

This is what our EE recommends:

Note:

It is the user responsibility to follow all generators' safety instructions. Consult a qualified electrician, electrical inspector, or local agency having jurisdiction for local codes or ordinances that apply to the intended use of the generator, including proper generator and equipment grounding.

Using the EU2000i with Picarro Analyzer

Good things about your setup:

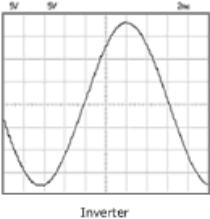
- The Honda EU2000i generator has enough power for the G2000 Picarro analyzer.
- If an inverter is going to be used to power the Analyzer, a pure sinewave inverter is recommended. According to Honda website, this generator provides the proper, stable power.

### Honda's Inverter Advantages

Honda inverter technology means stable, clean power in a smaller, lighter package. You can even operate the most sensitive electronics without fear of interruption.

#### What's "Clean Power"?

Computers and power-sensitive equipment require "clean power." Clean power is electrical current that is consistent and has a stable signal, or sine wave.



<http://powerequipment.honda.com/generators/models/eu2000i>

Honda EU2000i Eco-Throttle switch -

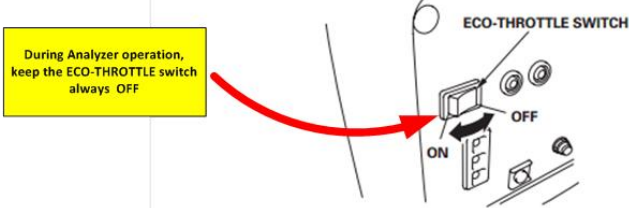
#### Eco-Throttle™ Switch

The Eco-Throttle™ system automatically reduces engine speed when loads are turned off or disconnected. When appliances are turned on or reconnected, the engine returns to the proper speed to power the electrical load.

If high electrical loads are connected simultaneously, turn the Eco-Throttle switch to the OFF position to reduce voltage changes. When using the DC output, turn the Eco-Throttle switch to the OFF position.

**ON:** Recommended to minimize fuel consumption and further reduce noise levels when less than a full load is applied to the generator.

**OFF:** The Eco-Throttle system does not operate.



I recommend keeping the Eco-Throttle switch permanently OFF. The Analyzer load to the generator will drastically change during system warm up and operation. This load change could be interpreted by the generator as external loads being disconnected, reducing generator engine speed to minimize fuel consumption. That may cause electrical noise in the generators AC lines that could affect the Analyzer operation.

Concerns regarding your setup

Safety and operational concerns:

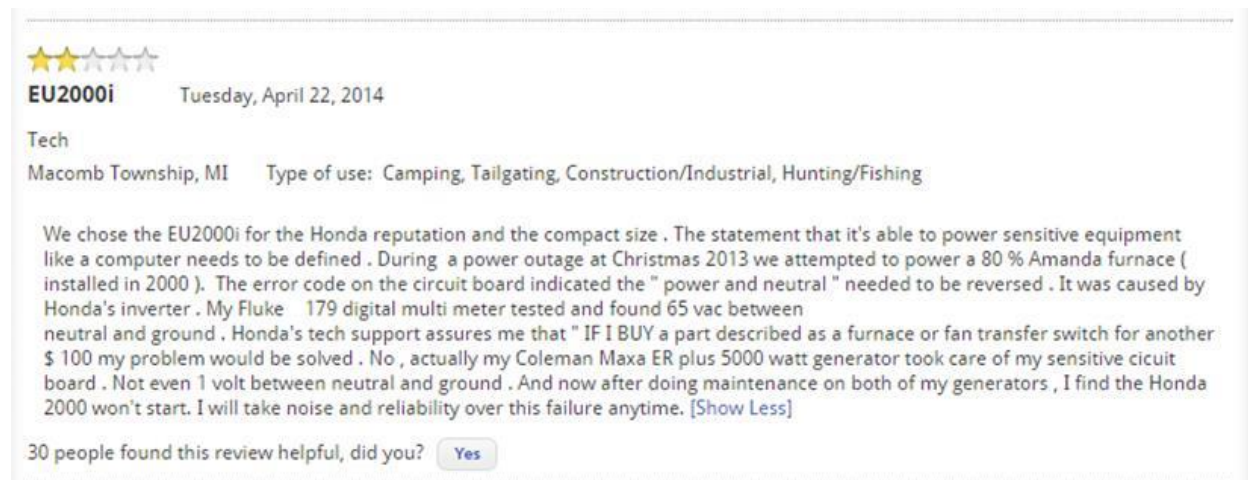
- The Honda2000i generator has the AC neutral and ground completely isolated. The analyzer requires a proper ground connection to work properly. The analyzer chassis is internally attached to AC

is nearly no voltage between the neutral and the ground. Hence, touching neutral will not cause current to flow through human body into ground.

Since in the Honda2000i generator the neutral and ground lines are isolated, the current that may appear in the grounding conductor could result in potentially dangerous voltages on the analyzer enclosure that could result in an analyzer failure and, especially a safety issue. Therefore, the installation of grounding and neutral conductors needs to be carefully inspected by a qualified electrician.

With the ground and neutral lines concern in mind, I search the web for Honda2000i safety installation problems and I found the following post in the Honda web site reviews:

<http://powerequipment.honda.com/generators/models/eu2000i>



The screenshot shows a product review for the Honda EU2000i generator. At the top, there are four yellow stars and the text "EU2000i" followed by the date "Tuesday, April 22, 2014". Below this, the reviewer's name "Tech" is listed, along with their location "Macomb Township, MI" and their primary use "Type of use: Camping, Tailgating, Construction/Industrial, Hunting/Fishing". The review text describes a power outage issue where a furnace failed to start due to a wiring problem (power and neutral reversed) on the generator's inverter. The reviewer mentions using a Fluke 179 digital multi meter to test for 65 vac between neutral and ground, and notes that Honda's tech support assured them that if they bought a furnace or fan transfer switch for another \$100, their problem would be solved. They also mention that a Coleman Maxa ER plus 5000 watt generator took care of their sensitive circuit board. The review concludes with a statement about taking noise and reliability over this failure anytime. At the bottom, it says "30 people found this review helpful, did you?" with a "Yes" button.

Reading this particular review, you may need to contact Honda, and mention them regarding the neutral/ground lines voltage concern and they may have a solution for you.

Recommended equipment TURN ON procedure:

1. Set Honda2000i generator Eco-Throttle switch OFF position
2. With Picarro Analyzer AC line DISCONNECTED from generator, start generator. Leave generator running for a minute or so to get the power output line voltage stable.

3. Connect Picarro Analyzer AC line and start the instrument