

## How Much is it Actually Costing You to Roll a Truck for PQ Problems?



### Did You Know:

A single truck roll can cost your utility up to \$2,000, depending on the truck and number of engineers required. With costs of labor, truck costs, fuel, and other expenses, truck roll costs can quickly add up.

### Let's Investigate...



### In Comparison...

#### A Typical Power Quality Investigation



##### Day 1

A customer reports a problem and the utility rolls a truck to install a power quality monitor.

**Truck Roll #1  
Cost: \$1,000**



##### Days 2-15

Wait a couple of weeks and hope the problem appears for the device to record.



##### Day 16

Roll a truck and pick up the device to bring back to the office.

**Truck Roll #2  
Cost: \$2,000**



##### Day 17

Download and analyze the data to determine the problem. Send a team to fix the problem.



##### Day 18

Send a technician to reinstall the device to ensure the problem is fixed.

**Truck Roll #3  
Cost: \$3,000**



##### Day 32

Wait a few weeks and hope the event hasn't happened again.



##### Day 33

Roll a truck and pick up the device to bring back to the office.

**Truck Roll #4  
Cost: \$4,000**



##### Day 34

Download and analyze the data and hope the problem did not occur again.



##### Day \_?

Many times these typical investigations can be extended even further if your device fails to record the event or if the team is unable to repair the issue the first time; costing you even more money.

#### A Cell Guardian Power Quality Investigation



##### Day 1

A customer reports a problem and the utility rolls a truck to install the Cell Guardian power quality recorder.

**Truck Roll #1  
Cost: \$1,000**



##### Day 2

Analyze the data right from your office to determine the problem after receiving an email or text alert. Send a team to fix the problem.



##### Day 3

Now with the device in place, you can monitor & ensure the problem doesn't reoccur. Just leave the device in place until you move it to the next PQ investigation and your truck roll costs could be significantly reduced!

### To Recap:

A typical PQ investigation can cost up to \$4,000 or more and can last weeks, depending on the circumstances. Meanwhile, a Cell Guardian PQ investigation only costs one truck roll, or approximately \$1,000 and the investigation lasts only a few days.

**The Cell Guardian can pay for itself in just one power quality investigation!**



#### Cellular Communication

- Check in on your recording as it's happening
- Get email or text alerts at the first sign of an event



#### Fewer Truck Rolls

- Cut your truck rolls down by accessing your data off-site
- Data is recorded and sent to you, saving both time & money



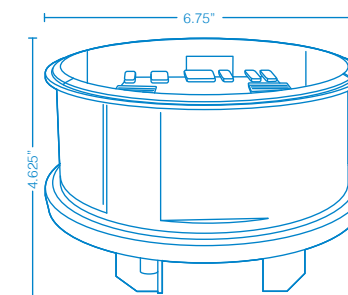
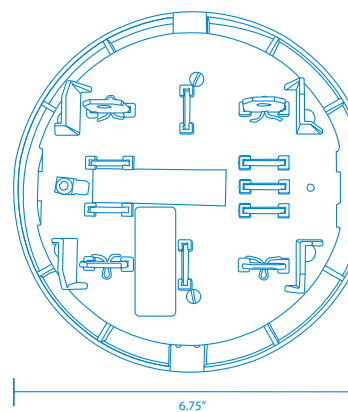
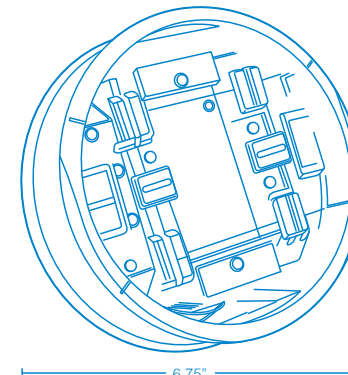
#### Customizable to Fit Your Needs

- Cell modem
- PQ Canvass: cloud-based power quality solution software
- E-mail & text alerts
- WiFi HotSpot
- Customizable memory options from 16 MB – 1 GB



#### Powerful Data Options

- Get the data you need from the USB port, cell modem, or WiFi HotSpot
- Powerful measurements like CBEMA/ITIC and advanced waveform triggering



## Features & Benefits

The Guardian power analyzer is designed for use in a 200A residential meter base with the existing revenue meter. In addition to RMS voltage and current, the Guardian comes standard with the ability to measure and record power factor, demand, phase angle, flicker, CBEMA/ITIC events, and harmonics to the 51st in an all-weather, self-contained unit.

### Cell Modem or WiFi (Optional):

Stream your data immediately to the cloud for instant access with your web browser, or connect to the Guardian directly with ProVision for live readings or to download recordings. Use WiFi to connect locally with a laptop or tablet.

### Large Memory Capacity:

Record harmonics at high resolution to meet IEEE 519-2014 requirements with up to 1 GB of onboard memory. Capture more PQ events with enhanced waveform triggering and extended memory.

### New Features:

E-mail & text alerts, network time sync, WiFi, cell modem, CBEMA/ITIC events, enhanced waveform capture, and PQ Canvass compatibility.

## 24/7 Technical Support

### Call Us Anytime

At Power Monitors, Inc we strive to provide the best product support possible. As long as you use your PMI recorder, you have unlimited phone support from the factory at no charge, seven days a week, twenty-four hours a day, every day of the year. If you can't find the answer to your question on our web site, give us a call toll-free at 1-(800) 296-4120, and we'll be happy to provide you with service tailored to your specific needs.

## Reduce Truck Rolls & Save Money

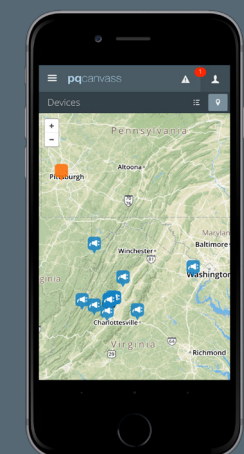
- Reduce trips out to the field
- Receive text and email alerts as PQ events happen
- All PQ data is available online and is accessible from a PC, tablet, or phone browser

## Bringing You the Whole Picture

- Access stripcharts, histograms, daily profile graphs, and more
- View voltage, current, waveforms, harmonics, ITIC/CBEMA events, and flicker online as it's measured and recorded

## All the Tools You Need, in One Online Application

- Powerful graphs and reports via phone, PC, and tablet browsers
- Live readings available for any PQ Canvass-connected device
- Share and manage recordings completely in the cloud



<b>INPUTS</b>	AC Voltage	0 to 150 VAC per channel
	AC Current	200 amps RMS
	Sample Rate	256 samples/cycle/channel

<b>CHANNELS</b>	Voltage	2 channels
	Current	2 channels

<b>MEASURED QUANTITIES PER CYCLE</b>	RMS Voltage	Volts
	RMS Current	Amps
	Real Power	Watts
	Apparent Power	VAs
	Reactive Power	VARs
	Phase Angle	Degrees
	Power Factor	Watts/VA
	Displacement PF	cos (phase angle)
	Power Usage	kWh, kVARh, kVAh

<b>ACCURACY</b>	Voltage	0.33% of full scale
	Current	1.0% of full scale
	Power	1.0% of full scale
	Phase Angle	1.0°
	Power Factor	±0.02
	Displacement PF	±0.02

<b>HARMONICS</b>	Voltage	to the 51st
	Current	to the 51st
	Measures	Magnitude, phase, THD

<b>COMMUNICATIONS</b>	Standard	USB 2.0
	Options	WiFi or internal cell modem

<b>INFORMATION STORAGE</b>	Data Storage	16 MB (standard), 128 MB, 512 MB, or 1 GB (optional)
	Significant Change	1000 records
	Flicker	1000 records

<b>RECORD SETTINGS</b>	Interval Graphs	1 cycle to 4 hour interval user selected, stop-when-full, or wrap around memory modes
	Significant Change	1 V to 8 V in 1 V steps
	Flicker Settings	User-defined, or conform to IEEE 1453/IEC 61000-4-15, and IEEE Std. 141

<b>Waveform Capture</b>	Voltage and current	threshold, periodic capture, waveshape, event cross-triggers
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<b>POWER SUPPLY</b>	Power Consumption	Less than 5 Watts
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<b>ENVIRONMENTAL</b>	Operating Temp	-20°F to +135°F
	Shock	60 Hz to 2 kHz, acceleration 25 G

<b>PHYSICAL DIMENSION</b>	Vibration	10 Hz to 60 Hz, amplitude 1.8 mm
	Weight	2.1 lbs
	Size	4.625" x 6.75"

<b>POWER FAIL OPERATION</b>	Can operate without any input voltage for up to 30 minutes. This allows it to send alerts and messages in the event of an interruption.
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