PQM4 Series

Type 2 Surge Protective Device/SPD

Features:

- **UL 1449 Fourth Edition listed**
- **100kA – 300kA per phase ratings**
- **Type 2: UL 1449 4th Edition, CSA 22.2 No. 269.2, UL 1283**
- **20kA Inominal (I_n)**
- **200kA SCCRs**
- **Complies with UL 96A 12th Edition Master Label requirements for lightning protection systems**
- **Voltage specific design – highly configurable**
- **All MOV suppression elements monitored**
- **All modes of protection**

Performance Specifications

Surge capacities (L-N, L-G, N-G)
100kA per phase
200kA per phase
300kA per phase
UL 1449 Fourth Edition type 2 SPD, cUL, UL 1283
UL 1449 Fourth Edition tested Inominal (I_n): 20kA
UL 1449 Fourth Edition tested SCCR: 200kA
UL 1283 Type 2 includes AC sinewave tracking filter with EMI/RFI filtering up to -50dB from 10kHz to 100MHz
Repetitive impulse: 10,000 hits
Less than 1 nanosecond response time

Diagnostic Monitoring

100% monitoring – every MOV is monitored, including N-G
Green LED status indicator per phase
Red LED service indicator
Audible alarm with silence button
Test function: toggles red service LED, audible alarm and dry contact
N-G overvoltage detection
Phase monitoring (toggles LED and dry contacts)
Form C dry contacts, 24V, 2A

Design Attributes

Designed, manufactured and tested consistent with:

- ANSI/IEEE C62.41.1-2002, C62.41.2-2002, C62.45-2002, C62.62-2010, C62.72-2016, IEEE SA 1100-2005 (Emerald Book)
- NEC® Article 285
- NEC® Articles 620.51(E), 645.18, 670.6, 695.15, 700.8 and 708 requiring SPDs
- UL 96A and NFPA 780 lightning protection

High energy parallel design rated for service entrance applications
For external mounting on electrical distribution equipment, switchgear, switchboards, motor control centers, panelboards, transfer switches
Individually fused and thermally protected MOVs
Solid state bidirectional operation

Physical Specifications

Relative humidity range: 0 - 95% non-condensing
Operating frequency: 47 - 63Hz
Operating temperature: -35° C (-31° F) to +85° C (185° F)
Weight: 4.5 lbs (2.1 kg)
NEMA 4X polycarbonate enclosure
Standard size: 9.6” x 4.9” x 4” (244mm x 124mm x 102mm)
Lug size: #12 - #10 AWG
Includes 12 in. long ½ in. flexible conduit and connector
Typical connection: #10 AWG and 30A breaker

Quality, Standards and Validation

Type 2: UL 1449 Fourth Edition, CSA C22.2 No. 269.2, UL 1283
UL file: VZCA.E324279 at www.UL.com
RoHS-compliant
Operational test performed before shipment
ISO 9001:2008 quality management system
ISO 17025:2005 laboratory qualification

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PQ Global PQM Configurator

PQM4 — Model

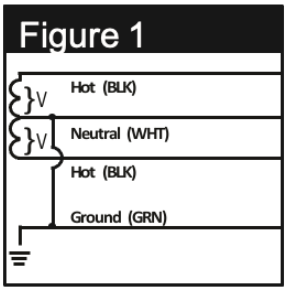
Voltage
- TE01 = 120/240 Split
- TE02 = 208/120 Wye
- TE04 = 480/277 Wye
- TE05 = 480 Delta
- TE06 = 240 Delta

kA Rating
- 10 = 100kA
- 20 = 200kA
- 30 = 300kA

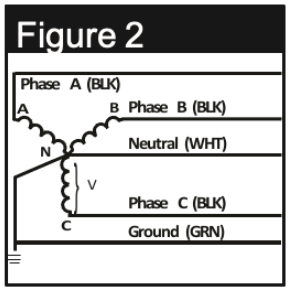
Enclosure
- C = External RJ-45*
- J = Internal RJ-45

* *De-rates enclosure to NEMA-1*

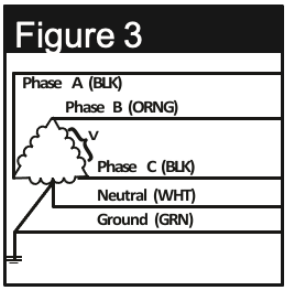
UL 1449
- 2M = Type 2



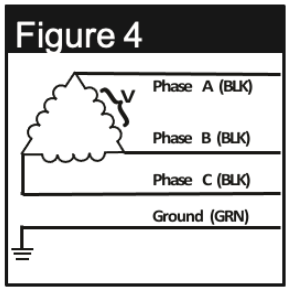
SPLIT
2 Hots, 1 Neu, 1 Grnd



WYE
3 Hots, 1 Neu, 1 Grnd



HI-LEG DELTA (B High)
3 Hots, (B HIGH), 1 Neu, 1 Grnd

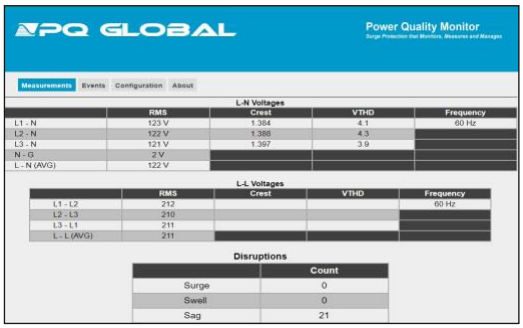


DELTA & HRG WYE
3 Hots, 1 Grnd

Performance Data

Common Power Systems			UL 1449 Fourth Edition Test Data						
			Voltage Protection Ratings (VPR - 3kA)				I_n	SCCR	MCOV
			L-N	L-G	N-G	L-L			
01	=	120/240V Split Phase	800	800	800	1200	20kA	200kA	180
02	=	208Y/120V 3Ø Wye	800	800	800	1200	20kA	200kA	180
04	=	480Y/277V 3Ø Wye	1200	1200	1200	2000	20kA	200kA	320
05	=	480V 3Ø Delta	-	1800	-	2000	20kA	200kA	550

Embedded Web Pages



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Monitoring System Technical Specifications

Voltage	**Phase to Phase Neutral to Ground/PE Phase to Neutral**
Accuracy	±1%
Range	80V-600V
Average, Unbalance, Crest Factor	Included
Frequency	**Included**
Accuracy	±1%
Range	45-67 Hz
Voltage Total Harmonic Distortion (VTHD)	**Line-to-Neutral Line-to-Line**
Range	60-850 Hz
Harmonics	**Line-to-Neutral Line-to-Line**
Range	Fundamental – 13th
RMS	±1%
SPD Health Status	**Percent Remaining**
I/O	Included
Relay Outputs	Class 2 - 24VDC / 24VAC at 2 Amps
RJ-45 Port	Ethernet
Events	**Power Quality & System**
Event Logging	8GB / 2000+ Events
Date/Time Stamp with Duration/Magnitude	Included - All events
Surge Counter (Category C, B, A), Sag Counter, Swell Counter, with reset	Included
Sample Rates	
Surge Sample Rate	250 kHz (4,166 Samples per cycle @ 60 Hz)
Other Measurable Events	10 kHz (167 Samples per cycle @ 60 Hz)
Display	LCD 128x64
Communications	MODBUS TCP Serial MODBUS Ethernet Form C

Features and Benefits

Power Quality

Ability to monitor voltage at connected panel and track system anomalies such as transients, surges, swells and VTHDs, to mitigate the destructive effects of these anomalies.

Real Time Measurements

Storage of over 2000 events/reports allows for historical analysis.

Event Logging

User configurable alarm thresholds, time/date stamp, duration and magnitude of events offers multiple data points for trend analysis.

Communications

Three access channels - Ethernet, MODBUS TCP or Serial MODBUS - allow for easy access to data.

Embedded Web Page

Convenient access to present and past event data from any device with internet connection.

System Analysis

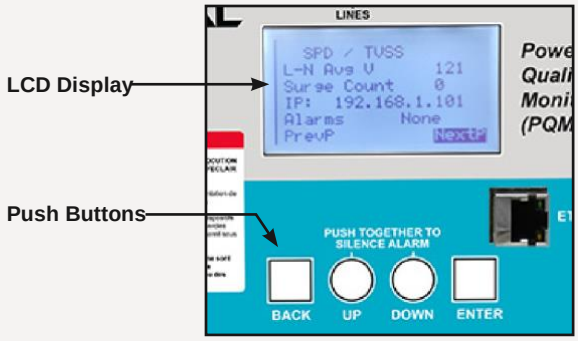
Manage power system with statistical summaries & reporting software, for proactive system analysis.

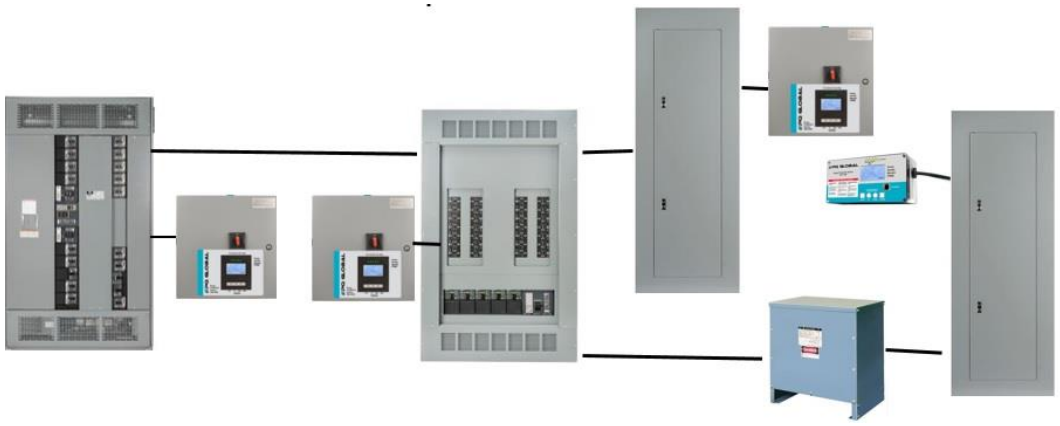
Email Notifications

Set automatic email notifications to alert up to three separate users with anomalies recorded, offering real-time updates.

LCD Display with Push Buttons

Offers local interface with push button navigation for user friendly operation.





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