InnovaSonic® 207i Ultrasonic Thermal Energy/ BTU Liquid Flow Meter

This is the Quick Start Guide for the 207i liquid flow meter for easy installation & set-up instructions. To get more technical information on the InnovaSonic 207i, refer to the InnovaSonic 207i Instructions Manual, 207i Smart Interface Portal (SIP) Manual, and 207i Quick Start Guide at www.innovasonictechnologies.com/downloads/207i.

Watch the How to Install & Operate video at www.innovasonictechnologies.com/207i-how-to

Installation Steps: Set Up Power Connections and Transducers

WARNING! Wire the 207i with the power off with the proper ESD precautions.

Please verify which power option you have before connecting power to the unit. The 207i is available with one of two power options:

- Option #3: DC powered, 9-36 VDC, 0.5 Amps. (See Figure 1 "DC Power Option").
- Option #5: AC powered, 100-240 VAC, 50-60 Hz, 0.5 Amps. (See Figure 1 "AC Power Option").
- Open the hinged top cover of the electronics (see Figure 5). The power input terminal block is labeled "POWER IN". On the AC power unit, it is labeled L E N L, and on the DC powered unit it's labeled E G - V + V. (See Figure 1).

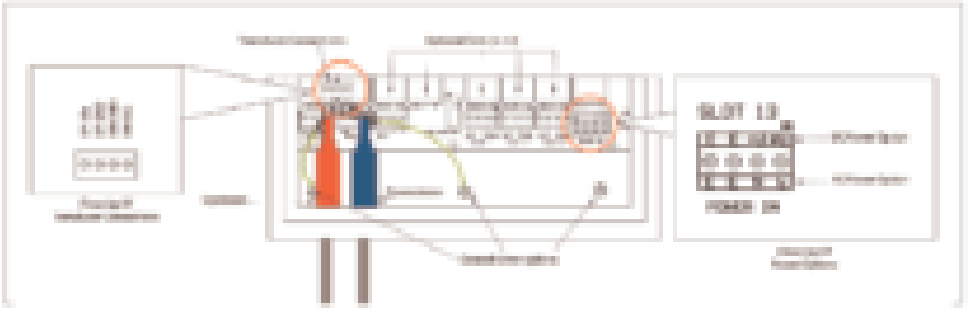

Figure 1 207i AC and DC Power Options Minimum Required Wiring

Note: The standard 207i is equipped with 3 onboard 4-20mA current outputs, 1 relay, 1 DCT, RS-232, and USB port. Optional plug-in cards (see Figure 1) can add PT 100 RTD inputs, 4-20mA inputs, and Modbus RTU slave. For this Quick Install example, we will only be using the bare minimum to measure water flow.

Power Installation

1. Connect AC or DC power options.

- AC power connections: L to AC line (hot), N to neutral, E to safety earth ground. 100-240 VAC, 50-60 Hz, 0.5 Amps (See Figure 1)
- If the AC mains wiring is not installed in conduit, a ferrite core should be installed (CE requirement) just inside the enclosure with the 2 turns (3 passes) of the AC wiring thru it. Ferrite core: Wurth Electronics p/n 7427005[5]Digi-Key p/n 732-1558-ND or similar should be used.
- DC power connections: V- to DC plus, V+ to DC power return, the E connection are optional Earth ground. 9-36 VDC 0.5 Amps (See Figure 1).
- We also recommend a heavy gauge wire to the large E (Earth) or directly to enclosure for lightening protection.

2. Connect the upstream (red) transducer white wire to the UP (G) terminal on the ultrasonic board, and the black wire to the UP GND terminal. The green/yellow wire to the earth ground wire. It attaches to the enclosure ground screw as shown (See Figure 5).

3. Connect the downstream (blue) transducer white wire to the DN (G) terminal on the ultrasonic board and the black wire to the DN GND terminal. The green/yellow wire to the earth ground wire. It attaches to the enclosure ground screw as shown (See Figure 5).