Power Quality Performance Module

Toronto PLUG 2017

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The Real Cost of PQ Problems

[Standards] Power Quality

Generic PQ standards

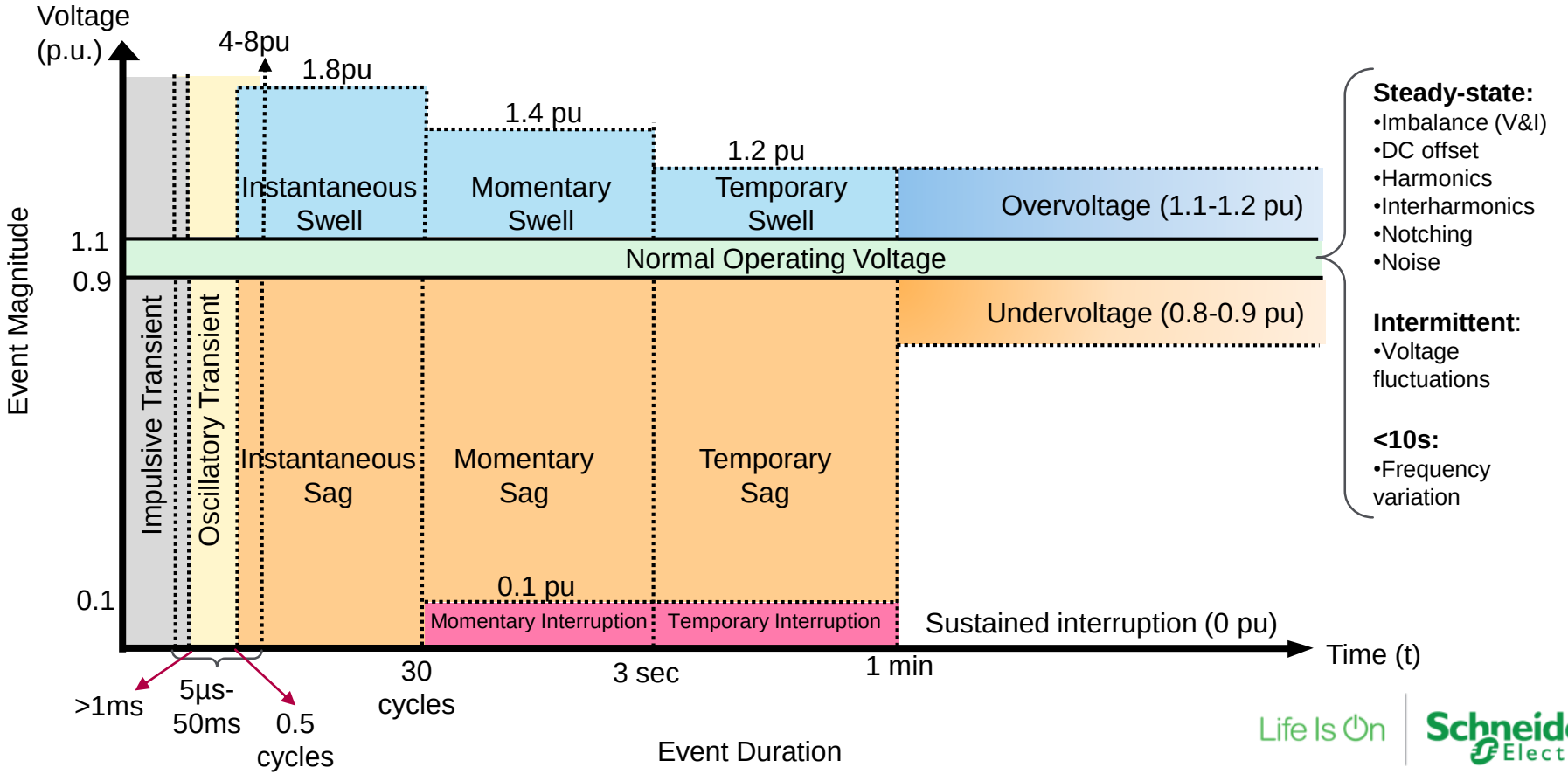
Standards	Descriptions
IEEE Std 1159	IEEE recommended practice for monitoring electric power quality
EN 50160	Voltage characteristics of electricity supplied by public distribution systems
IEC 61000-2-1	Part 2-1: Environment - Description of the environment - Electromagnetic environment for low-frequency conducted disturbances and signalling in public power supply systems
IEC 61000-2-2	Part 2-2: Environment - Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems
IEC 61000-2-4	Part 2-4: Environment - Compatibility levels in industrial plants for low-frequency conducted disturbances
IEC 61000-2-12	Part 2-12: Environment - Compatibility levels for low-frequency conducted disturbances and signalling in public medium-voltage power supply systems
IEC 61000-4-30	Part 4-30: Testing and measurement techniques - Power quality measurement methods

Standards	Descriptions
IEC 61000-2-8	Part 2-8: Environment - Voltage dips and short interruptions on public electric power supply systems with statistical measurement results
IEC 61000-2-14	Part 2-14: Environment - Overvoltages on public electricity distribution networks
IEC 61000-3-3	Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems,
IEC 61000-3-5	
IEC 61000-3-11	
IEC 61000-4-11	
IEC 61000-4-14	

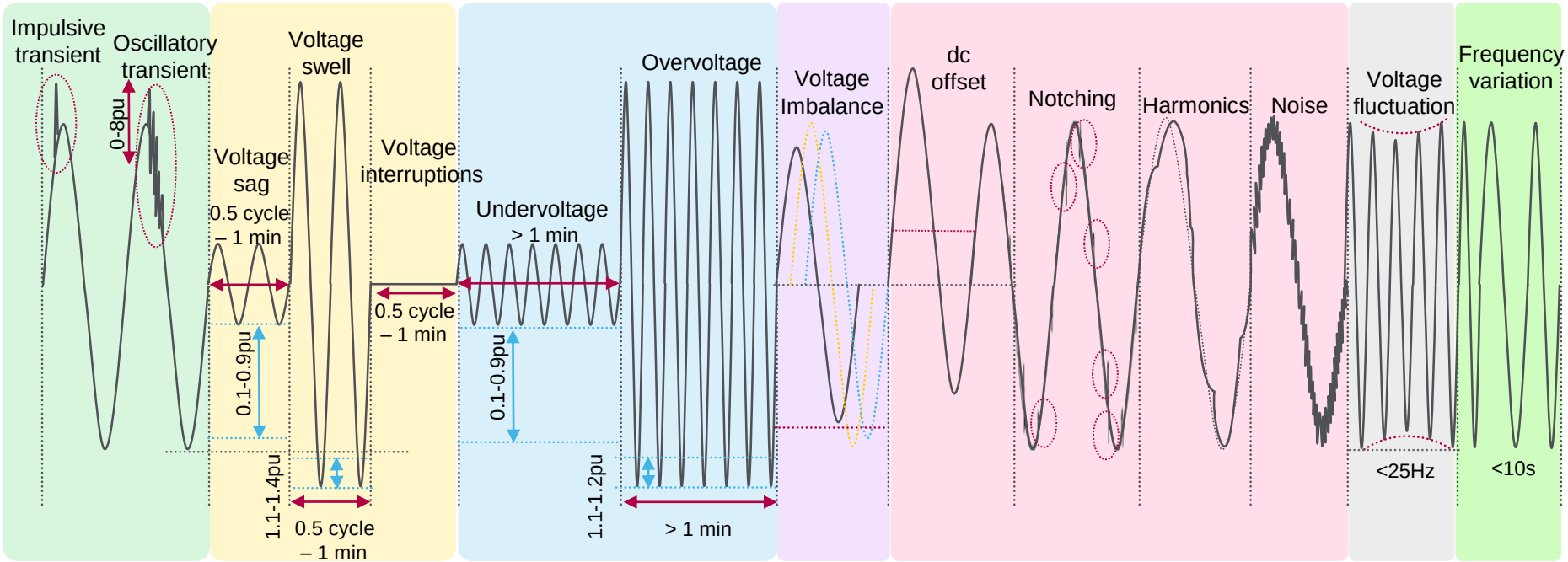
Standards	Descriptions
IEC 61000-4-15	Part 4: Testing and measurement techniques - Section 15: Flickermeter - Functional and design specifications
IEC 61000-4-27	Part 4-27: Testing and measurement techniques - Unbalance, immunity test for equipment with input current not exceeding 16 A per phase
IEC 61000-4-28	Part 4-28: Testing and measurement techniques - Variation of power frequency, immunity test for equipment with input
IEC 61000-4-29	
IEC 61000-4-34	
SEMI F47	
ITIC curve	

Standards	Descriptions
IEEE Std 519	IEEE Recommended practices and requirements for harmonic control in electrical power systems
American Bureau of Shipping 150	Guidance notes on control of harmonics in electrical power systems
Engineering Recommendation G5/4-1	Planning levels for harmonic voltage distortion and the connection of nonlinear equipment to transmission systems and distribution networks in the United Kingdom
IEC 61000-3-2	Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
IEC 61000-3-4	Part 3-4: Limits - Limitation of emission of harmonic currents in low-voltage power supply systems for equipment with rated current greater than 16 A
IEC 61000-3-12	Part 3-12: Limits - Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16A and ≤ 75A per phase
IEC 61000-4-7	Part 4-7: Testing and measurement techniques - General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto
IEC 61000-4-13	Part 4-13: Testing and measurement techniques - Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests

Summary of PQ phenomena according to IEEE Std 1159



Summary of PQ waveforms



Meet the Facility Manager

and his power quality (PQ) challenges

I can not easily share with my managers the impact of PQ in our operations

I need a to have a simple continuous view of my facility's power supply quality

Is my investment in Mitigation and cap banks paying off? Are they operating normally?

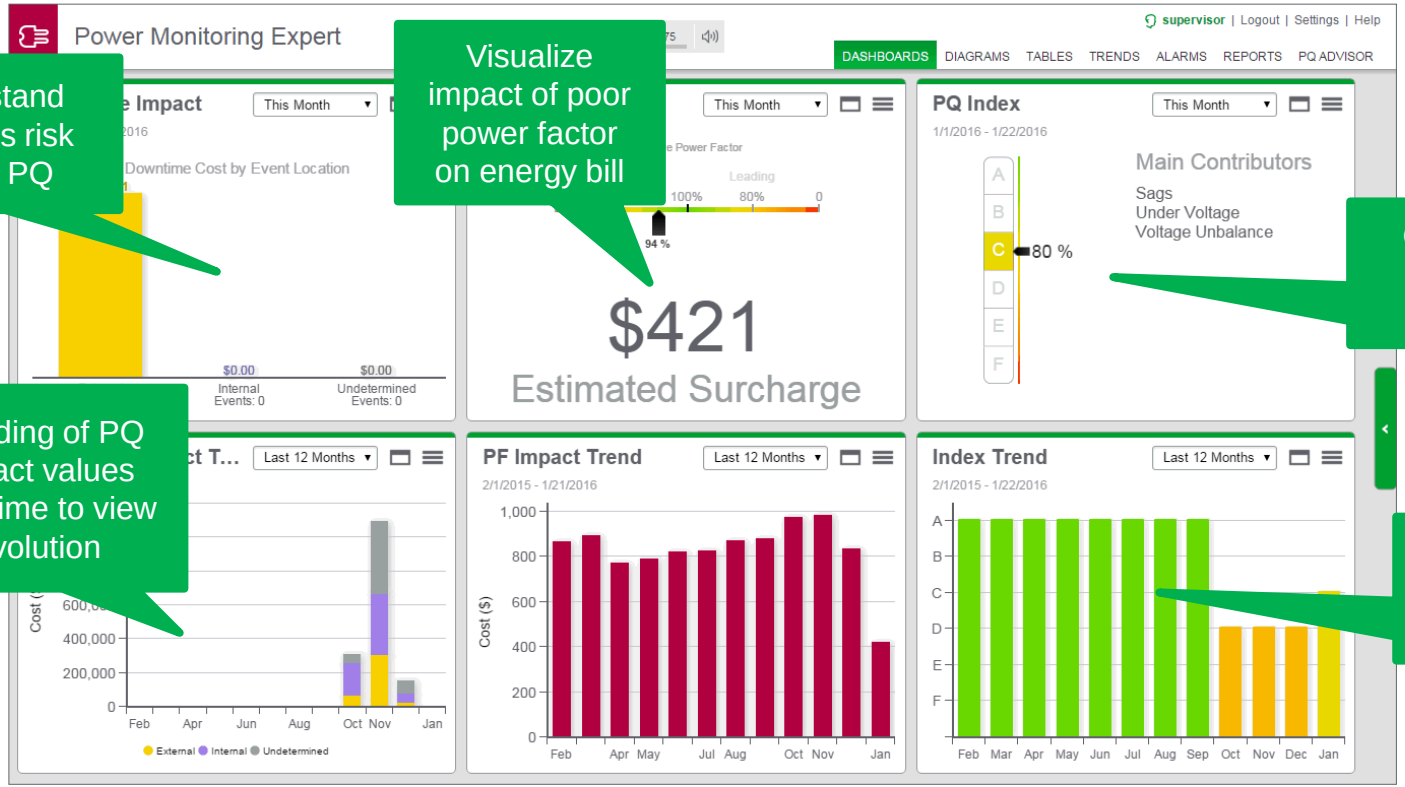
Power Quality is complex and I don't have the time to investigate

I am aware we have PQ issues but not sure where, when and how they are impacting my facility

PQ auditors provide complex reports that nobody understands, I need something easy to read

The Answer: Simple PQ Dashboards and Indicators

Simple visual indicators to understand power quality impact on operations



Understand business risk due to PQ

Visualize impact of poor power factor on energy bill

Overall PQ Rating indicator

Trending of PQ impact values over time to view evolution

Baseline your facility's PQ and track evolution

Easily Accessible PQ Event Insights

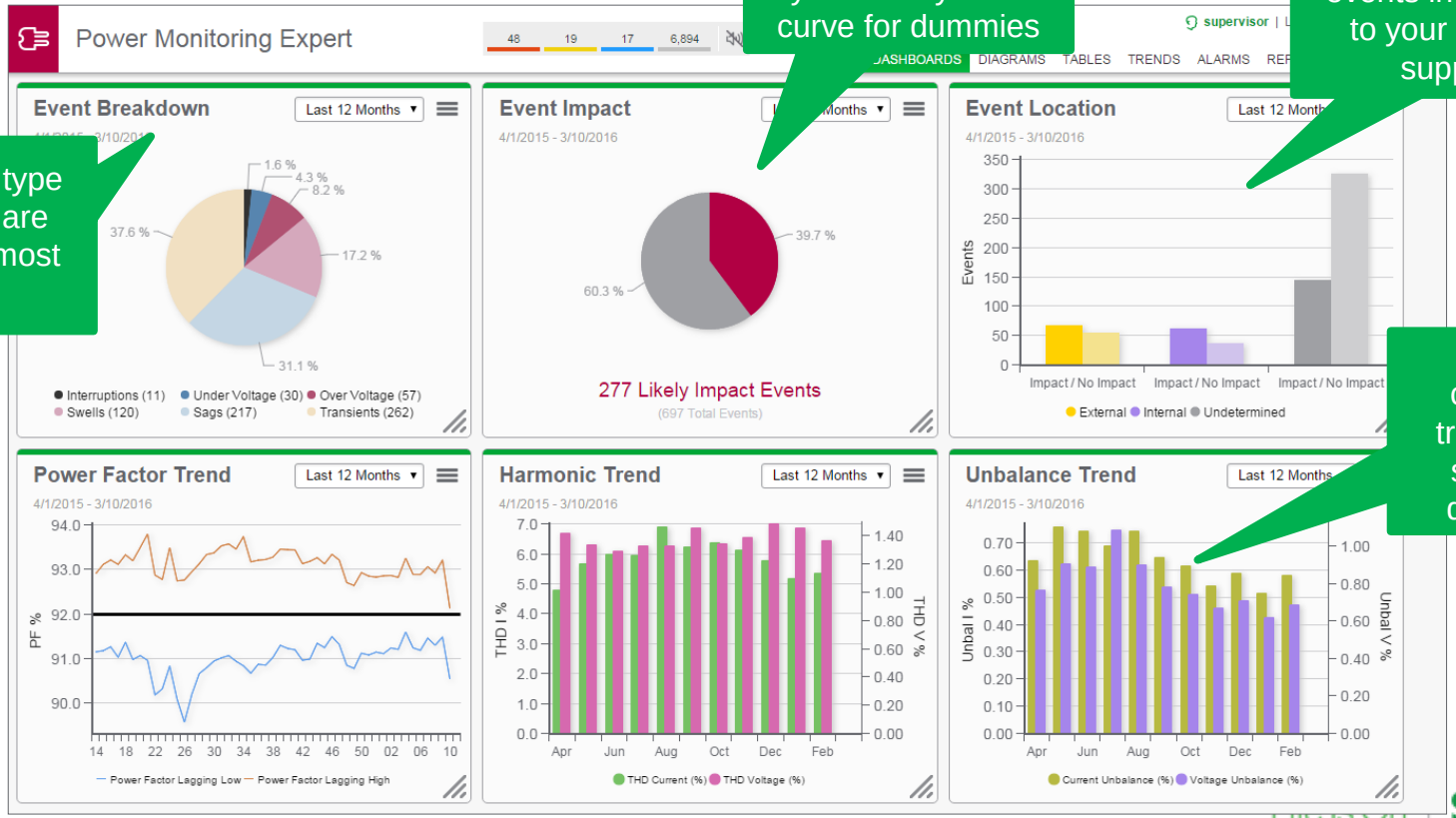
Automated analysis of PQ events

Identify events with potential impact to your facility. ITIC curve for dummies

Determine location of the events in relation to your power supply

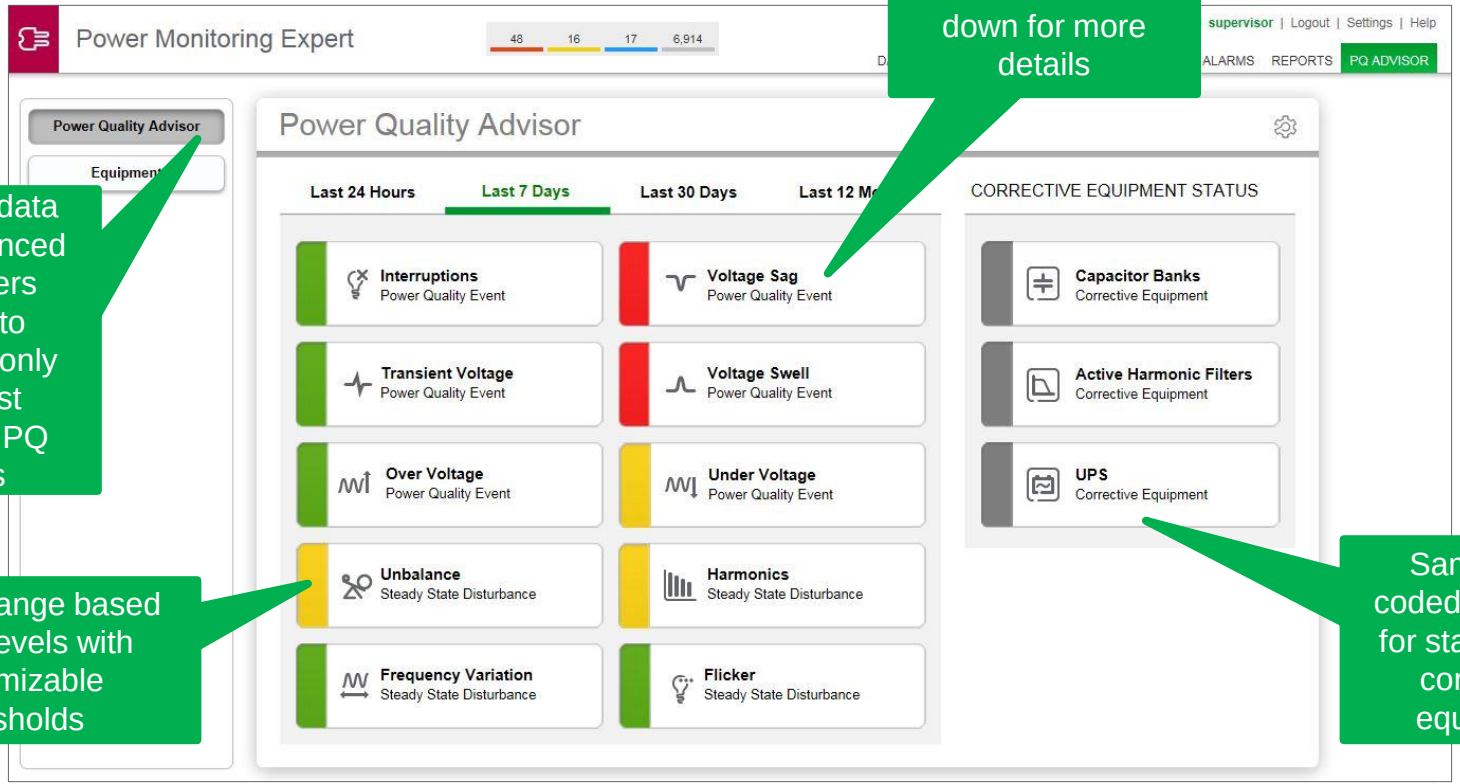
View what type of events are occurring most often

End user configurable trends to track steady state disturbances



Simple Green, Yellow, Red PQ indicators

Quickly identify the disturbances affecting your operations



Click on each indicator to drill down for more details

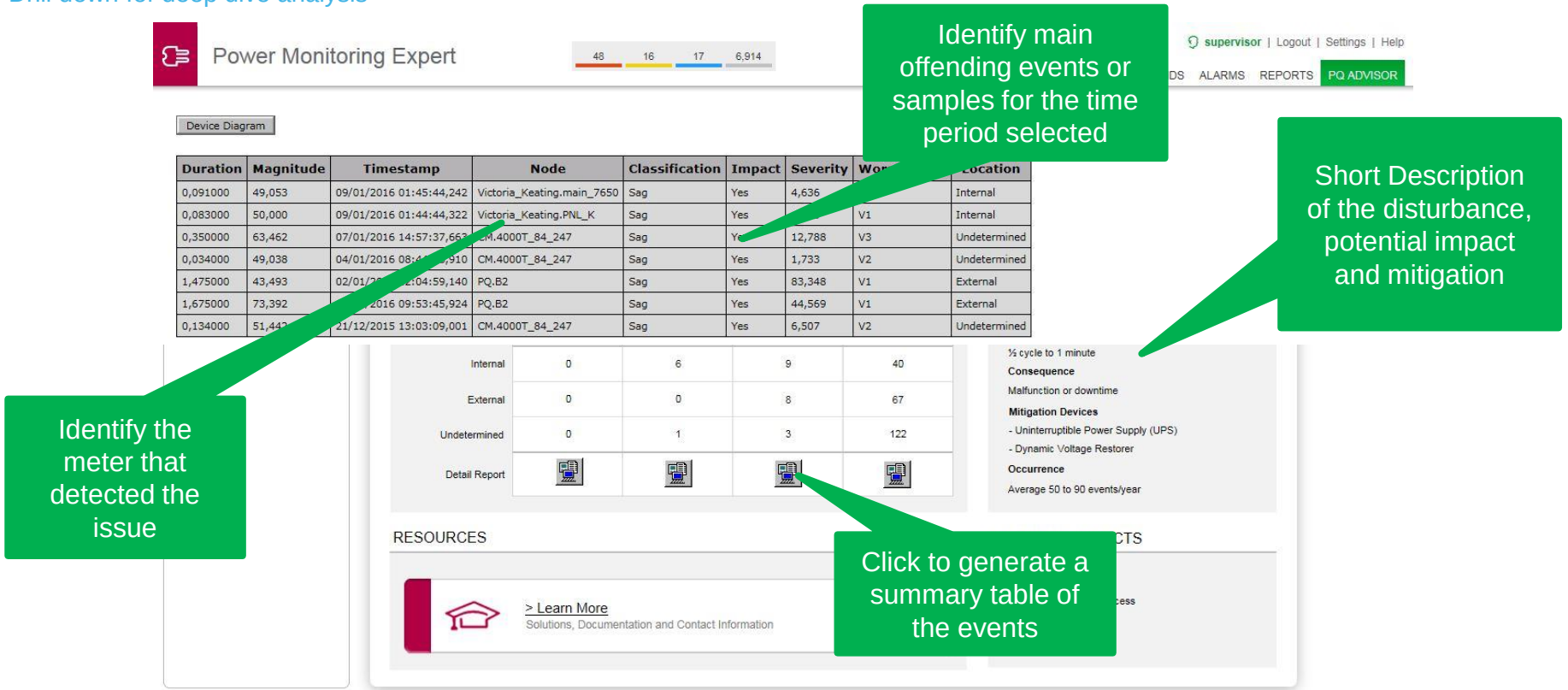
Complex data from advanced PQ meters filtered to highlight only the most common PQ issues

Colors change based on PQ levels with customizable thresholds

Same color coded indicators for status of PQ correction equipment

Simplified PQ Statistics

Drill down for deep dive analysis



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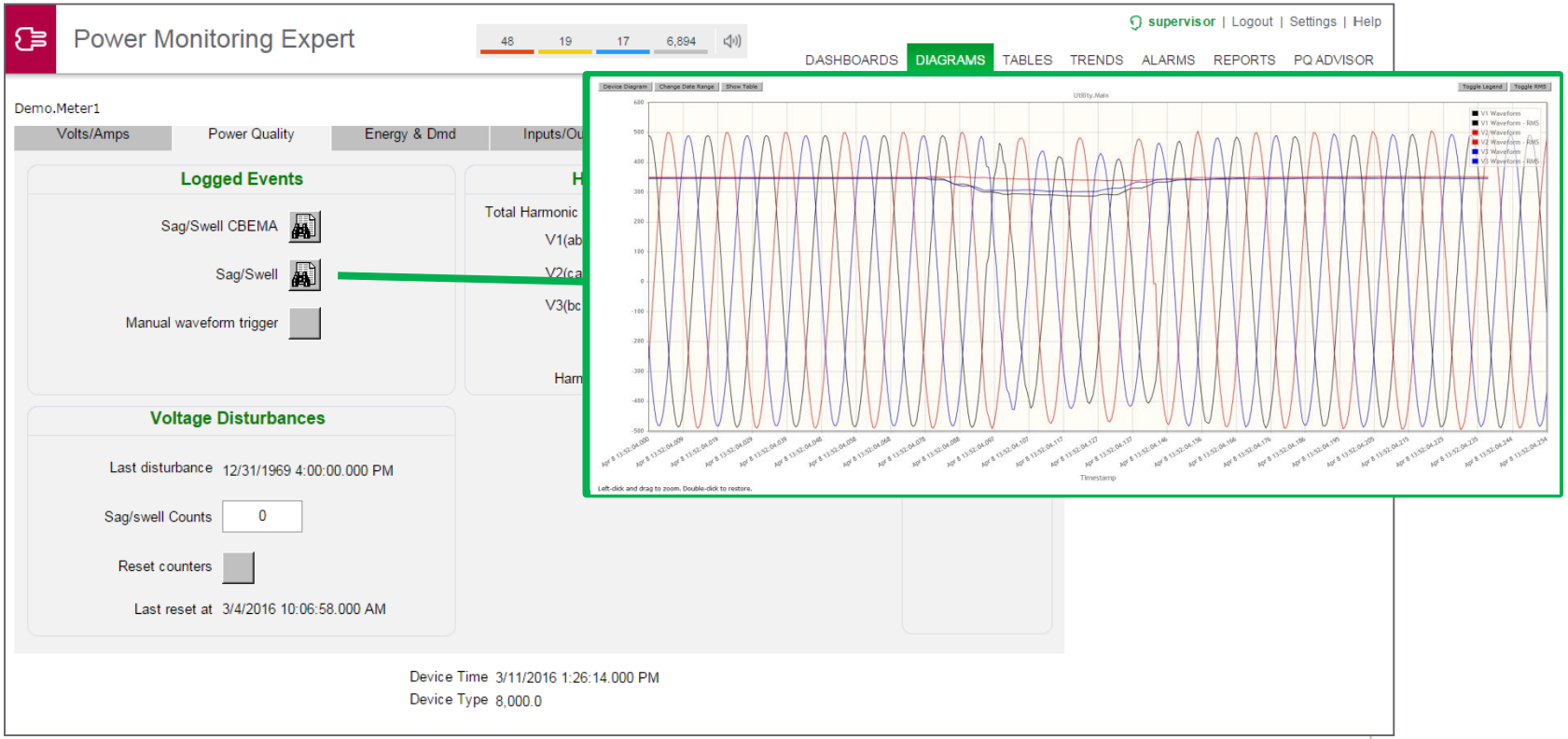
Analyze events in detail

Waveform capture analysis



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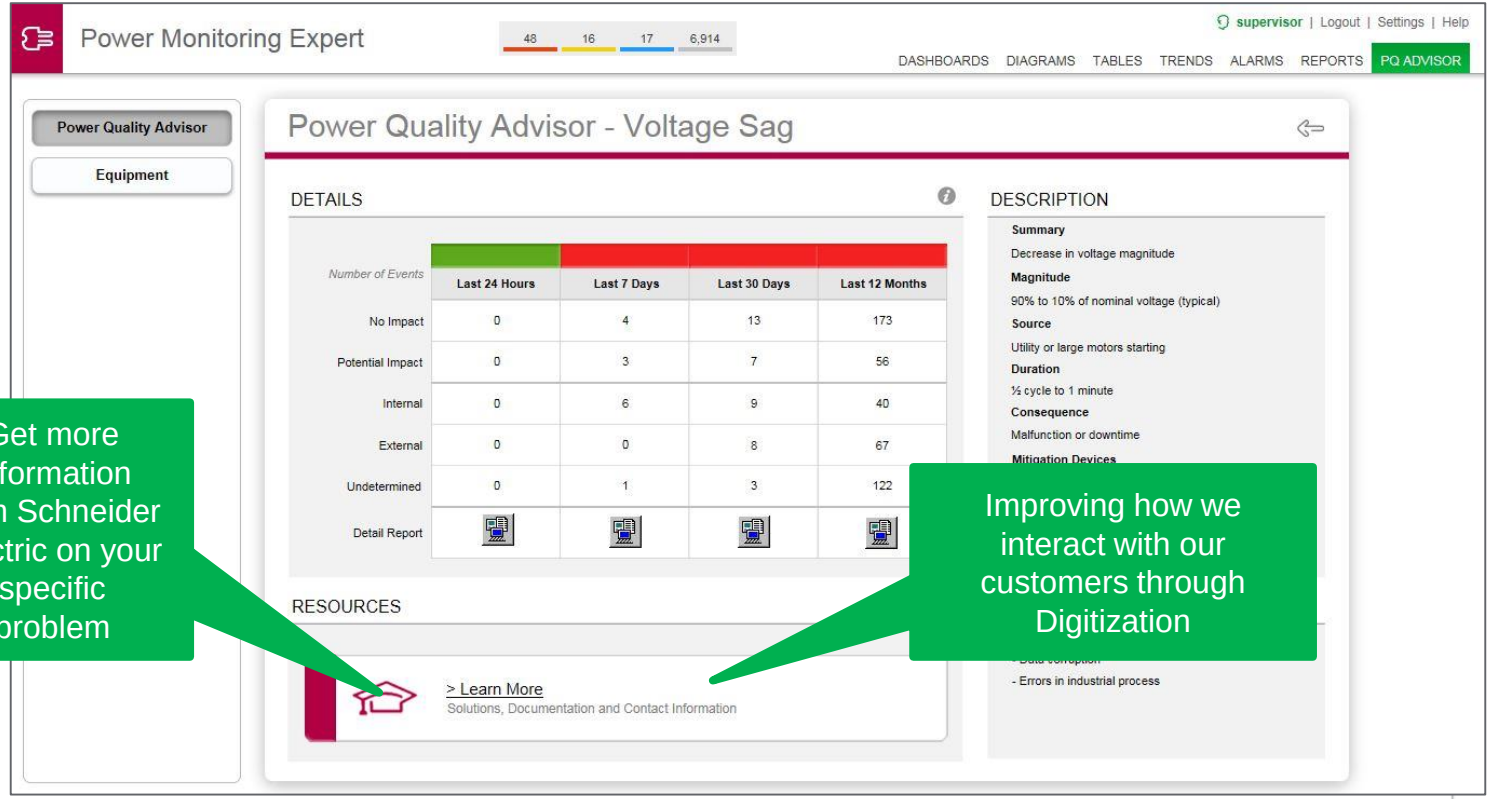
Want to learn more?

Click to learn more about possible solutions



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Digital Solution Advisory for your Power Quality Problems

One click gives you access to information related your problem directly from the software interface

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The Exchange

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Power Quality

créé par Michel Grando le 22 mars 2016 08:06, dernière modification effectuée par Michel Grando le 31 mars 2016 06:57

In an ideal three phase power system, the voltages are at their nominal magnitude, at their nominal frequency, perfectly balanced and with perfect sinusoidal waveform. Any disturbance on one of these parameters (magnitude, frequency, waveform, symmetry) is classified as a Po **Quality problem**. There are a number of different power quality disturbances, all of them can have a negative impact on the electrical syste equipment.

> Causes

The source of a power quality problem can be the utility, but it also can be your n your facility.

for business downtime, Equ

> Solutions

Different types of solution exist. They may incl disturbances, settings modif en selection Equipment less sensitive to power quality distur

A correct diagnostic is key before choosing an effect The usage of a power quality monitoring system will allow capturin d analyzing power quality disturbances in order to take the right decision and design the right so

Schneider Electric's offers	Technical publications / References / Videos	Ask the Community!
[Brochure] Power management. solutions for power-critical facilities	[White Paper] - Power Quality Management Methodology	Click to ask your question
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[Brochure] VarSet Low voltage capacitor banks	[Video] Karl's Corner - Power Quality - Introduction	
[Brochure] MGE Galaxy 5000	[Video] Simplifying power quality	
[Brochure] MGE Galaxy 5500	[Video] Energy Efficiency	
[catalogue] Active harmonic filtering and electronic VAR control		

130 Affichages | Catégories: | Tags (modifier): pqadvisor, pq, power_quality, power_quality_advisor

Version 2

Signet 0

Recommandation 1

nclure dans votre profil

INDICATEURS D'IMPACT

Portée générale 0%

Impact 94

Sentiment Positif 7

Afficher plus

Description of event and typical occurrence, causes, consequences & solutions

Info on SE portfolio to address their specific PQ issues

White papers, case studies, videos to inform on applications of solutions

Consult with the experts in power quality and get the right solution for your specific needs

Close the Loop

Key part of a continuous PQ monitoring framework

PME + PQ Advisor + PQ Meters

Measure

Analyze

Improve

PME + PQ Advisor + PQ Experts

Mitigation and correction equipment

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Questions?