How to do a breaker test
for a smart 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 panel or fuse panel, and one person to watch the smart meter and record results. The person at the meter will observe the load emulator on the meter display screen.

The load emulator shows the current rate of power consumption. It's a series of three icons, two squares and a triangle, that scroll along in a pattern of on–on–on–off–off–off. There are six changes of state; one of the states includes no icons at all. The load emulator is located on the left side of the meter display screen.

Load emulator

1. On—square, blank, blank
2. On—square, square, blank
3. On—square, square, triangle
4. Off—blank, square, triangle
5. Off—blank, blank, triangle
6. Off—blank, blank, blank

The faster the icons scroll through the pattern, the more energy is being consumed. A complete cycle through all six changes of state is referred to as a 'progression rotation'.

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Breaker test for a smart 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.	○ If meter numbers do not match, contact BC Hydro at **1 800 BC HYDRO (1 800 224 9376)** ○ If meter numbers match, continue to next action
2. Shut off main switch.	Progression rotation should stop.	○ If progression rotation continues, a possible internal issue may exist ○ If progression rotation stops, continue to next action
3. Turn off all individual breakers (or unscrew all fuses on fuse panels).	Progression rotation should remain stopped.	○ Continue to next action
4. Leave the individual breakers off, and turn the main switch back on.	Progression rotation should remain stopped.	○ If progression rotation starts, a possible internal issue may exist
5. Systematically turn on one breaker at a time.	Record number of progression rotations in two minutes.	○ Turn on lights and major electrical loads first ○ Identify the circuit(s) using the most energy (most progression rotations)

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6. Investigate the electrical loads on each circuit identified in the above step.	Estimate energy consumption (kWh) based on the results observed during the breaker test. cost = kWh × energy cost **Example:** There were 18 progression rotations on a smart meter counted in 2 minutes. 18 × 6.0 × 30/1000 = 3.24 kWh **Where:** Rev = number of progression rotations For smart meters, the kh factor is always 6.0 30 = number of 2 minute segments in 1 hour 1000 = number of watts in a kilowatt	○ If you are concerned about your energy consumption being too high, consider energy–efficient appliances or visit **bchydro.com/powersmart** for tips ○ You may also use an energy monitoring device to measure the energy consumption of an individual appliance
7. When you're done, reset clocks and check appliances for power.		

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