



TESS Libraries v18

It's hard for us to believe, but it's been over 10 years since we released a major upgrade to the TESS Libraries – the essential add-on modeling package to the popular TRNSYS software program.

But we've been busy over these last 10 years; writing new models, upgrading existing models, and adding new tools. But more importantly, we've been listening to our users as to the best ways to improve the package to make it easier to use, more powerful, and even more flexible!

The latest release of the libraries features over 350 models/routines for studying today's most pressing simulation topics ranging from decarbonization to renewable energy to electrification while maintaining and expanding the libraries for the always important building energy systems, solar energy applications, thermal storage and ground coupling. In this new package, we've included 80 brand new component models that have never before been released. A full list of the component models in each of our 14 libraries can be found at our website (www.trnsys.com).

But our users want more than just good component models. We've listened and added documentation such that each and every model in the package is described in full with hints and tips from the experts on the best way to use the model. Many of our more popular models also include full technical details and derivations of the fundamental governing equations. Coupled with dozens of real world example projects, updated/improved sample catalog data files, and improved default parameter values, we want our models to be easier to understand

and easier to use than ever before.

We've also completely revamped all of our application programs for the new release. This includes significant improvements to the optimization package, all of the utility applications like the event scheduler and the setpoint generator, and all of the storage tank plug-ins.



Heat Recovery Chiller Stack

We've also greatly improved the 3-D ground temperature viewer and re-worked the ground heat exchanger plug-ins to make them easier to use.

New to the libraries in this release is the inclusion of the SSR reporting for each and every model. So now when you run a project, a simple default report can be generated that highlights the critical parameters and the resulting performance of the device over the length of the simulation.



Conical Storage Tank

We've also coded a new feature that allows users to seamlessly replace the standard TRNSYS steam properties subroutine with the popular steam routines from NIST.

While we can't highlight all of the changes here (there are hundreds), we've compiled a list of several of the new/improved component models that have been asked about the most over the last several years:

- Solar collectors tested to the new ISO standards
- Ground heat exchanger models that allow for multiple bore fields and improved charging/discharging options
- New storage tank models for truncated cones and truncated pyramids to study typical pit storage geometries
- Improvements to the electrical library including new PV/T collectors and a Lithium Ion battery model
- Two dozen new HVAC modules including a heat recovery chiller stack and variable speed compressor devices
- Improved/additional controller modules to better govern increasingly complex simulations

For our new users, please consider including the TESS Libraries when you purchase TRNSYS – it will greatly improve your simulation capabilities.

For our existing users – THANK YOU. This release wouldn't be possible without your support, enthusiasm, ideas and suggestions. For that reason, we have aggressively priced the upgrade cost to the new libraries as our way of saying thanks to all those that have contributed to this unique collection of some of the best TRNSYS models in the world!