

# How to do a breaker test for an analog meter

When you are having difficulty identifying all energy consuming loads on your electrical service, it is sometimes useful to do an individual circuit-by-circuit inventory of the electrical loads to try to identify the circuit that is consuming the energy. You can then focus on the high energy users to determine if there are more energy efficient options available.

This may be helpful in finding things like:

- Heaters left on in unused rooms
- Block heaters on cars/trucks/RVs/tractors left plugged in
- Faulty extension cords lying on the ground (minimal power loss)
- Nails driven through wires, creating a partial high-resistance short-circuit to ground (minimal power loss)

## Before you get started

Two people are needed to effectively complete this test: one person to initiate the action steps at the breaker or fuse panel, and one person to watch the analog meter and record results. The person at the meter will observe the revolving disk inside the electric meter.



The faster the disk turns, the more energy is being consumed. You can estimate how much energy would be consumed in an hour by counting the number of disk revolutions in two minutes.

## Breaker test for an analog meter

Please remember, after completing the breaker test, to reset clocks and other things that normally need to be reset after a power interruption, and check to ensure that crucial appliances such as freezers have power.

Action	Observation	Follow up
1. Verify meter number.	The number on the meter should match the meter number on the bill.	<ul style="list-style-type: none"> <li>○ If meter numbers do not match, contact BC Hydro at <b>1 800 BC HYDRO (1 800 224 9376)</b></li> <li>○ If meter numbers match, continue to next action</li> </ul>
2. Shut off main switch.	Disk revolution should stop.	<ul style="list-style-type: none"> <li>○ If disk revolution continues, a possible internal issue may exist</li> <li>○ If disk revolution stops, continue to next action</li> </ul>
3. Turn off all individual breakers (or unscrew all fuses on fuse panels).	Disk revolution should remain stopped.	<ul style="list-style-type: none"> <li>○ Continue to next action</li> </ul>
4. Leave the individual breakers off and turn the main switch back on.	Disk revolution should remain stopped.	<ul style="list-style-type: none"> <li>○ If progression rotation starts a possible internal issue may exist</li> </ul>
5. Systematically turn on one breaker at a time.	Record number of disk revolutions in two minutes.	<ul style="list-style-type: none"> <li>○ Turn on lights and major electrical loads first.</li> <li>○ Identify the circuit(s) using the most energy (most disk revolutions)</li> </ul>

<p>6. Investigate the electrical loads on each circuit identified in the above step.</p>	<p>Estimate energy consumption (kWh) based on the results observed during the breaker test.</p> <p>cost = kWh × energy cost</p> <p><b>Example:</b></p> <p>There were 18 disk revolutions counted in 2 minutes</p> $18 \times 7.2 \times 30 / 1000 = 3.89 \text{ kWh}$ <p>(Rev in 2 mins × kh factor × 30) / 1000 = kWhs</p> <p><b>Where:</b></p> <p>Rev = number of progression rotations For analog meters, the kh factor is always 7.2</p> <p>30 = number of 2 minute segments in 1 hour</p> <p>1000 = number of watts in a kilowatt</p>	<ul style="list-style-type: none"> <li>○ If you are concerned about your energy consumption being too high, visit <a href="http://bchydro.com/powersmart">bchydro.com/powersmart</a> for in-depth information and tips</li> <li>○ You may also use an energy monitoring device to measure the energy consumption of an individual appliance</li> </ul>
<p>7. When you're done, reset clocks and check appliances for power.</p>		