

Application Note: Turntide Proportional Energy Reporting (PER)



An automated, streamlined approach to monitor tenant energy usage

For landlords of multi-tenant residential and commercial buildings using Daikin VRV systems with their Turntide subscription, Turntide's Proportional Energy Reporting (PER) evaluates indoor energy usage based on outdoor unit meter information to generate estimated, apportioned monthly usage reports, all with minimal installation effort and costs. It may help streamline utility usage apportionment, no matter how many tenants you have or how many VRV systems you run.

Through the Autodiscovery feature on the Turntide App, Turntide extracts VRV system data for all the connected indoor units. With Turntide PER, you get hassle-free, estimated, proportional energy data reporting.

Key Benefits



Reduce Costs

Produce comprehensive reports easily and effectively



Gain Insights into VRV Indoor Unit Use

Estimates how much of the total system power is used by each individual VRV indoor unit



Evaluate Utility Usage

Power consumption data can be used with other third-party property management tools to estimate a tenant's portion of condenser unit energy consumption

What is Turntide PER?

Turntide PER, when used with Daikin VRV systems, provides the user with estimated, apportioned total power consumption by Daikin individual indoor units from outdoor units.

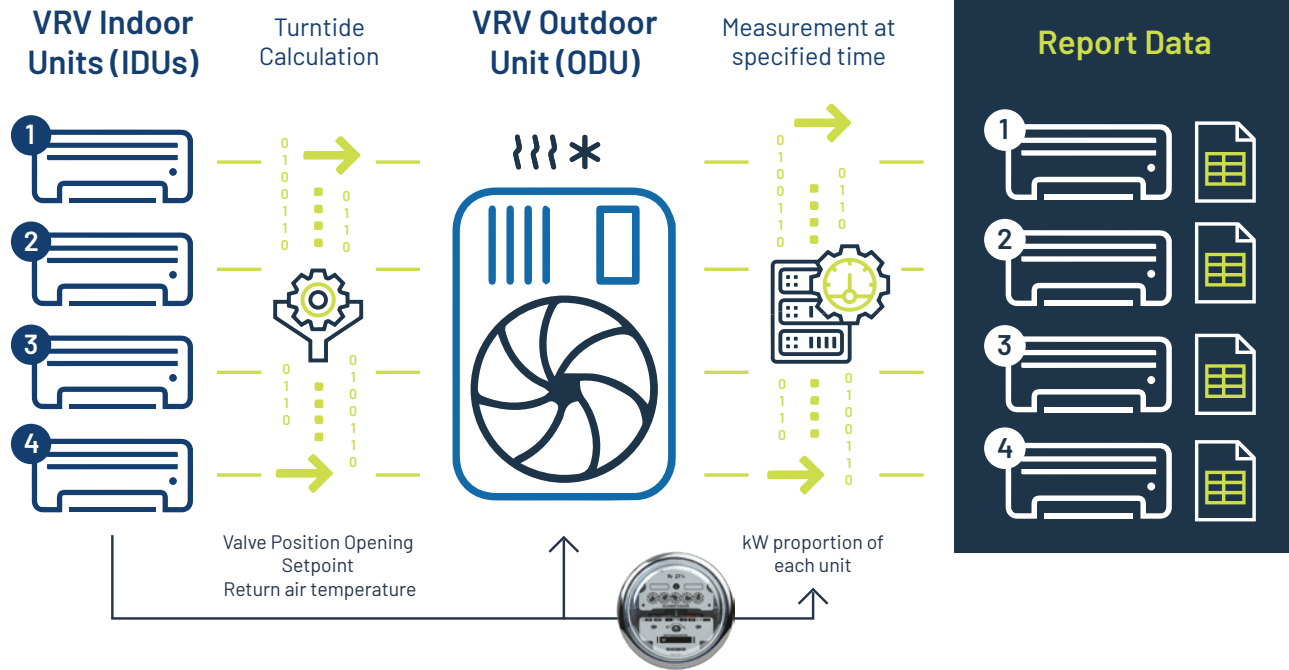
Turntide PER is a feature that leverages Turntide App data. The Turntide PER calculation starts with determining the indoor unit's thermal energy consumption. With this information, an apportioned energy usage for the indoor unit can be derived from the outdoor units' total meter energy consumption. This provides a reasonable, estimated apportionment of the total calculated power consumed.

Turntide PER is less expensive to install, easier to install, and more flexible than competing products. Because of system variables, Turntide PER does not provide revenue-grade information about each user's consumption.

Who is Turntide PER For?

Turntide PER is for landlords of multi-tenant residential and commercial buildings (i.e., malls, apartments) with Daikin VRV systems who are looking for a simple, low-cost cloud-based solution to assist with estimating individual tenant energy use.

How It Works



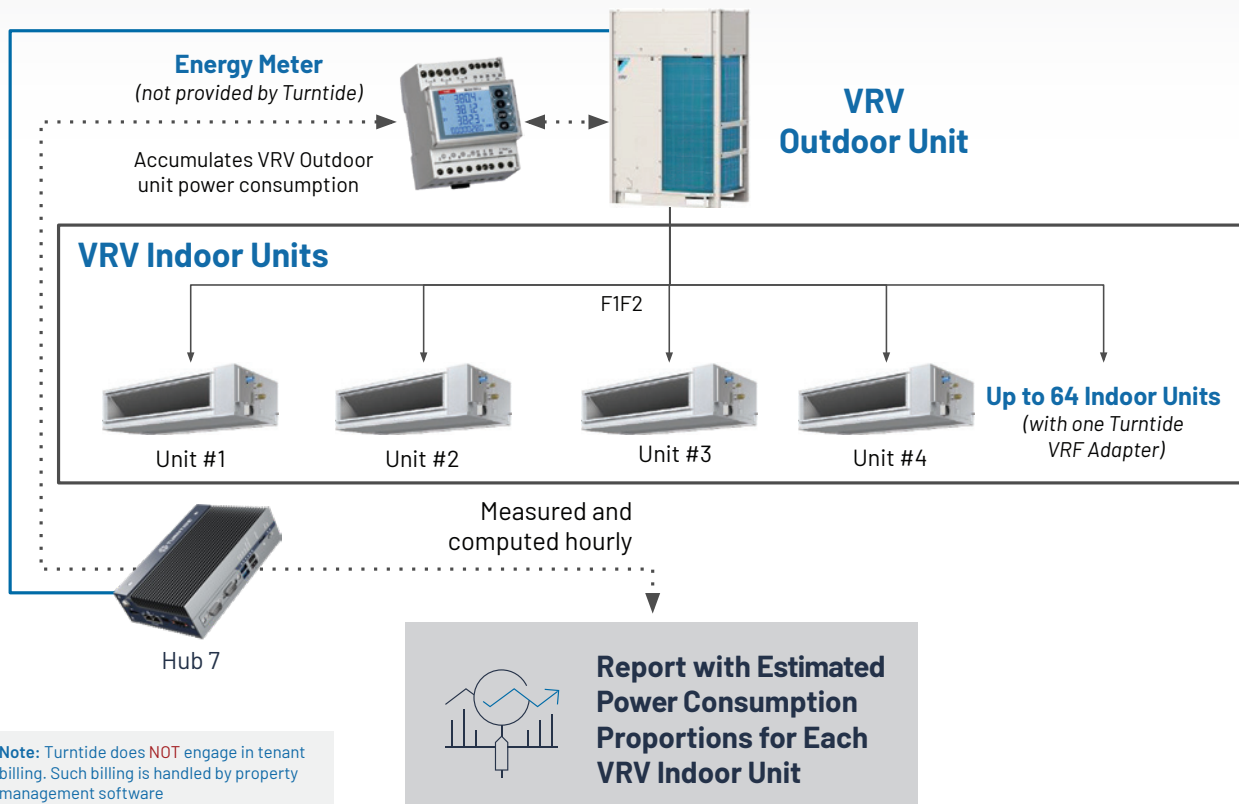
Turntide computes proportional thermal energy usage of each indoor unit with available data

Turntide accumulates ODU-related energy data and uses it to estimate proportional usage of each IDU

Turntide generates estimated kWh consumption reports and then shares them securely

Note: An active Turntide App subscription is required to access Turntide PER functionality

How To Get Started



Note: Turntide does NOT engage in tenant billing. Such billing is handled by property management software

Simple Installation Process

Note: At this time PER activation can only be completed by Turntide or a qualified Turntide rep.

1



Install Energy Meters to Accumulate Outdoor Unit Electrical Power Consumption*

(Meters are not provided by Turntide)

Provision, configure, install, & wire BACnet energy meters to measure/report electrical power consumption of all ODUs at a site.

*An energy meter can typically measure more than 1 Outdoor Unit

2



Use Turntide's Autodiscovery to Auto-Onboard All Indoor Units

Using Autodiscovery on the Turntide App, Turntide will automatically extract VRV system data, with no further integration or installation work.

3

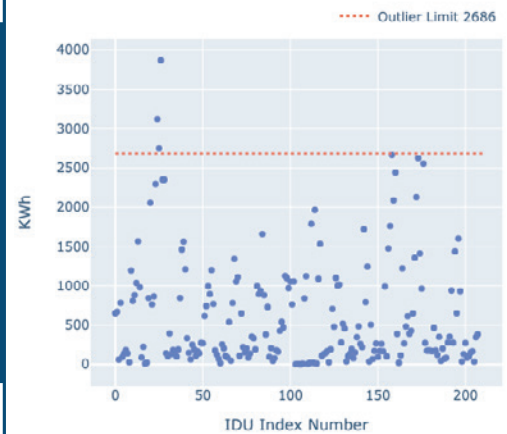


Receive VRV Reports

Reports can then be used in property management processes for estimated usage apportionment and energy outlier tracking.

Report includes: Summary Results, Estimated Total Energy per IDU graph (see example to right), Outliers, Exclusions, Top Trends.

Estimated Total Energy (KWh) per IDU



Example report showing outliers

Exclusions - Please Note:

Turntide PER technology is intended for use with Daikin VRV systems, and **is not intended for use with other systems**, including Daikin RA and RA Multi (single split and multi-split) air conditioning heat pump products.

All customers of Turntide's PER Services acknowledge and agree that (a) the PER Services should only be used in connection with the relevant third-party products or systems identified by Turntide in writing, (b) the PER Services do not provide revenue-grade metering and should only be used for monitoring and apportionment estimation purposes, (c) the accuracy and performance of metering devices is beyond Turntide's control and the PER Services are only an estimate, and (d) except to the extent expressly agreed otherwise by Turntide in writing, Turntide makes no representations or warranties regarding the PER Services, express or implied, including with regard to compliance with local, regional or federal utility billing requirements.

Accordingly, prior to allowing access to any PER Services and/or related reports, all customers must have an agreement between the customer and any end user third party about the use of the PER Services which must specify the foregoing points (a-d) and state that the PER Services shall not be used as proof of a party's energy consumption.

TURNTIDE HAS NO LIABILITY FOR ANY DISPUTE THAT MAY ARISE BETWEEN TENANTS, LANDLORDS, OWNERS, AND/OR UTILITIES.

NEITHER TURNTIDE NOR ITS RESELLERS, VENDORS, OR LICENSORS WILL HAVE ANY LIABILITY TO ANY CUSTOMER OR THIRD PARTY FOR ANY LOSS OF PROFITS, SALES, TRADING LOSSES, BUSINESS, DATA, OR OTHER INCIDENTAL, CONSEQUENTIAL, OR SPECIAL LOSS OR DAMAGE, INCLUDING EXEMPLARY AND PUNITIVE, OF ANY KIND OR NATURE RESULTING FROM OR ARISING OUT OF THE PER SERVICES.

Want to learn more or to get support about the Turntide PER function?

Visit our website turntide.com | Talk to our team automationsales@turntide.com

TURNTIDE TECHNOLOGY

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