



Many power quality monitors can identify and quantify a voltage sag. Identifying the cause of such a sag is often tricky, however! And monitoring the current is critical to reaching a proper diagnosis.

	<p>A Typical Voltage Sag</p> <p>Here's a voltage sag that we captured. The voltage drops down for three (3) cycles before returning to nominal.</p> <p>Voltage sags can be related to the utility, to other loads in the facility, or to the load being monitored. The correct solution depends on where the sag is coming from!</p> <p><i>But how can you tell what is causing the sag?</i></p>
	<p>Measure the Current!</p> <p>We were fortunate to be measuring the current during this sag. We clearly see that the phase current drops down during the voltage sag – indicating that the DC power supplies are being starved – and are no longer drawing power. They are feeding the load from their internal capacitance bus.</p> <p>This sag is External, caused at the Utility level or by another load in the facility. A voltage regulator or a UPS system would be the right solution!</p>
	<p>Compare to a Different Sag</p> <p>Here's another voltage sag that has a very different cause.</p> <p>Notice the phase current – which has jumped to over 200 Amps peak at the start of the voltage sag!</p> <p>This sag is Load Generated, caused by the surge current of the load being monitored. Voltage regulators or UPS systems will not usually fix this sort of problem. In fact, they may make it worse! Only reducing the source impedance will reduce this type of sag.</p>