

Watt Time & Frequency

Getting Started — Preparing Your Data File

A practical guide to the CSV data Watt TF accepts and the information you can add to improve the analysis.

What does Watt TF need?

Watt TF reads a CSV file containing half-hourly electricity readings, normally 48 readings per day, one for each 30-minute period. In most cases, you can upload the CSV exactly as exported from your metering bureau, supplier, broker or energy-data platform.

Privacy note: Watt TF runs in your browser. The electricity data is processed on your device and is not uploaded to a Watt TF server.

Two accepted data formats

Watt TF recognises two common layouts. You do not normally need to select a format manually; the tool identifies the layout when you load the file.

Format A — Simple daily layout

Common sources include metering bureaux, data loggers, energy-management systems and manual exports. There is one row per day. The first column contains the date, followed by 48 half-hourly kWh readings.

Column	Content
Column A	Date, for example 15/04/2025
Column B	Reading for 00:00–00:30 (kWh)
Column C	Reading for 00:30–01:00 (kWh)
...	The remaining half-hour periods
Column AW	Reading for 23:30–24:00 (kWh)

Site label: The tool uses the uploaded filename as the site label in the report. If the file has no clear filename, rename it before uploading, for example Acme Manufacturing - Unit 4.csv.

Format B — ECOES / broker layout

This layout is commonly associated with ECOES extracts, energy brokers and data bureaux drawing from national metering data. It normally contains multiple rows per day (up to three reading types) together with a header row and the meter's MPAN reference.

Column	Content
Column 1	MPAN, the meter reference number
Column 2	Date in DD/MM/YYYY format
Column 3	Reading type: AI, RI or RE
Columns 4–52	Quality flags for each half-hour period
Columns 53–100	48 half-hourly readings in kWh or kVAh

The reading types are:

Code	Name	Purpose
AI	Active Import	Electricity consumed; used for the core analysis.
RI	Reactive Import	Reactive power drawn in; used for power-factor and kVA calculations.
RE	Reactive Export	Reactive power pushed back; may appear even where solar or battery equipment is not present.

Additional metrics: Where the required readings are present, Format B can unlock power factor, reactive power totals and kVA profile information.

Before you upload: important checks

Check	Requirement
File type	Use a .csv file. Excel .xlsx files are not accepted. If needed, use Save As → CSV from Excel.
Date format	Dates should be DD/MM/YYYY, for example 15/04/2025. Avoid ambiguous formats such as 04/15/2025 or 2025-04-15.
Decimal point	Use a full stop as the decimal separator: 12.4, not 12,4.
Half-hour periods	A complete day normally contains all 48 periods. If the final 23:30–24:00 value is blank, the tool treats it as zero.
Account scope	Each file should contain one meter/account. The tool can load up to five files at the same time for multi-account analysis.

If the tool reports an error: Check the items above first. If you need additional help, contact your Watt TF representative or email hello@watt-tf.com.

How much data do I need?

Watt TF is designed to work best with 12 months of half-hourly data. A full year gives the clearest view of total consumption, seasonal patterns and the site's operating profile.

- Minimum: A few weeks can be analysed, but some annual and seasonal views will be less representative.
- Ideal: 12 full months; either one complete calendar year or a rolling 12-month period.
- More than 12 months: The annual analysis uses the relevant complete annual window available to the tool.
- Partial months in the uploaded file: For annual analysis, the tool can work with the available data. Check the displayed analysis window in the report so you know exactly what period has been included.

No manual trimming normally required: Upload the exported CSV and review the analysis window shown in the tool before relying on the results.

Annual analysis and monthly deep dive

Depending on the version of Watt TF and the access level provided, you may be able to choose between the standard annual analysis and a monthly deep-dive mode.

Annual analysis

The annual view is intended for understanding the wider consumption pattern across the selected analysis window. It includes annual headline metrics, monthly totals, operating-pattern information, baseload information and time-based visualisations.

Monthly deep dive

Where available, select a complete calendar month to examine the site in more detail. The monthly view adapts the report to the selected month:

- monthly totals become daily totals;
- the daily bar chart shows the individual days in the selected month;
- the heatmap represents the days and half-hour periods within that month;
- operating-pattern and baseload information is recalculated for the selected month; and
- the report focuses on the precise data for that month rather than an annual average.

Complete months only: Monthly deep dives are intended for full calendar months. Partial-month selections are not offered where the relevant version of the tool enforces this restriction.

Using the Site Parameters panel

After loading your CSV file or files, the Site Parameters panel lets you add information about the site. These fields are optional: the core report can be generated without them. After changing a parameter, select Apply & Update Report to recalculate the report. You do not need to upload the CSV again.

Opening hours

Enter the normal opening and closing times and select the applicable days from Monday to Sunday.

This can provide:

- an Out-of-Hours Usage percentage;
- an Occupancy Breakdown showing in-hours and out-of-hours consumption; and
- an estimated out-of-hours cost where a tariff has also been entered.

Multiple accounts: Opening hours apply uniformly to all files loaded in the same analysis. If the accounts have different operating hours, analyse them separately or interpret the combined result with care.

Floor area (m²)

Enter the conditioned floor area served by the meter. This can unlock an Energy Intensity metric expressed as kWh/m²/year and a comparison against the available building-type benchmarks.

Choosing the area: For a multi-tenanted or mixed-use building, use the area served by the meter rather than automatically using the total building gross internal area.

Tariff

Enter electricity unit rates to produce estimated energy-cost figures.

Single rate

Enter one unit rate in p/kWh. The report can then show estimated cost figures for the relevant analysis.

Dual tariff (day/night)

Select dual tariff mode and enter the day rate, night rate, and night-window start and end times. Watt TF applies the relevant rate to the consumption falling within each time window.

Tariff reminder: Enter rates in pence per kWh, for example 24.5 — not as a decimal fraction of pounds. Standing charges, taxes and other fixed costs are not included in these estimates.

Monthly mode: When using a monthly deep dive, read cost figures as estimates for the selected analysis period unless the report explicitly labels them as annual.

Reading the output

The report may include headline consumption and demand metrics, monthly or daily totals, load-profile charts, heatmaps, operating-pattern information, baseload information and — where the data and parameters support it — tariff, cost, reactive-power, power-factor and kVA analysis.

Use the displayed analysis window and the report labels as the definitive guide to the period and units being shown. Large values may be displayed in kWh or GWh depending on the scale of the result.

Potential errors and what to check

What you see	What to check
File is rejected or no report is generated	Confirm that the file is CSV, the dates are in the expected format, and the file layout matches one of the accepted formats.
Dates or analysis window look wrong	Check the source export's date convention and review the analysis-window text shown in the report.
Values are missing or unexpectedly low	Check for blank periods, omitted days, quality flags, or an incomplete export.
Reactive, power-factor or kVA sections are absent	These sections depend on the required reactive-import/reactive-export data being present and correctly identified.
Cost figures are absent or unexpected	Check that a tariff has been entered in p/kWh and that the day/night settings match the tariff arrangement.
Energy intensity is absent or unexpected	Check that the floor area is entered in square metres and relates to the meter being analysed.
Monthly deep dive is not available	Monthly analysis depends on the version of Watt TF and the access level provided. The selected data must also support a complete month where that restriction applies.

Need more help? Please contact your Watt TF representative or email hello@watt-tf.com.

A sensible first workflow

- Export the meter data as a CSV without manually changing the readings.
- Give the file a clear site or account filename.
- Upload the file and confirm that the displayed analysis window is the period you expect.
- Review the core report before adding optional site parameters.
- Add opening hours, floor area and tariff information where it is known and relevant.
- Use the annual view for the wider pattern and the monthly deep dive, where available, to investigate a specific complete month.
- Download the PDF report when you are satisfied that the inputs and interpretation are appropriate.