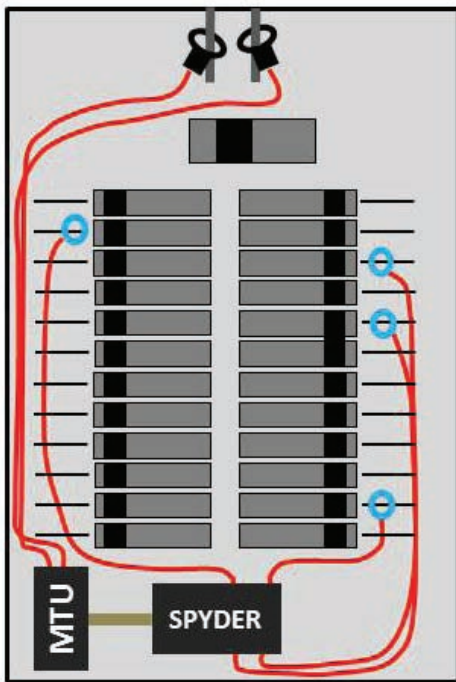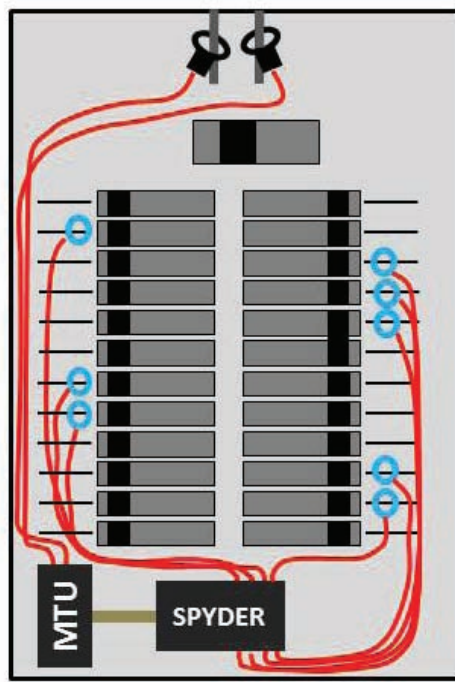# TED Spyder

DESCRIPTION: The TED SPYDER is a low voltage device that is an add-on to the TED MTU. The SPYDER measures individual branch circuits using smaller 'doughnut-type' CTs.
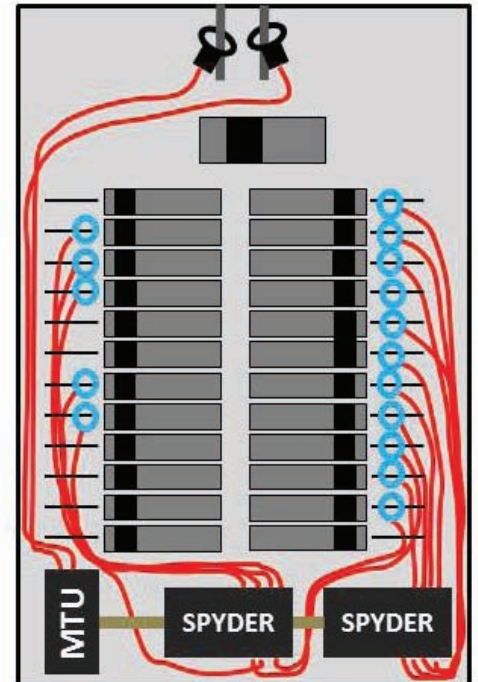
One SPYDER provides EIGHT additional individual circuit measurements! These discrete measurements are then sent through the MTU data-port and are recorded into memory in Footprints software. Software configuration selections provide options for tailoring the SPYDER to a specific application.

- A couple of additional circuits

- up to 8 additional circuits

- add a 2nd Spyder for up to 16 circuits

Applications Include:

Individual Load/Circuit Energy Data – Determine which loads are costing you more!

Grouping Circuits – Group loads for sub-metering or combine loads for a single Energy Measurement

(for example: Group the HVAC compressor circuit + Air Handler circuit to get entire HVAC load)

Footprints can record energy-data for up to 32 SPYDER inputs through any combination of the following configurations:

Maximum inputs per SPYDER: 8 (eight)

Maximum SPYDERs per MTU: 2 (two)

Maximum SPYDERs per ECC (or one TED system):   4 (four)

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Multiple packages to choose from for variable CT-sizes.

20A Solid Core Doughnut CTs
- Suggested for measuring any load on a 15A or 20A circuit that is greater than 100W.
- Accuracy: +/- 7%* 200W-2.4kW
- Minimum load: 60W, (Reading will be zero when below this threshold)
- Inside diameter: 7.2mm (0.28 inches)

60A Solid Core Doughnut CTs
- Suggested for measuring any load on a 20A-60A circuit that is greater than 500W.
- Accuracy: +/- 7%* 500W-14.4kW
- Minimum load: 200W, (Reading will be zero when below this threshold)
- Inside diameter: 7.2mm (0.28 inches)

200A Solid Core Doughnut and Split-Core Hinged CTs
- Suggested for any load on a 20A-200A circuit that is greater than 500W.
- Accuracy: +/- 7%* 500W-14.4kW
- Minimum load: 200W, (Reading will be zero when below this threshold)
- Inside diameter: 16.2mm (0.63 inches)

* Spyder readings assume an average power factor of 92%. The Spyder can typically be improved to report within <+/-5% accuracy by using the MTU's power factor measurement to adjust the calibration. Calibration instructions can be found in the TED Pro User's manual:
 https://www.theenergydetective.com/downloads/ECCUsermanual.pdf

Energy and Cost data is stored for Export or Graphing for the following increments:

Minute Data: 25 hours
Hourly Data: 8 days
Daily Data: 5 weeks
Monthly Data: 13 months

Using a Spyder to monitor a 240V circuit or 3-phase circuit:

1) Connect one CT around each leg of a 240V circuit (use 2 CTs), or for 3-phase circuits, use 3 CTs.
      - or -
2) If the load is balanced, a single CT may be used on a 240V circuit or 3-phase circuit. Simply connect one CT over one leg of the circuit (either leg). *Change the multiplier* in Spyder Setup from the default (1) to a (2) for a 240V circuit, or (3) for a 3-phase circuit.

Grouping:
A Group can only be formed using the legs of the respective Spyder. When using multiple Spyders, legs from one Spyder can not be Grouped with the leg(s) of a different Spyder.