064,00 W {OK}	
▶ 🖼 12:00:00	1160,00 W {OK}	
▶ 🖼 13:00:00	1524,00 W {OK}	
▶ 🖼 14:00:00	2452,00 W {OK}	
▶ 🖼 15:00:00	3528,00 W {OK}	
▶ 🖼 16:00:00	4386,00 W {OK}	
▶ 🖼 17:00:00	5101,00 W {OK}	
▶ 🖼 18:00:00	4793,00 W {OK}	
▶ 🖼 19:00:00	3382,00 W {OK}	
▶ 🖼 20:00:00	2035,00 W {OK}	
▶ 🖼 21:00:00	0,00 W {OK}	
▶ 🖼 22:00:00	0,00 W {OK}	
▶ 🖼 23:00:00	0,00 W {OK}	
▶ 🖼 24:00:00	0,00 W {OK}	

Watts Tomorrow:

▼ ⬤ Watts Tomorrow	Solar Folder	
▼ ⬤ Sunrise Sunset	Sun Folder	
▶ 🗋 SunriseTime	05:31:59 {OK}	
▶ 🗋 SunriseValue	0,00 W {OK}	
▶ 🗋 SunsetTime	21:27:01 {OK}	
▶ 🗋 SunsetValue	0,00 W {OK}	
▶ 🗋 01:00:00	0,00 W {OK}	
▶ 🗋 02:00:00	0,00 W {OK}	
▶ 🗋 03:00:00	0,00 W {OK}	
▶ 🗋 04:00:00	0,00 W {OK}	
▶ 🗋 05:00:00	0,00 W {OK}	
▶ 🗋 06:00:00	99,00 W {OK}	
▶ 🗋 07:00:00	271,00 W {OK}	
▶ 🗋 08:00:00	497,00 W {OK}	
▶ 🗋 09:00:00	671,00 W {OK}	
▶ 🗋 10:00:00	686,00 W {OK}	
▶ 🗋 11:00:00	655,00 W {OK}	
▶ 🗋 12:00:00	664,00 W {OK}	
▶ 🗋 13:00:00	939,00 W {OK}	
▶ 🗋 14:00:00	1648,00 W {OK}	
▶ 🗋 15:00:00	2206,00 W {OK}	
▶ 🗋 16:00:00	2533,00 W {OK}	
▶ 🗋 17:00:00	2660,00 W {OK}	
▶ 🗋 18:00:00	2482,00 W {OK}	
▶ 🗋 19:00:00	1945,00 W {OK}	
▶ 🗋 20:00:00	1232,00 W {OK}	
▶ 🗋 21:00:00	0,00 W {OK}	
▶ 🗋 22:00:00	0,00 W {OK}	
▶ 🗋 23:00:00	0,00 W {OK}	
▶ 🗋 24:00:00	0,00 W {OK}	

Watt Hours Today:

▼ ◯ Watt Hours Today	Solar Folder	
▼ ◯ Sunrise Sunset	Sun Folder	
▶ 🗋 SunriseTime	05:31:30 {OK}	
▶ 🗋 SunriseValue	0,00 W-hr {OK}	
▶ 🗋 SunsetTime	21:27:06 {OK}	
▶ 🗋 SunsetValue	32180,00 W-hr {OK}	
▶ 🗋 01:00:00	0,00 W-hr {OK}	
▶ 🗋 02:00:00	0,00 W-hr {OK}	
▶ 🗋 03:00:00	0,00 W-hr {OK}	
▶ 🗋 04:00:00	0,00 W-hr {OK}	
▶ 🗋 05:00:00	0,00 W-hr {OK}	
▶ 🗋 06:00:00	25,00 W-hr {OK}	
▶ 🗋 07:00:00	229,00 W-hr {OK}	
▶ 🗋 08:00:00	635,00 W-hr {OK}	
▶ 🗋 09:00:00	1205,00 W-hr {OK}	
▶ 🗋 10:00:00	1907,00 W-hr {OK}	
▶ 🗋 11:00:00	2826,00 W-hr {OK}	
▶ 🗋 12:00:00	3938,00 W-hr {OK}	
▶ 🗋 13:00:00	5280,00 W-hr {OK}	
▶ 🗋 14:00:00	7268,00 W-hr {OK}	
▶ 🗋 15:00:00	10258,00 W-hr {OK}	
▶ 🗋 16:00:00	14215,00 W-hr {OK}	
▶ 🗋 17:00:00	18959,00 W-hr {OK}	
▶ 🗋 18:00:00	23906,00 W-hr {OK}	
▶ 🗋 19:00:00	27994,00 W-hr {OK}	
▶ 🗋 20:00:00	30703,00 W-hr {OK}	
▶ 🗋 21:00:00	0,00 W-hr {OK}	
▶ 🗋 22:00:00	0,00 W-hr {OK}	
▶ 🗋 23:00:00	0,00 W-hr {OK}	
▶ 🗋 24:00:00	0,00 W-hr {OK}	

Watt Hours Tomorrow:

▼ ⬭ Watt Hours Tomorrow	Solar Folder	
▼ ⬭ Sunrise Sunset	Sun Folder	
▶ 🗋 SunriseTime	05:31:59 {OK}	
▶ 🗋 SunriseValue	0,00 W-hr {OK}	
▶ 🗋 SunsetTime	21:27:01 {OK}	
▶ 🗋 SunsetValue	19443,00 W-hr {OK}	
▶ 🗋 01:00:00	0,00 W-hr {OK}	
▶ 🗋 02:00:00	0,00 W-hr {OK}	
▶ 🗋 03:00:00	0,00 W-hr {OK}	
▶ 🗋 04:00:00	0,00 W-hr {OK}	
▶ 🗋 05:00:00	0,00 W-hr {OK}	
▶ 🗋 06:00:00	23,00 W-hr {OK}	
▶ 🗋 07:00:00	208,00 W-hr {OK}	
▶ 🗋 08:00:00	592,00 W-hr {OK}	
▶ 🗋 09:00:00	1176,00 W-hr {OK}	
▶ 🗋 10:00:00	1855,00 W-hr {OK}	
▶ 🗋 11:00:00	2526,00 W-hr {OK}	
▶ 🗋 12:00:00	3186,00 W-hr {OK}	
▶ 🗋 13:00:00	3988,00 W-hr {OK}	
▶ 🗋 14:00:00	5282,00 W-hr {OK}	
▶ 🗋 15:00:00	7209,00 W-hr {OK}	
▶ 🗋 16:00:00	9579,00 W-hr {OK}	
▶ 🗋 17:00:00	12176,00 W-hr {OK}	
▶ 🗋 18:00:00	14747,00 W-hr {OK}	
▶ 🗋 19:00:00	16961,00 W-hr {OK}	
▶ 🗋 20:00:00	18550,00 W-hr {OK}	
▶ 🗋 21:00:00	0,00 W-hr {OK}	
▶ 🗋 22:00:00	0,00 W-hr {OK}	
▶ 🗋 23:00:00	0,00 W-hr {OK}	
▶ 🗋 24:00:00	0,00 W-hr {OK}	

Watt Hours Period Today:

▼ ◯ Watt Hours Period Today	Solar Folder	
▼ ◯ Sunrise Sunset	Sun Folder	
▶ SunriseTime	05:31:30 {OK}	
▶ SunriseValue	0,00 W-hr {OK}	
▶ SunsetTime	21:27:06 {OK}	
▶ SunsetValue	1477,00 W-hr {OK}	
▶ 01:00:00	0,00 W-hr {OK}	
▶ 02:00:00	0,00 W-hr {OK}	
▶ 03:00:00	0,00 W-hr {OK}	
▶ 04:00:00	0,00 W-hr {OK}	
▶ 05:00:00	0,00 W-hr {OK}	
▶ 06:00:00	25,00 W-hr {OK}	
▶ 07:00:00	204,00 W-hr {OK}	
▶ 08:00:00	406,00 W-hr {OK}	
▶ 09:00:00	570,00 W-hr {OK}	
▶ 10:00:00	702,00 W-hr {OK}	
▶ 11:00:00	919,00 W-hr {OK}	
▶ 12:00:00	1112,00 W-hr {OK}	
▶ 13:00:00	1342,00 W-hr {OK}	
▶ 14:00:00	1988,00 W-hr {OK}	
▶ 15:00:00	2990,00 W-hr {OK}	
▶ 16:00:00	3957,00 W-hr {OK}	
▶ 17:00:00	4744,00 W-hr {OK}	
▶ 18:00:00	4947,00 W-hr {OK}	
▶ 19:00:00	4088,00 W-hr {OK}	
▶ 20:00:00	2709,00 W-hr {OK}	
▶ 21:00:00	0,00 W-hr {OK}	
▶ 22:00:00	0,00 W-hr {OK}	
▶ 23:00:00	0,00 W-hr {OK}	
▶ 24:00:00	0,00 W-hr {OK}	

Watt Hours Period Tomorrow:

▼ ⬤ Watt Hours Period Tomorrow	Solar Folder	
▼ ⬤ Sunrise Sunset	Sun Folder	
▶ SunriseTime	05:31:59 {OK}	
▶ SunriseValue	0,00 W-hr {OK}	
▶ SunsetTime	21:27:01 {OK}	
▶ SunsetValue	893,00 W-hr {OK}	
▶ 01:00:00	0,00 W-hr {OK}	
▶ 02:00:00	0,00 W-hr {OK}	
▶ 03:00:00	0,00 W-hr {OK}	
▶ 04:00:00	0,00 W-hr {OK}	
▶ 05:00:00	0,00 W-hr {OK}	
▶ 06:00:00	23,00 W-hr {OK}	
▶ 07:00:00	185,00 W-hr {OK}	
▶ 08:00:00	384,00 W-hr {OK}	
▶ 09:00:00	584,00 W-hr {OK}	
▶ 10:00:00	679,00 W-hr {OK}	
▶ 11:00:00	671,00 W-hr {OK}	
▶ 12:00:00	660,00 W-hr {OK}	
▶ 13:00:00	802,00 W-hr {OK}	
▶ 14:00:00	1294,00 W-hr {OK}	
▶ 15:00:00	1927,00 W-hr {OK}	
▶ 16:00:00	2370,00 W-hr {OK}	
▶ 17:00:00	2597,00 W-hr {OK}	
▶ 18:00:00	2571,00 W-hr {OK}	
▶ 19:00:00	2214,00 W-hr {OK}	
▶ 20:00:00	1589,00 W-hr {OK}	
▶ 21:00:00	0,00 W-hr {OK}	
▶ 22:00:00	0,00 W-hr {OK}	
▶ 23:00:00	0,00 W-hr {OK}	
▶ 24:00:00	0,00 W-hr {OK}	

Watt Hours Day Today and Tomorrow:

Watt Hours Day Today	32180.00	W-hr
Watt Hours Day Tomorrow	19443.00	W-hr

API Message:


```
latitude: 47.3943
longitude: 8.4742
distance: 0.008
place: Hermetschloostrasse 75, 8048 Zurich, Switzerland
timezone: Europe/Zurich
zone: IP 62.202.20.141
period: 3600
limit: 12
remaining: 5
```

All Value are in the subfolders:

For more information go to this side: https://doc.forecast.solar/api:estimate