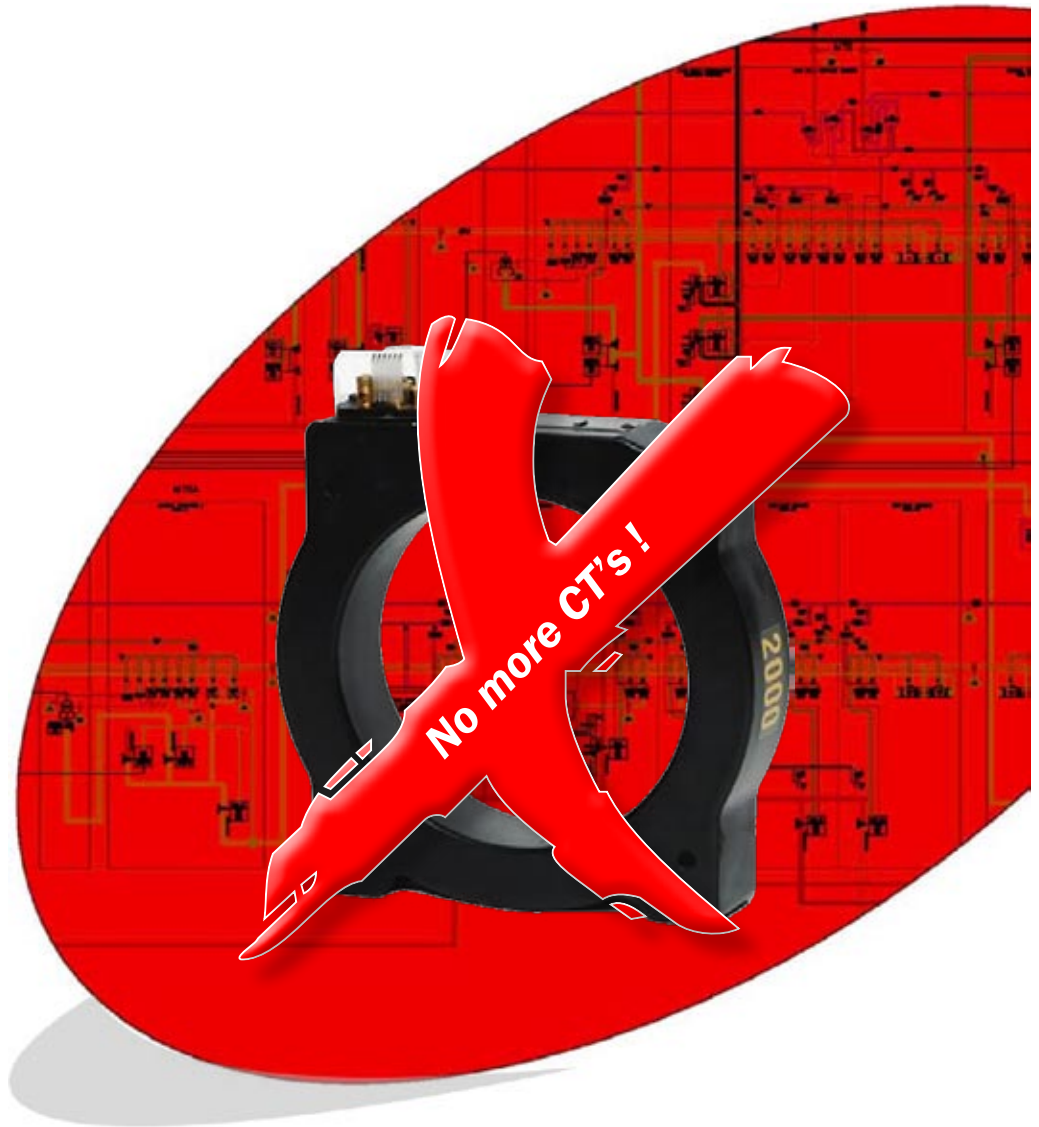


# The BENJAMIN Power Quality Analyzer™

Transforming Power Quality Measurements

The *next generation - cost effective* Power Quality Measurement System



Since 1911

W. A. Benjamin Electric Company  
Manufacturers of Quality Electrical Power Distribution Equipment

# The BENJAMIN Power Quality Analyzer™ Revolutionizing the Quality of Power Measurements

## WHAT IS THE BENJAMIN POWER QUALITY ANALYZER (PQA)?

The Benjamin PQA is a comprehensive power quality metering system factory-integrated into all circuit breakers within our many electrical products including; Switchgear, Switchboards, Panelboards and PDUs.

## HOW DOES THE BENJAMIN POWER QUALITY ANALYZER (PQA) MEASURE POWER WITHOUT THE USE OF CT'S OR PT'S?

By utilizing directly-connected microelectronics which provide highly accurate measurement of electrical power data. These innovative microelectronics are capable of measurements from zero to the highest limits of stress the system may encounter.

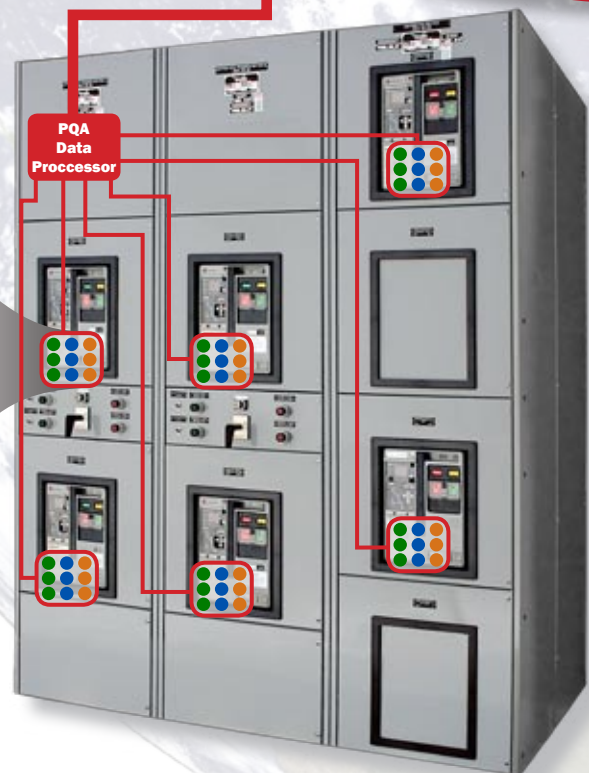
## WHY USE THE BENJAMIN POWER QUALITY ANALYZER (PQA)?

**The Benjamin PQA enables complete electrical system visibility.** By providing infinite details of the operation, through monitoring of all system breakers, the Benjamin PQA provides a comprehensive analysis of the complete electrical system in parts and as a whole. This assists with specific identification of system problems and allows intelligent decisions for electrical usage. Presently, electrical power quality is relegated to the main breaker and select few processes, which limits the analysis of the electrical system.

### Measured Power Data (typical for all system breakers)



Typical Circuit Breaker



Power Quality Analyzer  
Power Quality Analyzer





## The BENJAMIN Power Quality Analyzer™ A World Ahead of Traditional Power Metering Systems

### WHY USE THE BENJAMIN POWER QUALITY ANALYZER (PQA)? - *continued*

**The Benjamin PQA implements a single-point ground reference.** This allows expanded capabilities which provide a system-based analytical infrastructure. By implementing a ground reference paradigm, greater visibility and flexibility is easily achieved. This enables monitoring of neutral conditions as well as insulation breakdown interrogation.

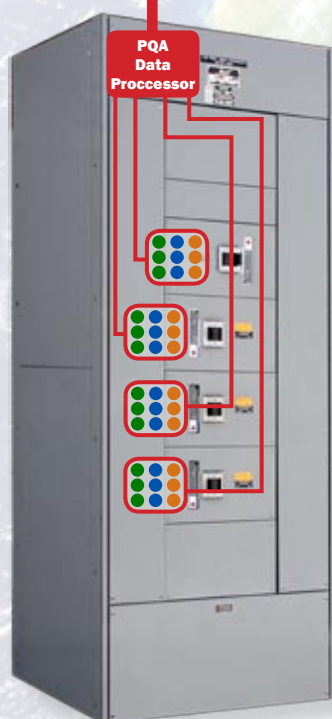
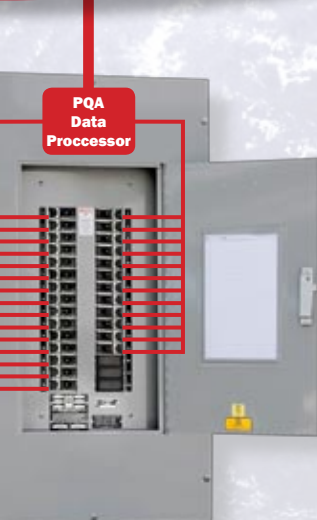
**The Benjamin PQA can increase operational personnel safety.** Event logging and subsequent reports are available to demonstrate root-cause analysis. The Benjamin PQA provides answers to a breakers' operation to determine if the breaker is nuisance tripping or tripping due to an actual load issue.

**The Benjamin PQA enhances operational effectiveness.** Within a given operation, having the viewpoint of the entire electrical system allows the plant to operate more effectively. Currently other product offerings have been unable to provide this functionality due to economic, physical, and software limitations.

**The Benjamin PQA extends the ranges of current and voltage measurements.** By integrating direct current and voltage measurements, we extend beyond the normal ranges with accuracy to capture transient voltage, overcurrent, and fault current events.



alyzer Software  
ality Data



### WHY CHOOSE BENJAMIN ELECTRIC PRODUCTS?

**W.A. Benjamin Electric Company has manufactured quality-driven products for over 97 years!** We have based our business model on quality, in service, products, and technology. We have been considered a technological leader for decades. The Benjamin PQA is a revolutionary extension of our time-tested methodologies.

**The Benjamin Power Quality Analyzer will recreate how electrical power is measured and utilized!** Never before has a system been able to harness the visibility of an electrical power distribution system. The simple application of Benjamin PQA hardware and software tools truly enhance how every aspect of the electrical infrastructure is viewed beyond the inaccurate summary-level that is available today. This is not "just another metering system". This system is potentially one of the greatest innovative tools for the electrical power industry. **This is THE BENJAMIN POWER QUALITY ANALYZER!**

# BENJAMIN Power Quality Analyzer™

## Features

Inputs, Outputs and Control Power
Three-phase / Single-phase / DC
Direct Measurement of Current
Direct Measurement of Voltages, Phase and Neutral
Voltages Analyzed to Ground Reference
Current Transformer-less Implementation
Voltage Transformer-less Implementation
Completely Microelectronic-Based Componentry
Discrete and Serial In / Out Options
Single-Ended DC or UPS Power supply options
Power and Energy Measurements
Voltage, Current, Frequency, Power Factor
Power / Apparent / Real / Reactive
Energy / Demand / Import / Export
Voltage Accuracy / Linear from 0 through Surge Levels
Current Accuracy / Linear from 0 through Rated Fault Currents
ANSI, or better, energy accuracy class 0.2, full spectrum
Power Quality Analysis
Breaker node, multi-breaker nodes and System selectivity
Continuous Monitoring / First Event Capture
Compliance Monitoring
Flicker Measurement
High-speed Transient Disturbance Capture (16.28uS)
Transient Capture / 1024 Samples per Cycle
Sub-Cycle Disturbance Detection
Sag/Swell Monitoring
Harmonics Measurement
Uptime Measurements (9's)
Waveform Capture
Waveshape Analysis
Waveshape Alarm
Contact Resistance Monitoring
Conductor Impedance Monitoring and Analysis
Phasor Diagrams / Nodal and Grouped
Vector Analysis
Phase and Ground Current Coordination / Analysis

Data and Event Logging
Selectable / Nodal or Summary Levels
Trending
Revenue Billing
Tenant Billing
Minimums and Maximums
Events
Configuration Change Notice
Timestamp Resolution (1 mS)
System Time Synchronization
Setpoints, Alarms and Control
Local Graphical Touchscreen Annunciation
Paging / Texting / email
Triggered Logging
Triggered Output Control Options
Special Features
Factory-Configured Graphical Interface
Factory Start-up
Factory-downloadable Updates
Fault-Tolerant Hardware / Software
Communications
Firewalled WAN Ethernet Port / Screen Server
No Client-side Software
DOD-Based Multi-Level Security
Linux-kernel Operating System



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