sTEm-at-Work Puzzle #8 Electronic Systems Tech

The Tech is not looking at the robotic arm under test. She is monitoring the voltage and current for the arm from a control room and knows when the inductive motor for the robotic system is on because the current and the voltage signals do not go up and down together (in phase). In fact, the voltage signal will go up before the current signal goes up (or goes down before the current goes down). That is the voltage "leads" the current. In the oscilloscope cartoon below, the voltage signal is connected to Channel B and the current signal is connected to Channel A

Is the inductive motor on? (Yes or No)

