

This Quick Start Guide is designed to familiarize the user with the connection and configuration of the DTS 310 DIN rail mounted single / 3 phase power & energy meter with kWh pulse output.

1. Supplied Items

Check that the meter and equipment matches your order specifications and has not been damaged during shipping. The following component(s) are included in the package:

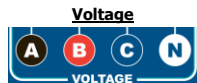
- Quick Start Guide (**DTS 310 Application / Connection Examples** in section 2)
- DTS 310 power monitor. Check input ranges, output configuration and auxiliary power supply (if applicable) on the label of the unit. For a more detailed explanation of the part number please download the latest version of the DTS 310 datasheet from <https://www.measurlogic.com/product/dts-310/>

For more information please use the **DTS 310 installation guide**
<https://www.measurlogic.com/product/dts-310/>



2. Connecting the DTS 310

Wiring Voltage and Current Inputs



The DTS 310 accepts voltage inputs directly up to 480V 3 phase L-L or through PTs (potential transformers) for higher voltages. Three phase currents are measured via "safe" voltage input CTs (current transformers). Connection of any other CT than that supplied by Measurlogic with the meter could cause damage to the instrument. **If there are any questions please call Measurlogic before powering up the unit.** Please refer to **Application/Connection Examples** for information on wiring conventions.

Input wiring terminals are clearly indicated and located on the upper side of the DTS 310 label. The Current and Voltage terminal strips are pluggable to allow easy replacement of the DTS 310, if required. Removing the terminal strips should only be done once power has been removed from the DTS 310. Input wiring terminals accept 2.5 mm² (12 awg) wire. The wires are connected by means of screw terminals that clamp down onto the input wires. The voltage/PT inputs require fuses, not included, (see diagrams below) and should be rated at 1A 600Vac. Measurlogic can provide an in-line fuse kit as an option if required.

Wiring Optional Auxiliary Power Input (AUX)



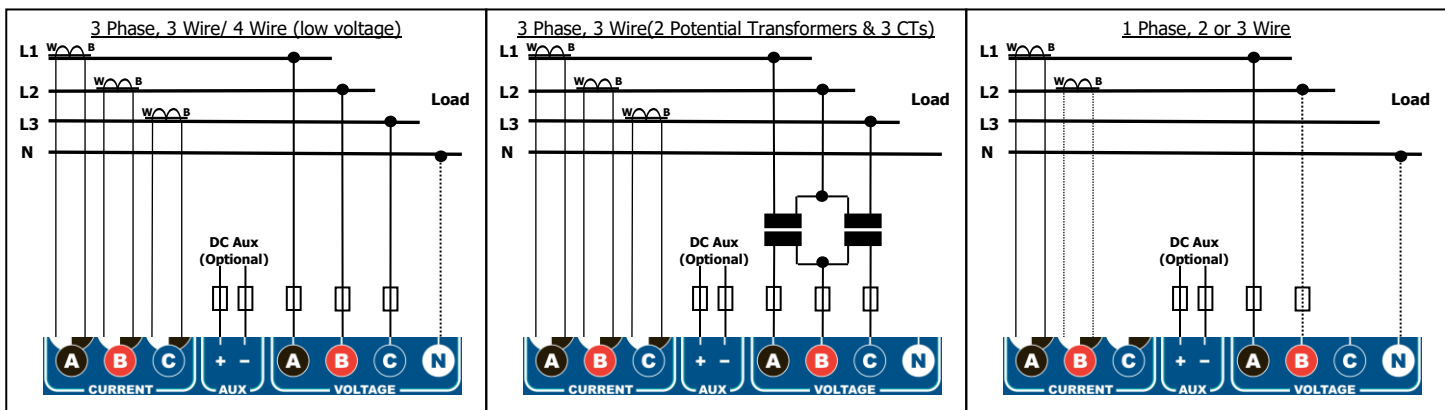
The DTS 310 operates normally when power is applied to Phase A, Phase B and/or Neutral depending on model number so no additional auxiliary power supply is needed. To provide added flexibility to the DTS 310 meter it can be powered from a DC auxiliary supply (model dependant) in the following ranges. (Fuses not included with meter but are offered as an option). See the rating label of the unit for more information.

- 12 Vdc **OR** 24 Vdc **OR** 48 Vdc

Note: It is important to pay attention to the polarity when using a DC power supply. See label above for a reference to the polarity. Incorrect connection **will** damage the DTS 310.

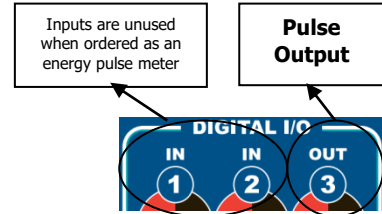
The following connection diagrams depict some examples of typical applications. Other connection configurations are possible. (Consult Measurlogic)

Application/Connection Examples



Wiring the Digital Pulse Output

When ordered as an energy pulse meter, the DTS 310 has a single digital output that functions as a pulse corresponding to measured kWh. The I/O wiring terminals are located on the bottom side of the DTS 310 and are represented on the label as seen in this diagram:



Digital Inputs (Marked 1, 2)

- Unused – do not connect.

Digital Output (Marked 3)

- The digital output is a **potential-free N.O. (Normally Open) solid state relay** output. It can be configured for energy pulses of varying weights using the DIP switches. It also may also be configured with a custom mapping (pulse weight, length, and space) in the factory, **as specified at the time of ordering.**

Setting the Pulse Output and Current Sensor Rating

The DTS 310 energy pulse meter has an 8-way DIP switch situated above the pluggable 6-way I/O terminal that allows the user to configure the pulse output mapping and the primary rating of the current sensor, based on the tables below. If the unit is ordered with a custom preset pulse **and/or** current primary mapping, the relevant switches should all remain in the "0" **OFF** position.



If multiple CTs are used in parallel then "Current Primary" switches must be set as per this simple formula

$$\text{CT Primary} = \text{Number of CTs in parallel} \times \text{CT rating (on its label)}$$

Example: 2 sets of 50A CTs per phase – Set Switches 4-8 to 2 x 50 = 100A (00111)

Switch 4-8 (Current "CT" Primary Selection)

SW 4	SW 5	SW 6	SW 7	SW 8	Current Primary
0	0	0	0	0	Preset Custom
0	0	0	0	1	1 (Default)
0	0	0	1	0	2
0	0	0	1	1	5
0	0	1	0	0	10
0	0	1	0	1	20
0	0	1	1	0	30
0	0	1	1	1	40
0	1	0	0	0	50
0	1	0	0	1	60
0	1	0	1	0	75
0	1	0	1	1	80
0	1	1	0	0	100
0	1	1	0	1	150
0	1	1	1	0	200
0	1	1	1	1	250
1	0	0	0	0	300
1	0	0	0	1	400
1	0	0	1	0	500
1	0	0	1	1	600
1	0	1	0	0	700
1	0	1	0	1	750
1	0	1	1	0	800
1	0	1	1	1	900
1	1	0	0	0	1000
1	1	0	0	1	1200
1	1	0	1	0	1600
1	1	0	1	1	2000
1	1	1	0	0	2500
1	1	1	0	1	3000
1	1	1	1	0	4000
1	1	1	1	1	5000

Switch 1-2 (Pulse Output Mappings)

SW 1	SW 2	Mapping
0	0	Preset Custom
0	1	1 pulse / 0.1kWh
1	0	1 pulse / 0.5kWh
1	1	1 pulse / 1.0kWh (Default)

NOTES:

1 = ON 0 = OFF

Switch **3** is **unused** and should remain in the **off** position.

DIP switches should only be changed with the DTS meter in a powered off state.

Changing the switch settings with power applied might result in incorrect readings

If there are any questions please contact:

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