

## Data Sheet

# PQ1 Power Quality Sensor



## Overview

The compact PQ1 Power Quality Sensor detects power quality problems on your AC power mains. It operates 3 normally closed relays: impulse/swell, major sag, minor sag.

The PQ1 is extremely cost-effective, less than 10% of the cost of a traditional power quality monitor. It quickly pays for itself by reducing service calls.

Combine 3 PQ1 for 3 phase applications.

## Features

- Detects the following: sags/dips, swells, interruptions, and impulses (down to 500 nanoseconds)
- Comes pre-programmed with standard thresholds: SEMI F47, ITIC, CBEMA, IEC, ZA, MIL-STD, EN50160, IEC 61000-2-4, IEC 61000-4-11 and more
- No software and/or computer required
- Simple to install; AC in, relay contacts out

## Application

- Automatic manufacturing systems, semiconductor tools
- Elevator controls
- Medical equipment
- Servers and data centers
- Machine tools, HVAC controls
- SCADA systems, PLC systems

# Product Description

## TECHNICAL SPECIFICATIONS

<b>Nominal Voltage Inputs</b>	100 / 110 / 120 / 200 / 208 / 220 / 230 / 240 Vrms May be installed phase-to-neutral or phase-to-phase, provided nominal voltage is in range Installation Category: CAT II
<b>Frequency</b>	50 / 60 / 400 Hz
<b>Nominal AC Current</b>	Minimum < 10 mA   Maximum < 100 mA
<b>Relay Outputs</b>	300 mA, 30 Vac or Vdc, normally closed dry relay contacts 3 Relay output: Impulse/swell, minor sag, major sag Contacts open when a power disturbance is detected, recloses at end of the event Minimum duration of open contacts is 3 seconds, regardless of the event duration
<b>Built-In Standard Thresholds</b>	SEMI F47, ITIC, CBEMA, IEC, ZA NRS048, JN (Japan), MIL-STD 704E (Aircraft), MIL-STD-3900 (Shipboard), IEC 61000-2-4 (Class I, Class II, Class III), IEC 61000-4-11, EN50160 (Utility), EN50082-1 (Residential/Commercial), EN50082-2 (Industrial)
<b>Relay Contact Isolation From AC Input</b>	1500 Vrms, provides "Basic Insulation" per IEC 61010
<b>Environmental</b>	Indoor use Temperature range: 0 to 50° C (32° to 122° F) Humidity: maximum of 80% at 31° C (88° F), 50% at 40° C (104° F) Pollution degree 1 (no pollution or only dry, non-conductive pollution occurs)
<b>Impulses</b>	Detects impulses down to 500 nanoseconds
<b>Rms Threshold Accuracy</b>	0.5% typical, 1.5% maximum
<b>Impulse Threshold Accuracy</b>	450 Vpk typical (min/max: 400/500 Vpk)
<b>Rms Voltage Immunity</b>	Max 300 Vrms, exceeds levels of IEC 61000-6-2 section 4.4 and 4.5
<b>Fast Transient Immunity</b>	+/-2 kV, 5/50 ns, 5 kHz rep (testing std IEC 61000-4-4) Exceeds levels of IEC 61006-2 section 4.2
<b>Surge Immunity</b>	+4 kV, 500 A, 100 kHz ring wave (testing std IEC 61000-4-5) Exceeds levels of IEC 61006-2 section 4.3
<b>Rf Common Mode Immunity</b>	10 V, 150 to 80 MHz, 1 kHz AM (testing standard IEC61000-4-6) Exceeds levels of IEC 61006-2 section 4.1

PRODUCT	PART NUMBER
PQ1 Power Quality Sensor	PQ1-01-001

## Contact Us

### Canada

7850 Trans-Canada Highway  
Saint-Laurent (QC) H4T 1A5  
1 (877) 333-8392

[sales@powerside.com](mailto:sales@powerside.com)  
[powerside.com](http://powerside.com)

### United States

980 Atlantic Ave  
Alameda, CA 94501  
1 (888) 736-4347



Version 2 – 05/01/2021

**P WERSIDE**®

All our energy, in your power