SPYDER SETUP INSTRUCTIONS

The Spyder is an optional add-on component for TED Pro, which allows for the monitoring of branch circuits within an electrical panel. The Spyder behaves differently from an MTU, in that it does not record SECOND-data; it does record MINUTE, HOUR, etc. Each ‘leg’ of data is stored independently and can be viewed on the Spyder Summary, graphs, historically, or exported.

We highly recommend that you read the entire section on the Spyder setup so that you have a good understanding of the procedures and how it will work.

When installing the Spyder in your electric panel, it is vital that you make note of the circuit that each CT is connected to. Once the Spyder is installed, you will name the corresponding leg-connection.

Leg number 1 must correspond with the same leg number as shown in the picture here. Note on the Spyder (image below) that each ‘leg’ is numbered.

Naming your Spyder legs in the Reference Diagram is purely for your reference, to help you remember what Circuit each CT is connected to.

The names that you input under the “Graph Description” will appear in the Spyder Summary, Graphs, Export, etc. You may desire to simply use the names from the Reference Diagram above as your Graph Descriptions, however, if you GROUP some of the legs to arrive at a composite measurement, you may desire to have a totally different name. See GROUPING section below for more details.

MULT (multiplier)
The multiplier can be changed, depending on the type circuit you have CT connected to. If it is a regular single-pole breaker, 110V circuit, you would leave the default of 1 selected. If the CT has been installed around one leg of a 240V 2-pole breaker (like an AC compressor as shown on Leg 1 above), you have the option of either a) using a single CT and changing the Multiplier to “2”, or b) use a second CT to connect to the second leg - in which case you would leave each multiplier set to “1.”

The loads are generally balanced in a residence, and you would be fine using a single CT on a 2- or 3-pole breaker and setting the multiplier at a 2 or 3, whichever is appropriate. However, in a commercial or industrial setting, it would be wise to measure the circuit to determine whether it is balanced or not.

Using a Negative Multiplier
If you wanted to subtract a circuit from the Spyder total, you would use a negative multiplier. For example, if you had a Mother-in-Law suite that you wanted to separate from the rest of the loads, you would simply change the multiplier to a “-1.”

You would do the same thing if you had a sub-panel you didn’t want to include. Change the multiplier to “-1.”

SOLAR and MULTIPLIER
If you use a Spyder leg to monitor your SOLAR/WIND PRODUCTION, the multiplier must be changed to a NEGATIVE number.
GROUPING Spyder Legs

As previously noted, it is possible to group Spyder legs. Grouping legs gives you many options. The only drawback to grouping Spyder legs is that it takes up a memory location(s) within TED. Each Spyder has 8 allocated memory locations. You can use the 8 locations to store data from the eight individual CTs that you connected - as shown above.

We recommend checking the boxes diagonally as it relates to the Circuit indicated above the boxes.

THEN, take the names from the Circuit Reference Diagram and list them down the Graph Description column.

For example, most air conditioning systems have two components - the compressor and the fan (or blower). If you want to see what your entire AC system costs, you would need to combine the compressor with the fan. In the example to the right, you will see that we have changed the 2nd slot to read “AC All” and selected Circuits 1 and 3 to be a group, and moved “Kitch Lt” down a line.

In this example, you will see that we no longer have the “AC Fan” as a line-item, so it will not show up on any graphs, history, etc. We have “AC All” in the space where ‘AC Fan’ was - so that is what will appear in the Graphs, History, etc. Notice that ‘AC Fan’ leg in the Circuit Reference Design remains on leg 3. You can calculate what the AC Fan load is by subtracting the “AC Comp” from the “AC All.”
A few miscellaneous comments regarding the Spyder:

- You can use a leg in as many Groups as you wish;
- You can have as many legs in a Group as you wish;
- A single MTU can accommodate two Spyders;
- You can not add a leg from Spyder 1 to be in a Group in Spyder 2;
- Spyder second-data is not recorded (minute, hour, day, etc. are recorded);
- Leg-loads less than 150 Watts will be less accurate.
- Spyder-data can be exported to CSV-file (Excel) at any time