



Power Quality Mitigation Equipment Vendors and Power Quality Service Providers

The purpose of this list is to assist in locating vendors for power quality mitigation equipment as well as power quality service providers. This list was composed over many years and we try to keep it up to date; however, this is not always possible. This is by no means a complete listing. Not only do vendors/manufacturers come and go; names, addresses, and phone numbers may change through time. We will attempt to keep this list as current as we have knowledge of the changes. If you find any information inaccurate or wish to be added to our list, please send an Email message to PowerQualityWeb@pge.com

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- 3) This list of vendors and consultants is suitable to any particular user's circumstances.

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A

ABB Control, Inc., Dynamic compensation, capacitors, harmonic filters
ACR Systems, Inc., 120 volt wall plug power monitor
Active Power, manufacturer of CleanSource flywheel, up to 500kW of DC or 900kW of AC
AEMC Instruments, current probes
Albercorp, battery monitors
Ametek Power Instruments
Amuneal Manufacturing Corporation, EMF shielding
Applied Power Technologies (APT), manufacturer's rep, PML
Arteche PQ, Inc., PQ mitigation equipment
ASCO Power Technologies, LP, power transfer switches
ASIRobicon, VFD manufacturer
AVO International, Megger, Biddle, Multi-Amp, States, Metrosonics

B

Baker Instrument, manufacturer of motor tester/analyzers
Basler Electric, manufacturer of relays and generator controls
Bender, manufacturer of ground fault protection devices
Brill Electronics, vendor for FLUKE
Buckles-Smith, electrical equipment distributor and PQ mitigation equip.

C

Caterpillar electric power, Cat-UPS, flywheel energy storage
Chevron Energy Solutions, custom power quality and reliability
Chloride Power Protection, medium to large UPS manufacturer
Citel Incorporated, Surge Protection Devices – AC, DC, Data and Coaxial
Computer Air/Power Systems Inc. (CAPS), manufacturer's rep
Controlled Power Co., manufacturer of rectifiers, regulators, UPS
Copper Development Association, Power Quality Primer
Cos Phi, Inc., power quality and power factor correction solutions
Cupertino Electric Inc, design/build construction, data centers, manufacturing
CURRENT Group
Cutler-Hammer, PQ hotline, breakers, capacitors, engineering
Cyberex, Inc., fast switches and regulators

D

Dahl-Beck Electric
Danfoss, manufacturer of drives, small to medium size
Data Power Monitoring Corp.
Dehn, Inc., Lightning and surge protection
Detroit Diesel Corp., a subsidiary of Daimler Chrysler AG
Dewetron, Inc., monitoring instruments
Diesel Service and Supply, Inc., new/used diesel generators
Dranetz-BMI, manufacturer of power quality/energy monitors

E

Eaton Powerware
EFI Electronics Corp., Surge Protection Devices
Electrical Equipment Sales Co., drives, capacitors, line reactors
Electrical Reliability Services, Inc., distribution testing and maintenance, an Emerson subsidiary
Electric Motor Supply, new and rebuilt motors
Electro Industries/Gauge Technology
Electrotek Concepts, a consulting engineering company, software
Emerson Control Techniques, a division of Emerson Industrial Automation
EPRI
Erico, Inc., cadwelding, lightning, SPDs and grounding devices

F

Field Management Services Corporation, EMF shields
Filter Concepts, EMI power filters
FLIR Infrared Camera Systems

G

GE/Ultravar Capacitors and Controls
GE Power Systems, motor testing
Graybar, electrical equipment distributor

H

Haefely Trench, design and manufacture high voltage electrical equipment
Hammond Power Solutions, transformers
Harger Lightning & Grounding
Harmonics Limited, LLC, harmonic suppression
Harold Wells Associates represents Russelectric
Hioki USA Corp.
Hitec Power Protection, formerly HOLEC HH, dynamic diesel UPS

I

i-Grid, incredibly low cost web-based PQ & reliability monitoring system
Industrial Electric Service Co., lumber mill motors/drives/controls
Infrared Solutions, infrared camera
IPC Power Resistors International Inc., manufacturer of high power elect. Resistors

J K

JDS Products, Inc., prevents automatic restart
Katolight, diesel & gas generator sets from 15 to 2800kW
Kohler Power Systems, gas & diesel generator sets from 6 to 2000kW

L

Land Instruments International, infrared cameras
Lea International, TVSS solutions
Leviton Manufacturing Co., SPD manufacturer
LING Electronics, manufacturer of 400Hz solid state frequency converter

M

Magnetic Shield Corporation
Majorpower Corporation
McLaughlin Associates, large UPS manufacturer rep
Mechanical Analysis/Repair Inc., dba Martech
Metrosonics/AVO/Megger, manufacturer of utility recording voltmeters/power analyzers
MIRUS International, Inc.
MOORE Syndication, distributor of elect. Safety info & education tools
MTE Corporation, line reactors
Myron Zucker, Inc., capacitors and harmonic filters

N O

OEM Power Systems
ONEAC Corporation, (manufacturer), isolation transformers and small/medium UPS
Optimal Power Solutions

P

PANAMAX (manufacturer), surge protection devices
PdMA corporation, motor testing hardware and software
PEAC, Power Electronics Application Center, field investigations (**see EPRI**)
Piller, Inc., rotating UPS
Polyphaser Corporation
Powell Electrical Manufacturing Company, manufacturer of harmonic filters & p.f. correction
PowerCET, Consulting, Education & Training
Powerlink Corporation, manufacturer's rep
Power Distribution, Inc., manufacturer of PDUs, static transfer switches
Power Innovations International, Inc., UPQ/UPS backup solutions
Powersmiths International Corp., harmonic suppression

P...cont.

Power Measurement, PQ monitors

Power Quality Solutions, Inc., Coil-Lock hold-in device

Power Standards Laboratory, manufacturer of Energy + PQ Monitor Devices, Voltage Sag Testing Services Semi F 47

Power Survey International, Inc., power factor correction equipment

Power Systems & Controls, rotary UPS and MG

Powerware, formerly Exide Electronics, UPS manufacturer

Precise Power Corporation, motor generator, written pole

Q R

Radar Engineers, RFI/TVI locators

Raytek, infrared/temperature measurement

Reliable Power Meters, PQ monitors

Russelectric, Inc., power control panels

S

SatCon Power Systems, manufacture medium voltage static switch/regulator; rotary UPS

S & C Electric Company, switches, protection, PureWave PQ

SASCO, Elect. Constr.& Data Systems, design build

Schaffner EMC Inc., manufacturer of power quality equipment filters

SCR Controls, Inc., manufacturer of KNOWTRIP

7x24 Exchange, a knowledge exchange, mission critical info infrastructure

Siemens, automation and drives

Sierra Sales Engineering, Inc.; Electro Industries monitors

Silicon Power Corp., low/medium voltage static transfer switches

SNC Manufacturing, specialty transformers/reactors, telecom noise

Soft Switching Technologies, power electronic sag ride through

Sola Hevi-Duty, ferroresonant transformer

Square D Company, Groupe Schneider

SSAC, Inc. motor protector/voltage monitor

Staco Energy Products Company, manufacturers of power factor correction equipment

Steven Engineering

Superior Grounding Systems, hollow copper electrodes w/electrolyte

Surge Suppression, Inc., manufacturer of Transient Voltage Surge Protection (TVSS) products

Swain Co., William H., low current (milliamps) AC/DC measurement devices

SymCom, Inc. Three phase motor current/voltage protection

T

TCI Transcoil International; manufacture inductors and filters

Teal Electronics Corporation, manufacturer of power conditioning equipment

Telogy, instrument rentals

Test Solutions West; manufacturers' reps for Dranetz-BMI

Time Mark Corp., three phase motor voltage protection

Toshiba, UPS manufacturer, low harmonic distortion

Transformer Engineering, LLC, manufacturer of power quality mitigation equipment

Tripp Lite Worldwide, SPD, UPS, ferroresonant voltage regulators

U

Unisin Power Technology, harmonic filters
United Electric Motor Co.

V

VAR + CONTROLS, INC. Power Factor Correction & Harmonic Filters
VitaTech Engineering – EMF Consultant and Magnetic Shielding Contractor
VYCON, manufacturer of technologically advanced flywheel energy storage systems

W X Y Z

Harold Wells Associates, Russelectric rep, PQ mitigation
Zero Surge, Inc., manufacturer of series inductor surge suppressor, no MOV

A

ABB Control Inc.

451 El Camino Real
Santa Clara, CA 95050-4300

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1850 Mt Diablo Boulevard
Suite 400
Walnut Creek, CA 94596

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1206 Hatton Road
Wichita Falls, Texas 76302-3002

Tel: (800) 877-3232

Tel: (940) 397-7000

Fax: (940) 397-7001

Email: <mailto:abbcontrol@aol.com>

Web: <http://www.abb.com/>

LVNQ - Low Voltage Network Quality solutions: Industrial capacitors, Automatic power factor correction bank controls, Harmonic filters, Dynamic compensation for high-speed voltage regulation.

ACR Systems, Inc.

Building 210 - 12960 84 Avenue
Surrey, B.C. V3W 1K7
Canada

Tel: (604) 591-1128

(800) 663-7845 Toll Free

(604) 591-2252 Fax

Web: <http://www.acrsystems.com/>

Manufacturer of ACR PowerWatch, a 120 volt wall plug power monitor.

Requires an optical wand attached to a PC serial port to download data.

Active Power

2128 W. Braker Lane, BK12
Austin, Texas 78758

Tel: 512.836.6464

Fax: 512.836.4511

Web: <http://www.activepower.com/>

A new business in 1996 manufacturing 'CleanSource' flywheel energy storage systems. The core technology is a 32" diameter 600 pound flywheel motor-generator rated up to 250kW. The flywheel spins relatively slow in a vacuum. Most of the weight is carried by a magnetic bearing. The CleanSource@2DC product simply replaces batteries for a UPS system for short duration applications. The CleanSource UPS product is an AC voltage device which can be an independent device or coupled with a standby generator for extended outage protection. Size ranges from 150 to 900kW. A third product is GenSTART. It replaces the batteries to start the standby generator. Channel partners include: Caterpillar; Powerware and GE Digital Energy.

AEMC Instruments / Chauvin Arnoux, Inc.

200 Foxborough Blvd.
Foxborough, MA 02035
(508) 698-2115
(800) 343-1391

Web: <http://www.aemc.com/>

Email: sales@aemc.com

Manufactures professional electrical test and measurement instruments and current probes: AmpFlex, flexible current probes, 0.5A to 30,000A and in lengths from 24 to 60 inches. Rated to 1000 V category III. Also makes the Model 3845 Power Quality Analyzer.

Alber Corp.

3103 N. Andrews Ave Ext
Pompano Beach, FL 33064
Tel: (964) 623-6660

Web: <http://www.optmalpwr.com/battery-testing.php>

Battery monitoring and testing experts since 1972.

Ametek Power Instruments

50 Fordham Road
Wilmington, MA 01887
Tel: (978) 988-4903

Web: <http://www.ametek.com/>

Local vendor rep is:

Associated Power Solutions
8 Crow Canyon Court, Suite 210
San Ramon, CA 94583
Contact: Tim O'Toole
Tel: (925) 820-8102

Ametek purchased *Rochester Instruments* line. PG&E has used the *Rochester Load Logger* for many years to measure current on overhead and underground conductors. It is rated up to 69kV and 1000A. New designation is: *Ametek* model LL-230 Load Logger. Maximum conductor diameter is 1.093". It can record up to 66 days with a 15-minute interval. Recording memory is user selectable to stop when full or continuously record on a first-in, first-out basis. Lithium battery good for over a year. Loadsmart windows software to view data.

Amuneal Manufacturing Corporation

4737 Darrah St.
Philadelphia, PA. 19124
Tel: (215) 535-3000
Tel: (800) 755-9843
Fax: (215) 743-1715

Web: <http://www.amuneal.com/index.htm>

Sheilds for Magnetic-Sensitive CRTs and components

Call for free publication: "Complete Guide to Magnetic Shielding."

If your problem is a shaky image on the CRT due to proximity to high magnetic fields, such as being close to high current electrical conductors, then you need to move the monitor or shield it.

A custom-made box shield by Amuneal will cost between \$500 and \$1000. Floppy disks can lose data if left in a high magnetic field. Mumetal shielding material for a wall cost about \$200/square foot.

Applied Power Technologies - APT

10601 So. De Anza Blvd., Suite 106

Cupertino, CA 95014

Tel: (408) 342-0790

Fax: (408) 342-0797

Email: <mailto:rcelio@apt4power.com>

Principal: Richard C. Celio, PE

Providing electrical system measurement and monitoring solutions

Formerly represented **Power Measurement (Ltd)**, Victoria, B.C., Canada, who manufactures a power monitor-analyzer-controller for distribution automation. One cycle, true RMS calculations.

Also represents SuperIntend, a ground fault monitoring system.

Represents: Flexcore: CTs/PTs, transducers and software

Can provide integrated monitoring package with CPU, monitor, software.

Arteche PQ, Inc.

16964 W. Victor Road

New Berlin, WI 53151

Tel: 262-754-3883

Fax: 262-754-3993

Email: chuck.gougler@artechpq.com

Web: <http://www.artechpq.com>

Manufacturer of low, medium, and high voltage PQ mitigation equipment such as power factor correction, harmonic filters and capacitors.

ASCO Power Technologies LP, a division of Emerson

1024 Industrial Way, Suite B

Lodi, CA 95240

Tel: 209-339-8001

Fax: 209-339-8133

Email: <mailto:mdmorse@asco.com>

Web: <http://www.ascopower.com/cgi-bin/redirect.pl?/main.htm>

Manufacturer of: 1) automatic transfer switches, bypass-isolation switches, solid state auto transfer switches; 2) power control systems, engine generator controls, auto/manual paralleling systems; and 3) remote control switches.

ASIRobicon, a subsidiary of High Voltage Engineering Corp.

500 Hunt Valley Drive

New Kensington, Pennsylvania 15068

Tel: (724) 339-9500

Web: http://www.automation.siemens.com/_en/portal/html/products/products_drives.htm

Robicon has been in business since 1964. It has three lines of products: a) Variable Frequency Drives, low and medium voltage up to 30,000 hp; has models with low harmonic input/output and near unity pf; softstart that eliminates flicker; b) power systems line and c) heating and regulating line with SCR power controllers and high frequency power supplies.

AVO International/Megger Group Limited

4271 Bronze Way,

Dallas, Texas 75237-1019 USA

Tel: (800) 723-2861

Fax: 1-214-331-7399

Web: <http://www.avointl.com/>

Website includes product information and testing guidelines.

AVO International/Megger Group Limited...Cont...

Manufacturer of electrical test instruments including: Megger, Biddle, Multi-Amp, and States. Meggers measure insulation resistance and Biddles measure grounding resistance values. AVO purchased **Metrosonics** in February 2001. AVO Training Institute for electrical maintenance and safety training in Dallas.

Local Rep: *Brill Electronics* in Oakland, CA Tel: (510) 834-5888

B

Baker Instrument Company

4812 McMurry Avenue
Fort Collins, CO 80525
Tel: (970) 282-1200

Web: <http://www.bakerinst.com>

Since 1961, manufacturer of motor tester/analyzers for: insulation testing, megohm, PI, resistance, HiPot, and surge. The Explorer Series II is for on-line monitoring of motor, also has a permanently installed external port to provide a safe connection from MCC to monitor.

Basler Electric

Basler Electric Company
Worldwide Headquarters
Box 269, Route 143
Highland, IL 62249-0269
Website: <http://www.basler.com/>
Tel: (618) 654.2341
Fax: (618) 654.2351
Email: <mailto:info@basler.com>

Manufacturer of relays and generator controls. DGC, Digital Genset Controller family is a 19-inch rack Excitation Control System which limits, controls, and protects a generator from operating beyond its capability for virtually any kw sized machine. Free software permits local or remote communications via Modbus protocol for programming and metering.

Bender

700 Fox Chase
Highlands Corp. Center
Coatesville, PA 19320 USA
Tel: (800) 356-4266
Fax: 1-610-383-7100
Web: <http://www.bender.org/>
Email: info@bender.org

Manufacturer of ground fault protection devices for AC and DC power distribution systems; available for grounded, ungrounded, and high-resistance grounded systems.

Brill Electronics

610 East 10th Street
P. O. Box 1378
Oakland, CA 94604
Tel: (510) 834-5888
Fax: (510) 452-3620
Web: <http://www.brillelectronics.com/>

Distributors for **Fluke** meters and **SOLA** Ferroresonant Transformers.
AVO International products: Megger, Biddle, Multi-Amp, States

Buckles - Smith

801 Savaker Ave.

San Jose, CA 95126

Tel: (408) 280-7777

Web: <http://www.buckles-smith.com/>

Contact: Tom Schneider, Product Manager: Power Protection Equipment
Industrial Automation and Electrical Supplies.

Stocking distributor for Allen Bradley controls and drives, Hubbell connectors; Hoffman enclosures; **TCI** line reactors; small **Exide** UPS; **ONEAC** line conditioners; **Leviton TVSS**; **SOLA** ferroresonant transformers; **Soft Switching** Technologies, electronic sag ride-through. Heavy Duty **k-rated transformers**; Bussman fuses. Control Concepts filters; Motor-Generator sets; **ICP**, International Computer Power, MG.

2409 Pratt Avenue,
Hayward, CA 9454
Tel: (510) 487-5600.

20 Main, #5
Sacramento, CA 95838
Tel: (916) 646-3700

5594 Brisa Street,
Livermore, CA 94550
Tel: (925) 449-7469

North Bay
Tel: (707) 207-7160

5121 Port Chicago Highway
Concord, CA 94520
Tel: (925) 363-4282

Central Valley
(209) 830-0668

C

Caterpillar

Peterson Power Systems, Inc

2828 Teagarden St.

San Leandro, CA 94577-5700

Tel: (510) 895-8400

Web: <http://www.petersonpower.com/>

Cat Web: <http://www.cat.com/cda/layout?m=37516&x=7>

Cat UPS system uses flywheel energy storage instead of batteries, 96-97% efficient, compact. Combine with cat backup generator for extended outages. Size range, 300-900kva, 480volts only. Unit size 1200kva introduced in January 2003 and can be paralleled. Introduced in 1999, 20 units installed in northern California. 177 units total. Cat UPS also has an optional web based permanent monitoring service to track disturbances.

See **Active Power** for other sizes/options

Chevron Energy Solutions

Tel: (866) 433-9207

A unit of ChevronTexaco.

Website: <http://www.chevronenergy.com/>

Power quality and reliability can be managed with custom energy solutions.

Chloride Power Protection

28430 North Ballard Drive

Lake Forest, IL 60045

Tel: (800) 239-2257

Web: <http://www.chlorideups.com/>

Local sales rep: Larry Evankovich

Email: larryev@oneac.com

Fremont Tel: 510-790-3310

Manufacturer of medium to large UPS. Single phase Synthesis series 4 - 18 kVA. Three-phase series from 10 to 3,000kVA. Has hundreds of thousands UPS installations worldwide. Chloride purchased ONEAC isolation transformers in 1999. See entry #79. Chloride UPS over 225kva use a 12-step rectifier.

Citel Incorporated

11381 Interchange Circle South

Miramar, FL 33025

Tel: (954) 430-6310

Toll Free: (800) 248-3548

Fax: (954) 430-7785

Web: <http://www.citel.us>

CITEL specializes in the manufacture and sale of Surge Protective Devices which protect sensitive electronic equipment and personnel from destructive transient over voltages originating from lightning strikes and electrical disturbances. They manufacture two types of products, namely, (1) Gas Discharge Tubes (GDT) or Surge Arrestor components for PC board level applications and (2) Surge Protective Devices (SPD) or Transient Voltage Surge Suppressor (TVSS) modules for original equipment manufacturers, integrators and end users. Along with PC board level surge arrestor components, their deployment includes a full range of Surge Protective Devices for AC power, DC power, data line and RF coaxial applications.

Computer Air/Power Systems Inc. (CAPS)

2372 Walsh Ave.

Santa Clara, CA 95051

Tel: (408) 748-0200

Toll Free: (800) 800-4877

Fax: (408) 748-0331

Web: <http://www.caps4ups.com/>

Tom Priest and Kirk Priest

Email: <mailto:tomp@caps4ups.com>

Vendors for: **EFI** brand TVSS with UL1449 listing, 2nd edition; United Power TVSS for high power applications; American Power Conversion UPS; Liebert single phase UPS; and S&C PureWave UPS.

Controlled Power Company

1955 Stephenson Highway

Troy, Michigan 48083.

Email: Info@ControlledPwr.com

Toll Free Phone: (800) 521-4792.

Web: <http://www.controlledpwr.com/>

Since 1968 manufacturing rectifiers, UPS, and voltage regulators.

Single phase UPS sizes from 400va to 25kva

Power conditioners single phase sizes 250va to 25kva

Electronic line voltage regulators single & three phase; 5kva to 500kva

K-rated shielded isolation transformers product literature

Copper Development Association Inc.

260 Madison Avenue

New York, NY 10016

Visit web page for a primer on power quality

Web: <http://www.copper.org/homepage.html>

Call (800) 835-2898 for case histories

Call (888) 480-4276 for free CD-ROM on power quality

Cos Phi, Inc.

520 Huron Road

Goderich, Ontario, Canada

N7A 3Y5

Tel: (519) 440-0454

Fax: (519) 440-0446

Web: <http://www.cosphi.com/>

Email: <mailto:info@cosphi.com>

Cos Phi, Inc. has been manufacturing and providing power quality and power factor correction solutions since 1990. Services are available in all aspects of high, medium and low voltage power quality and power factor correction. Products and services include capacitors and capacitor banks, harmonic mitigation equipment, grounding, system analysis, testing and measurements, training and education.

Cupertino Electric Inc.

1132 North Seventh Street

San Jose, CA 95112

Tel: (408) 808-8000

Fax: (408) 275-8575

Web: <http://www.cei.com/>

Founded in 1954. 3,000 employees. Branches in San Francisco and Phoenix, AZ

Design, Build, Construction, and Industrial Services Department

Data Centers, Clean Rooms, Chip manufacturing, Biotech.

During year 2000, installed 84 mission critical rotary energy units totaling 160 megawatts.

CURRENT Group

20420 Century Blvd.

Germantown , MD 20874

Tel: (301) 944.2700

Web site: <http://www.currentgroup.com/>

CURRENT is integrating KJT's Enterprise Analyst product, with its network monitoring and CURRENT LOOK ® software solutions to provide the utility with unprecedented power. Combining KJT's and CURRENT's solutions allows a utility for the first time to analyze the millions of devices on the electric distribution grid and to automatically receive actionable intelligence about areas of concern based on user-defined criteria at the engineer's desktop.

Cutler-Hammer, a division of EATON since 1979

Power quality Hotline: (800) 809-2772

Email: <mailto:pqhotline@eaton.com>

Cutler-Hammer has a quarterly publication entitled "PQ Connection."

E-mail: <mailto:pqconnection@eaton.com>

Cutler-Hammer also has an Engineering Services group for broad electrical concerns in a facility such as power factor or protection studies.

Tel: (800) 498-2678.

Web: <http://www.eatonelectrical.com>

A manufacturer of many electrical products: circuit breakers, controls, drives, motors, surge suppressors, transformers, capacitors, harmonic filters, etc. Eaton purchased Westinghouse's distribution and control business unit in 1994 and merged it with its existing Cutler-Hammer operations based in Milwaukee, WI.

Cyberex, Inc., a Danaher Company

7171 Industrial Park Blvd.

Mentor, Ohio 44060

Tel: (216) 946-1783

Fax: (216) 946-5963

Web: <http://cyberex.com/>

Regional Offices:

Denzil Merrill, Southwest Regional Sales Manager:

Hacienda Heights, CA 91745

Tel: (310) 693-6454

Gary Gagliano, West Coast Manager

P.O. Box 6448:

Vacaville, CA 95696

Tel: (707) 451-0366;

Fax: (707) 451-0368

Cyberex is a manufacturer of uninterruptible power systems, line voltage regulators and static transfer switches. Their fast response voltage regulator is the electronic buck-boost type. It utilizes thyristor control of buck and boost transformers in combination with parametric filters to provide regulated sinusoidal output even with nonlinear loads typical of computer systems. The static transfer switch operates in less than 1/4 cycle, Break-Before-Make. Sizes range between 10kVA and 5,000kVA, 120,208 or 480VAC. All Cyberex equipment is custom made to order. It is very good equipment and therefore expensive. Cyberex has been in business for 27 years with same management.

D

Dahl-Beck Electric

2775 Goodrick Ave.
Richmond, CA
Tel: (510) 237-2325
Web: <http://www.dahlbeckelectric.com>
Shop Foreman: Helmut Schlitzer
Motor analysis, repair and rewinding. Can perform in-field analysis.
Two standard motor winding tests are: a) surge comparison test and b) DC high pot test.

Danfoss – North America Motion Control

Web: <http://www.namc.danfoss.com/>
Manufacturers of drives in US and Denmark. Have downloadable software to estimate harmonic distortion from drive installation. Danfoss makes high quality equipment.

Data Power Monitoring Corp.

2351 Sunset Blvd., 170-330
Rocklin, CA 95765
Tel: (415) 460-0522
Toll free: (866) askdpmc
Web: <https://datapowermonitoring.com/>
Contact: Steve Cotton
Email: <mailto:mstevecotton@datapowermonitoring.com>
Battery Monitors, on-site, remote, load test, maintenance

Dehn, Inc

P.O.Box 2040
Wickford, RI 02852
Tel: (401) 294-8823
Web: <http://www.dehn-usa.com/index.asp>
Email: <mailto:info@dehn-usa.com>
Lightning and surge protection in NEMA rated enclosures for all 600 vac class service entrance and interior applications. Tested to withstand all rated surges, including direct lightning strikes, without blowing fuses. Integral fused disconnect. Field replaceable components. UL listed. Visit web site for product listings and publications.

Detroit Diesel Corp., a subsidiary of DaimlerChrysler AG

13400 Outer Drive, West
Detroit MI 48239-4001
Tel: (313) 592-5000
Web: <http://www.detroitdiesel.com/>
Detroit Diesel provides for emergency/standby and prime power needs through a completely integrated line of products from 20 to 10,000kW including transfer switches and switchgear. Gas fueled models extend up to 280 kW, with diesel models available throughout the full range.
Central Valley distributor is:
Valley Power Systems, Inc., formerly Valley Detroit Diesel-Allison.
2935 South Orange Avenue, Fresno, CA 93725.
Tel: (559) 486-6900
Web: <http://www.valleypowersystems.com/>

Detroit Diesel Corp...Cont...

Northern California distributor is:

Stewart & Stevenson

Also distributor for **Kohler** Power systems and **Waukesha-Dresser**

Main office: 855 Stillwater Rd., West Sacramento, CA (916) 372-5078

Branch: 1755 Adams Ave., San Leandro, CA (510) 635-8991

Dewetron, Inc.

P. O. Box 1460

Charlestown, RI 02813

Tel: (401) 364-9464

Web: <http://www.dewamerica.com>

Contact: John H. Carroll, Western Regional Manager

john.carroll@dewamerica.com

Tel: (925) 292-9426 (office)

Tel: (925) 518-4967 (cell)

Dewetron is a manufacturer of monitoring instruments based in Austria. Model PNA560 and 600 are portable power quality monitors.

Diesel Service and Supply, Inc.

755 North 9th Avenue

Brighton, Colorado 80603

Tel: (303) 659-2073

Web: <http://www.dieselserviceandsupply.com/>

New and used diesel generators for over 20 years. May have Hitec backup flywheel diesel generator in stock. See *Hitec* for details.

Dranetz-BMI, a division of WPT Company

1000 New Durham Road

Edison, NJ 08818

Tel: (800)-372-6832

Web: <http://www.dranetz-bmi.com/>

Manufacturer of power quality/energy monitors in Edison, New Jersey.

Western Regional Sales Manager is Bob Minassian in LA area

Toll free: (800) 372-6832 extension 339.

Local vendor is [Test Solutions West](#) Tel. (408) 452-1105

E

Eaton PowerWare

Eaton is a leading global provider of comprehensive power quality and backup power management solutions under the Powerware brand. Powerware solutions include the broadest range of power quality products and services available today: uninterruptible power systems (UPSs); DC power systems; management software.

Web: <http://www.powerware.com/about/powerware.asp>

EFI Electronics Corp

1751 South 4800 West

Salt Lake City, UT 84104

Tel: (801) 977-9009

Web: <http://www.efinet.com/>

Manufacturer of surge protection products.

Electrical Equipment Sales Company

1338 Reliez Valley Road

Lafayette, CA 94549

Tel: (925) 945-0544

Web: <http://www.asirobicon.com/>

Manufacturers/sales reps for: Commonwealth-Sprague capacitors;

Robicon drives; MTE line reactors; RPM power monitors;

Robicon VFDs: conventional 6-pulse drives from 3 to 1250 hp; harmonic-free drives from 50-15,000 hp; 460 through 7200 volts.

Robicon uses higher pulse drives to limit harmonics.

Electrical Reliability Services, Inc., a wholly owned subsidiary of Emerson, since 1955

6900 Koll Center Parkway, Suite 415

Plesanton, CA 94566

Tel: (925) 485-3400 Fax: (925) 485-3436

Web: <http://www.electricalreliability.com/>

Power system reliability through testing.

This company does **GFI** setting and calibration for service entrance disconnects rated at 1000 amps and over at 480v as required by code. They also do training of electrical maintenance personnel. They provide complete electrical maintenance services for large customers.

Electric Motor Supply

253 Fulton

Fresno, CA 93721

Tel: (559) 233-1153

Stocking distributor for **SOLA**, ferroresonant transformers.

Motor sales, motor rebuilding, and electrical construction.

Electro Industries/Gauge Tech

1800 Shames Dr.

Westbury, NY 11590

Tel: (516) 334-0870

Web: <http://www.electroind.com/>

A manufacturer of electrical power monitors/meters. Top of the line Nexus model comes in a utility grade socket meter configuration with Ethernet communication option. They also are associated with Kreiss-Johnson software that provides enhanced analysis and reporting features.

Electrotek Concepts, a division of WPT, Inc.

408 North Cedar Bluff Road, Suite 500

Knoxville, TN 37923-3641

Tel: (865) 470-9222

Fax: (865) 470-9223.

Web: <http://www.electrotek.com/> for general description site.

Web: <http://www.pqmonitoring.com/> for new power quality monitoring site.

A consulting company offering engineering services and software to help utilities and customers improve and optimize the performance of their power systems. Electrotek offers software and support for utilities to provide employees and customers with access to power quality disturbance data over a company network and/or the World Wide Web. Products include: PQView, PQWeb, **SuperHarm** and TOP. Electrotek developed **PASS** software that is sold by BMI to communicate remotely with modems for PQNodes. Electrotek pioneered the concept of systematic power quality monitoring and collaborated with sister company Dranetz-BMI to

Electrotek Concepts...Cont...

develop the **Signature System**, a web-based system offering power quality and energy monitoring, along with analytical tools for problem solving and energy management.

Emerson Control Techniques, a division of Emerson Industrial Automation

12005 Technology Drive
Eden Prairie, MN 55344 (near Minneapolis)
Tel: (952) 995-8000
Web: <http://www.controltechniques.com/ctcom/>
Manufacturer of AC and DC drives and control systems

EPRI

942 Corridor Park Blvd.
Knoxville, TN 37932
Tel: (865) 218-8000
Web: <http://my.epri.com>
EPRI Solutions provides comprehensive engineering and consulting services to the power industry.

ERICO, Inc.

34600 Solon Road
Solon, Ohio 44139-2695
Toll free: (800) 248-9353
Tel: (440) 248-0100
Web: <http://www.erico.com/>
Manufacturer of Cadwelding products and publisher of "The Link," a quarterly newsletter, formerly known as Cadweld News. Erico is also a manufacturer of Eritech ground rods; **Erico**, Cadweld exothermic welded connections; Erico mechanical and compression connectors; Erico mesh and signal reference grids and Erico power connections. Lightning protection products and services were added in 1985. Surge protection products were added in 1989. Erico takes the whole premise protection approach and provides complete design, training, certification and commissioning services. Erico was formed in 1903 to manufacture railway signal bonding products. Permanent low impedance bonding is the cornerstone of any grounding system.

F

Field Management Services Corporation

123 No. Laurel Avenue
Los Angeles, CA 90048
Tel: (323) 937-1562
Toll free: (800) 930-1562
Fax: (323) 934-2101
Web: <http://www.fms-corp.com/>
Developers of low frequency magnetic field shielding using newly developed special sandwiched sheets of aluminum and steel as opposed to high cost, high nickel steel that requires special annealing process.

This material is less than 10% of the cost of amuneal material, but is still a custom application.

Filter Concepts Inc., EMI Power Filters

2624 South Rousselle Street
Santa Ana, CA 92707
Tel: (714) 545-7003
Fax: (714) 545-4607.

Free catalog with over 1000 standard models. Single-phase and three-phase AC filters, from 1.5 to 150 amps. DC filters from 3 to 150 amps.

FLIR Infrared Camera Systems, Inc.

Boston, MA
Tel: (800) GO INFRA
Web: <http://www.flirthermography.com/> or <http://www.flir.com/>

Manufacturer of a variety of portable and fixed cameras for imaging and thermography. 30 years experience. Have cameras for rent world wide. Apparently a DOD contractor.

G**GE/Ultravar Capacitors and controls**

381 Broadway
Fort Edward, NY 12828-1000
Tel: (518) 746-5229
Fax: (518) 746-5524
Web: <http://www.geindustrial.com/cwc/home>
Email: <mailto:john.childs@indsys.ge.com>

Manufacturer of power factor correction and harmonic correction systems, fixed and automatic switched designs, individually engineered, low and medium voltage.

GE Power Systems**Apparatus Service Center**

3601 E. Lapalma Ave.
Anaheim, CA 92806
Tel: (714) 630-4111 – 24-Hr. Service
Clyde Ford direct: (714) 237-7217

GE Power Sentry service is a predictive maintenance procedure that includes: vibration analysis; PdMA motor evaluation; thermography; UE ultrasonic leak detection; lubrication oil analysis and motor current signature analysis. Each of the before mentioned analysis is a standalone service. Minimum charge is daily rate of \$2,500 plus expenses.

Graybar

1201 B 6th Street
San Francisco, CA 94107
Tel: (415) 575-1925
Web: <http://www.graybar.com/>

Stocking distributor for **SOLA and EFI/Leviton TVSS; Greenlee 2011**

Circuit Tracer – Web: Leviton: <http://www.leviton.com/>

Graybar has distribution warehouses in Modesto, Martinez, Oakland, San Francisco, South San Francisco, San Jose, Santa Maria, and Santa Barbara. They have 250 distribution facilities throughout the US, Canada, Mexico and Puerto Rico.

H

Haefely Trench

Scarborough, Ontario, Canada

Tel: (416) 298-8108;

Fax: (416) 298-2209

Web: <http://www.trenchgroup.com/>

Designs and produces specialty high-voltage equipment for electrical utilities, electrical equipment manufacturers and research institutes. Products include Dry Type Air Core Reactors, Instrument Transformers, Transformer Bushings, Relay Communication Products, Wave Traps, Line Tuners, and specialized Protection and Control Equipment.

Trench completed sale of Adaptive Var Compensator product line to *S&C Electric Company* in June 2002.

Hammond Power Solutions Inc.

1100 Lake Street

Baraboo, WI 53913-2866

Tel: (608) 356-3921

Web: <http://www.hammondpowersolutions.com>

Manufacturer of transformers: dry-type power; harmonic mitigating; distribution; line reactors, buck-boost; control; and special purpose. Manufacturing locations in Canada, US & Mexico.

Harger Lightning & Grounding

301 Ziegler Drive

Grayslake, IL 60030

Tel: (847) 548-8700

Web: <http://www.harger.com/>

Specialists in Lightning Protection and Grounding Equipment, since 1960.

UL Listed Manufacturer; LPI member; Engineers, Distributors

AutoCad Detail disks available

Harmonics Limited

32 Pico Street

San Rafael, CA 94903

Toll free Tel: (877) 437-3688 or (415) 472-5668

Fax: (415) 479-9445

Web: <http://www.harmonicslimited.com/>

Founded in 1989 by Dr. Michael Lowenstein, Ph.D. Manufacturer of harmonic suppression systems to block harmonic currents. Improves useable system capacity, eliminates need to run oversized neutrals and reduces line losses. Especially applicable where there is a high density of non-linear loads such as telecommunication switching centers.

Harold Wells Associates, a manufacturer's rep

3223 Crow Canyon Road

San Ramon, CA 94583

Tel: (925) 355-9900

Web: http://www.hwasaes.com/nor_cal/nc_home.html

Emergency power and power quality mitigation

Contact: Jim Hoyt

Represents Russelectric

Hioki USA Corporation

6 Corporate Drive
Cranbury, NJ 08512
Tel: (689) 409-9109

Web: <http://www.hiokiusa.com>

Japanese manufacturer of electrical instruments. Model 3196 P Q Analyzer introduced maybe in 2004. Appears to be very similar to new Fluke 430 and new Dranetz PX5. Model 3283 Clamp On Leak HiTester for measuring very low AC current, range milliamps to 10A, cost \$320. No stocking distributor locally, but several local distributors including Buckles-Smith.

Northern California Manufacturers rep:

DSC Technical Sales, Inc.

766 LaPara Avenue

Palo Alto, CA 94306

Tel: (650) 329-1507

Contact: Chris Cockcroft

Email: <mailto:chris@dsctechnicalsales.com>

PQA consulting partner is PowerCET

PQA rental partner is Electro Rent Corp

Hitec Power Protection, formerly known as HOLEC

12502 Exchange Drive, Suite 404
Stafford, Texas 77477, suburb of Houston

Tel: (281) 240-5335

Toll free: (800) 794-9398

Fax: (281) 240-4774

Web: <http://www.hitecups.com/>

Dynamic Diesel Systems for Continuous Power Supply 70-1750kVA

Core technology is motor-generator-flywheel with diesel backup instead of batteries.

Available voltages: 480, 600, 5kV and 15kV

Systems can be paralleled. No longer available without diesel as a ride-through solution.

Batteries for starting diesel only, not energy storage.

HOLEC is a Dutch company. All manufacturing is in Holland.

Cost for 1000kVA unit with diesel is about \$1 million

Cost for 1600kVA unit without diesel is about \$800,000.

No local rep in March 2003

For used units see entry for *Diesel Service and Supply, Inc.*

I-Grid

8155 Forsythia St.
Middleton, WI 53562
Tel: (608) 662-7200

Web: <http://www.i-grid.com/igrid/index.jsp>

Web-based distributed power quality and reliability monitoring and notification system using very low cost monitors. This system collects the data on a central server that is accessible to purchaser and will send an email to user when events happen. Developed by *SoftSwitching Technologies*

Industrial Electric Service Co.

1601 Somoa Boulevard
Arcata, CA 95521
Tel: (707) 822-2485
No website

Established in 1953 in Arcata to serve the lumber mill industry. Principal products are lumber material handling motors/drives/controls/repair/maintenance. IESCO has sold over 3800 drives. Motor repair facilities in Arcata, Anderson and Ukiah. Sales, parts and field service offices in: Arcata, Anderson, Eugene, Ukiah and Crescent City. IESCO uses SCR drives from Eurotherm. IESCO builds the motor/drive and control package. The reason for being in this power quality list is because they use SCR DC drives that have much lower flicker than AC motors, but then the harmonic issue must be addressed.

Infrared Solutions, Inc.

3550 Annapolis Lane North, Suite 70
Plymouth, MN 55447
Tel: (763) 551-0003
Web: <http://www.infraredsolutions.com/>

Manufacturer of three models. Infrared camera, remote sensor and portable unit.

IPC Power Resistors International Inc. (no longer IPC Power, now Post Glover) a subsidiary of Halma Group Co.

4750 Olympic Blvd.
Erlanger, KY 41018
Phone: (859) 283-0778
1-800-537-6144
Fax: (859) 283-2978
Web: <http://www.postglover.com/>

Manufacturer of high power electrical resistors used in high impedance neutral grounding systems and other power applications such as dynamic braking and filters.

Web site says it is the largest independent manufacturer of power resistors; since 1935. Web site has free engineering reference guide.

J**JDS Products, Inc.**

895 Embarcadero Drive
El Dorado Hills, CA 95762
Tel: (916) 933 2699
Web: <http://www.jdsproducts.com/>

Manufacturer of *Sensing-Saf-Start*, an in-line device to prevent automatic restarting of machines after an outage. Drop out voltage is at about 90% of nominal or about 105 volts.

This would work as a protection device for those you want to drop out if a voltage sag occurs. It comes in 120 or 240 volt versions. It can be plugged into the wall and then the appliance cord can be plugged into it. The price starts at \$54 retail. Available through normal electrical distributors. The basic 120v unit is rated at 15 amps. The unit consists of a holding coil, a relay, and a reset button. There are close to 200,000 in use. You would not want to put this on a refrigerator or freezer that you want to restart automatically. Residential use would probably be for a computer or fax.

K

Katolight Corporation

100 Power Drive

Mankato, MN 56002

Tel: (507) 625-7973

Web: <http://pilot.katolight.com/>

Manufactures diesel and gas generator sets, size range from 15kW to 2800kW.

Kohler Power Systems

Mosel, Wisconsin

Web: <http://kohlerpowersystems.com>

Manufactures diesel and gas generator sets, size range from 6kW to 2000kW.

L

Land Instruments International, Ltd.

10 Friends Lane

Newtown, PA 18940-1804

Tel: (215) 504-8000

Web: <http://www.landinst.com/>

Manufacturer of a variety of portable and fixed cameras and thermal measurement devices. Portable infrared cameras can be used to detect loose electrical connections, hot bearings, insulation breakdown and view operation of heat exchangers.

Lea International - TVSS solutions

6520 Harney Road

Tampa, Florida 33610

Tel: (800) 654-8087

Fax: (813) 621-8980

Web: <http://www.leainternational.com/>

25 years of service. Series and parallel configurations. Modular and non-modular designs. Electronic grade panelboards.

Leviton Manufacturing Co., Inc.

59-25 Little Neck Parkway

Little Neck, NY 11362-2591

Toll free Tel: (800) 323-8920

Local Leviton rep: Kirby Booth

Tel: (707) 763-9141, in Petaluma

Web: <http://www.leviton.com/>

Leviton is a manufacturer of electrical devices, such as wall plugs, switches, dimmers and surge protective devices, SPD, formerly known as TVSS.

Leviton has an excellent catalog on SPDs and an excellent training manual for Transient Voltage Surge Suppression. Leviton devices are sold through many local vendors. All SPDs are UL1449 listed and CSA Certified.

LING Electronics (Ling was acquired by QUALMARK)

232 Front Ave

West Haven, CT 06516

Phone: +1-203-933-8000

1-886-661-5464

Email: <mailto:sales@qualmark.com>

In 1999 became Subsidiary of SatCon Technology Corp.

Manufacturer of solid-state AC frequency conversion, STARSINE. Single and three-phase AC power sources from 12 to 480 kVA, for 45 years. Input frequency: 47 to 63Hz. Input voltage: 120, 208, 240, 480 volts. Output frequency: 50, 60 or 400Hz.

Local vendor: Test Solutions West, 1541 Goody Lane, San Jose, CA 95131

Tel: (408) 452-1105; Fax: (408) 452-1715.

M

Magnetic Shield Corporation

740 N. Thomas Dr.

Bensenville, IL 60106

Phone: (888) 766-7800

Fax: (630) 766-2813

E-Mail: <mailto:shields@magnetic-shield.com>

Majorpower Corporation

7011 Industrial Drive

Mebane, NC 27302

Tel: (919) 563-6610

Fax: (919) 563-6620

Ray Kramarcy, Account Executive

Web: www.majorpower.com

Manufacturers of the Majorsine family of utility and telecom grade inverters that provide economical AC power for all network needs.

McLaughlin Associates

903 Sneath Lane, Suite 225

San Bruno, CA 94066

Tel: (650) 244-0229

San Jose Office:

Tel: (408) 985-1595

Peter B. McLaughlin, President

Computer room air conditioning and UPS systems. Maintenance-free battery systems.

Electrical distribution equipment for sensitive loads, PDUs. All sizes of uninterruptible power supplies. Power conditioning equipment, isolation transformers, surge suppressors.

Manufacturers include: APC, Deltec, Holec, International Power Machines, Piller, Leviton and Silicon Power Medium Voltage Subcycle Static Transfer Switches

Mechanical Analysis/Repair Inc., dba Martech, since 1993

142 North Cluff Ave.

Lodi, CA 95240

Tel: (209) 333-8478

Web: <http://www.mar-tech.com/>

Performs power plant testing: vibration, mechanical and electrical.

Has two PDMA units for testing motors; resistance, inductance and capacitance.

Metrosonics/AVO/Megger

Web: <http://www.megger.com/>

Power analyzers and recording voltmeters for utilities.

The "Metrosonics" name brand was changed to Megger as part of its family of products since February 2002. See AVO.

MIRUS International, Inc.

6805 Invader Cres., Unit #12

Mississauga, Ontario

Canada L5T 2K6

Tel: (905) 565-6900

Fax: (905) 565-6911

Toll Free: 1 - 888 - TO MIRUS (1-888-866-4787)

Web: <http://www.mirusinternational.com/>

Contact: Al Archambault, Director of Sales

Products: Harmonic Mitigating Transformers, Lineator AUHF Filters for Variable Frequency Drives.

Moore Syndication

3349 Independence Drive

Birmingham, AL 35209

Tel: (205) 871-8819,

Fax: (205) 871-7591

Web: <http://www.mooresyndication.com>

Pam Moore, President, Email: <mailto:pammoore@mooresyndication.com>

Principal business is distributor of electrical safety information literature and educational tools to utilities and communities. PG&E purchases from Moore our principal hardcopy PQ brochure entitled "*Understanding and Avoiding Commercial Power Disturbances.*" It is 25 pages.

MTE Corporation

W147N9525 Held Drive

P.O. Box 9013

Menomonee Falls, WI 53051

Tel: (262) 253-8200

Application Engineering, ext: 218

Customer Services, exts:12/13

Fax: (262) 253-8222

Web: <http://www.mtecorp.com/>

Line Reactors and transformers

Myron Zucker, Inc.

315 East Parent Street

Royal Oak, Michigan 48067-3728

Tel: (248) 543-2277

Fax: (248) 543-1529

Web: <http://www.myronzucker.com/>

Manufacturer of power factor correction capacitors and harmonic filters.

N O

OEM Power Systems

Oilfield-Electric-Marine
3616 Pinemont
Houston, Texas 77018
Tel: (713) 680-9659

Web: <http://www.oilfieldelectricmarine.com/>

Manufacturer of LaserV Medium Voltage Soft Start up to 15,000 volts. Advantages include current-controlled ramp-ups, decreased torque loads and reduced heat generated in motor.

ONEAC Corporation, a Chloride Power Protection Co. since 1999

27944 North Bradley Road
Libertyville, Illinois 60048-9700
Tel: (847) 816-6000

24 hour technical support (800) 327-8801 (ext: 3)

Web: <http://www.chloridepower.com/en-gb/Chloride-corporate/>

Local Rep: Larry Evankovich, Tel: (510) 790-3310, in Fremont

Email: <mailto:mlarryev@oneac.com>

Manufacturer of small to medium size isolation transformers (low impedance power conditioner), since 1979 and small UPS. Especially appropriate for noise reduction in sensitive equipment such as internal communication networks. Patented data line protective devices for data and telecom networks. See *Chloride*

Optimal Power Solutions

2050 Gateway Place
Suite 100-247
San Jose, CA 95110
Tel: (877) 678-4797

Web: <http://www.optimalpwr.com>

Provider of world class critical power products and services.

P

PANAMAX (SPD manufacturer)

1690 Corporate Circle
Petaluma, CA 94954
Tel: (800) 472-5555 or (707) 283-5900
Fax: (707) 283-5901

Web: <http://www.panamax.com/>

Wall outlet size surge suppressors are UL 1449 listed at 330 volts, lifetime warranty

PdMA Corporation

5909-C Hampton Oaks Parkway
Tampa, Florida 33610
Tel: (813) 621-6463

Web: <http://www.pdma.com/>

Manufacturer of hardware and software to perform electrical measurements on motors. These measurements are for resistance, impedance and capacitance. A test setup costs about \$15k. See *GE Power Systems* to contract for testing service versus purchase of equipment. PdMA presents Motor Reliability Technical Workshops for industrial customers to learn about motor failure mechanisms. Publishes a free quarterly newsletter.

Power Electronics Application Center (PEAC) (see EPRI)

942 Corridor Park Blvd.

Knoxville, TN 37932

Tel: (865) 218-8000

Web: <http://my.epri.com>

EPRI Solutions provides comprehensive engineering and consulting services to the power industry.

Piller, Inc.

334 County Route 49 or Box 194

Middletown, NY 10940

Tel: (845) 355-5000

Fax: (845) 355-9005

Email: <mailto:sales@piller.com>

Web: <http://www.piller.com/>

Manufactures two lines of large UPSs. Traditional line is a combination rotary-solid-state design they call UNIBLOCK. These are premium priced. Size range is like 50 to 750kVA. The new line is called *Apostar* which is all static and the size range is 20 to 150kVA. Sales literature claims, superior PWF design supports highly non-linear and unbalanced loads. New product in 1997 is the Tribloc design and a Power Bridge option. This is a vertical synchronous MG with a flywheel that can store up to 15 seconds of energy. Recently, Piller has added an engine to the configuration to completely eliminate the need for batteries. Design category is Uniblock-TD, size range is 400 to 1670 kva.

Polyphaser Corporation, a Smiths Group company

2225 Park Place

Minden, Nevada 89423

Tel: (702) 782-2511

Web: <http://www.polyphaser.com/>

Contact: Randy Anderson

Lightning Protection equipment manufacturer, for 15 years

Data and power filters

Powell Electrical Manufacturing Company, Houston, Texas

8967 Pleasantwood Avenue NW

North Canton, OH 44720

Tel: (330) 966-1750

Fax: (330) 966-1787

Web: <http://www.powl.com/>

PEMCO-NCD, Powell Electrical Manufacturing Company - North Canton Division, This division manufactures metal enclosed harmonic filter systems and power factor correction capacitor banks, low and medium voltage.

PowerCET, Consulting, Education and Training

3350 Scott Blvd., Bldg 55, Unit 1

Santa Clara, CA 95054

Tel: (408) 988-1346

Web: <http://www.powercet.com/home/>

Experts in Power Quality and the Electromagnetic Environment.

Operational skills training courses on: Dranetz-BMI 4300, PP1, 658, RPM,

Fluke 41/43. PQ courses: waveform data analysis; harmonics; solutions for sensitive equipment and grounding.

Powerlink Corporation

Manufacturers' Representatives since 1987

20 So. Santa Cruz Ave., Suite 320

Los Gatos, CA 95030

Tel: (408) 399-3355

Fax: (408) 399-6202

Web: <http://powerlink.com>

Email: kcastleberry@powerlink.com for Karen Castleberry

Three-phase and single-phase UPS by **Mitsubishi**, **Powerware**, **MGE**, **APC**, and **Controlled Power**. PDUs by MGE and United Power. Sterling Batteries. LEA International **TVSS**.

Pentadyne **flywheel** energy storage. Raymond and Lae facility monitoring systems. Pacific Power Source frequency converters. Onyx Power custom transformers. Harmonic cancellation transformers.

Turnkey equipment installation, power surveys, multi-vendor service contracts.

Power Distribution Inc.

4200 Oakleys Ct.

Richmond, Virginia 23223

Tel: (800) 225-4838

Web: <http://www.pdicorp.com/>

Since 1979 manufacturing: power distribution units; voltage regulators; harmonic cancellation; solid-state switches and systems monitoring.

Local vendor: Power Source, Inc., Campbell, CA 95008

Tel: (408) 871-9696.

Power Innovations International, Inc.

333 South 520 West

Lindon, Utah 84042

Tel: (801) 785-4123

Web: <http://www.power-innovations.com>

Manufacturer of uninterruptible power for homes, businesses and governments worldwide.

Supplies off-the-shelf and custom UPS backup solutions to industry including the offshore and onshore oil & gas markets and the military flight simulator markets since 1997.

Powersmiths International Corp.

10 Devon Road

Brampton, Ontario, Canada L6T 5B5

Toll free Tel: (800) 747-9627

Web: <http://www.powersmiths.com/>

Local rep: Powerlink Corp. <http://www.powerlink.com/>

Manufacturer of energy efficient harmonic correcting equipment such as special harmonic filtering/blocking transformers. Improves useable system capacity, eliminates need to run oversized neutrals and reduces line losses.

Power Measurement

2195 Keating Cross Road, Saanichton
Victoria, British Columbia
Canada V8M 2A5
Tel: (250) 652-7100; Toll free: (866) 466-7627
Fax: (250) 652-0411
Web: <http://www.pwrm.com/>

PM was acquired by Schneider Electric in April 2005. The plan is to integrate PM with Square D PowerLogic line.

Local District Sales Manager: Bill Westbrook, Tel: (415) 457-9040.

San Rafael: Dan Fitzpatrick Tel: (415) 706-1485.

Digital Power monitoring, analysis and control all in one panel-mounted device. Open communications protocol. One cycle high speed waveform capture, 128 samples/cycle, for detailed power quality analysis. Each 7000 series monitor starts at \$2,900 and the software is another \$4k.

System software displays all real-time data, logged data and status information. System software brings data from 7000 series devices into any client application that supports DDE under Windows 3.1. Currently, meter accuracy is +/- 0.5% but version with +/- 0.2 is being tested. ISO-9002 certified. DNP3.0 communication protocol is PG&E standard for SCADA. All the above product line is surface mounted for a protected environment.

There is a new line of similar function called the 8400/8500 series that is glass encased that looks like and functions like a revenue meter, but with extra capabilities. They are revenue meter accurate. They have been approved for revenue metering by CPUC for direct access and some utilities, but not PG&E yet. They are approved by the California ISO. The rep for the ANSI socket meter configuration series is ABB in Raleigh NC.

Dong Dang, Tel: (919) 212-4891. His email address is <mailto:Dong.x.Dang@US.ABB.com>

Power Quality Solutions, Inc.

121-D Durwood Road
Knoxville, TN 37922.
Telephone: (423) 691-5851
Fax: (423) 691-5867
Web: <http://www.pqsi.com/>

Provides industrial and commercial power conditioning solutions for voltage sag and momentary interruption ride-through devices. These include: **Coil-Lock**, relay and contactor hold-in device; Gold Label EMI noise filtering system; and **CVT Plus** constant voltage transformers.

Power Standards Laboratory

2020 Challenger Drive
Alameda, CA 94501 USA
Tel: (510) 522-4400
Fax: (510) 522-4455
<http://www.powerstandards.com/>
Alex McEachern, CEO

Email: <mailto:Alex@PowerStandards.com>

The lab has instrumentation to create voltage sags and test compliance with SEMI standard F47 for machine ride-through. Can also test to other standards. PSL has developed a PQ1 Power Quality Relay that senses sags. It is adjustable for various standards and supply voltages from 100 to 240 VAC, 50, 60 or 400 Hz. List price is \$290. Maker of PQube monitor. The website has practical PQ tutorials, a teaching toy software, technical paper references and standards.

Power Survey International, Inc.

7880 Trans-Canada Hwy
Montreal, Quebec
H4T 1A5, CANADA
Email Info@powersurvey.com
Web: www.powersurvey.com
Phone (514) 333-8392
Fax (514) 333-8395

Attention: Sylvain Lanoue, P. Eng.

Power Survey, established in 1948, manufactures a complete range of equipment for Power Factor Correction Capacitors, dynamic capacitor switching and Harmonic Filtering, from 208v up to 35kV engineered to your requirements. These products could be in a fix or automatic configuration. Network PFC and harmonic computer simulation is also available. The extensive experience of our engineering experts in LV and MV networks makes Power Survey a worldwide respected solution and system supplier in the exciting field of Power Quality.

Power Systems & Controls

3206 Lanvale Avenue
Richmond, VA 23230

Incorporated in 1965 to design, manufacture and supply rotary power conditioning systems for critical power users, both rotary UPS and MGs. Products include: rotary UPS, static UPS, rotary MG, synchronous condensers, frequency converters, TVSS. Custom designed controls and PLC programming.

Tel: (804) 355-2803
Fax: (804) 358-0498
Web: <http://www.pscpower.com/>

Local vendor:

Electrical Equipment Sales, Inc.
Lafayette, CA 94549
(925) 939-2521

Powerware (Eaton PowerWare)

Eaton is a leading global provider of comprehensive power quality and backup power management solutions under the Powerware brand. Powerware solutions include the broadest range of power quality products and services available today: uninterruptible power systems (UPSs); DC power systems; management software.

<http://www.powerware.com/about/powerware.asp>

Precise Power Corporation

P.O.Box 9547
Bradenton, FL 34206
Tel: (941) 746-3515,
Email: <mailto:sales3@precisepwr.com>
Web: <http://www.precisepwr.com/>

Manufacture the unique **written-pole Roesel Motor-Generator** with up to 15 seconds ride-through. Size modules start at 15kva single phase and 35 kva three phase. Prices start at \$22k.

Q R

Radar Engineers

9535 NE Colfax St.

Portland, OR 97220

Tel: (503) 256-3417

Web: <http://radarengineers.com>

Contact: Fred Horning

Manufacture of RFI/TVI locators to detect sparks and corona that cause radio and TV interference. RF and ultrasonic receivers quickly pinpoint sparking hardware on power lines. Model 240, price \$4,600, HF-UHF RFI Locator, frequency range: 1.8 – 1000MHz, oscilloscope display. Does record one waveform, no RS232 communication link. Model 242, price \$5,400, RFI Locator, frequency range: 500 kHz – 1000 MHz, oscilloscope display, records six waveforms. Both units are limited to spot checks, do not record continuously.

Raytek

1201 Shaffer Road

Santa Cruz, CA 95061-1820

Tel: (800) 866-5478

Web: <http://www.raytek.com/>

Manufacturer of a complete line of infrared, noncontact, and temperature measurement instruments for industrial, process control and maintenance applications. Since 1963. We don't believe Raytek offers a camera as the three above. The Raytek products basically provide a temperature differential reading which is a much less expensive alternative.

Reliable Power Meters - A FLUKE Company since early 2003

1201 Shaffer Road

Santa Cruz, CA 95061-1820

Toll Free: (888) 257-9897

Technical support of RPM monitors is available using the above toll-free phone number.

For sales and service, please see <http://www.fluke.com> Manufacturer of power quality monitors. Instrument has separate modules to measure power quality, energy, harmonics, and flicker starting below \$4k. Sampling rate is 128/cycle. Built in thresholds.

Russelectric Inc.

South Shore Park

Hingham, MA 02043-4387

Tel: (617) 749-6000

Web: <http://www.russelectric.com/>

Integrity Power Control & Protection Systems for Critical Facilities

Local rep: see *Harold Wells Associates*

S

SatCon Power Systems

Burlington, Ontario, Canada L7N 3P3

Tel: (905) 639-4693

Web: <http://www.satcon.com/>

Manufacturer of medium voltage static switch and voltage regulator. They also manufacture large megawatt DC power supplies for arc furnaces and process industries using IGBTs instead of thyristors. This results in high power factor and low harmonics. A division manufactures the **STARSINE** advanced rotary uninterruptible power supply (**Rotary UPS**). It is designed to provide 12 seconds of batteryless ride-through with ratings from 315kVA to 2200kVA with operating voltages between 380V and 4160V. A steel flywheel operates at 1980 rpm to provide stored kinetic energy. Bearings are built to require an inspection once every 10 years. Design provides for parallel operation of multiple units.

S & C Electric Company

6601 North Ridge Boulevard

Chicago, Illinois 60626-3997

Tel: (888) 762-8100

Web: <http://www.sandc.com/>

Patrick Moore, P.E., Territory Manager

San Francisco Sales Office

Tel: (925) 743-8254

E-mail: <mailto:pmoore@sandc.com>

Specialist in Electric Power Switching and Protection for utilities and industrial customers.

Power Quality product area includes: PureWave Source-Transfer Switching Systems;

PureWave DVR; PureWave UPS Systems; PureWave AVC Adaptive VAR Compensator;

PureWave

DSTATCOM; Mark V Circuit-Switches and Fault Tamer Fuse Limitor. Some of these products were developed by a division of Siemens acquired by S&C. The static transfer switch, DVR, AVC and DSTATCom were actually developed by Westinghouse by a division acquired by Siemens.

SIPCON - Active Power Line Conditioners using IGBTs based on Siemens SIMOVERT ASD technology. Low and medium voltage through transformers. Ratings from 2.2kVA to 1.3MVA.

SASCO Electrical Construction & Data Systems

San Francisco, CA

SASCO

490 2nd St

San Francisco, CA 94107

415-512-9158

415-512-8972 fax

Santa Clara, CA

SASCO

3508 Bassett St.

Santa Clara, CA 95054

800-400-2503

408-970-8300

408-970-8140 fax

Web: <http://www.sasco.com/>

Eight offices on the West Coast.

Services include: Pre-construction Services; Design Assist/Design Build; Electrical and Data Systems Construction; Super Sub and Material Procurement.

Schaffner EMC Inc.

52 Mayfield Avenue
Edison, NJ 08837
800-367-5566 Ext. 276
732-225-4789 Fax

Web: www.schaffnerusa.com

Manufacturer of power quality equipment – passive harmonic filters, active harmonic filters, sinewave and dv/dt filters, reactors and EMI filters

SCR Controls, Inc.

3479 Gribble Road
Matthews, NC 28105
Tel: (704) 821-6651
Fax: (704) 821-7999

Web: <http://www.scrcontrols.com/>

Specialize in service, repair and spare parts for obsolete WER/Emerson DC Drives and Eddy Current Drives. They also manufacture custom controls for DC drives. One such custom device is the patented **KNOWTRIP**. When this device is added to a motor contactor, undesired contactor dropout caused by power line voltage sags will be eliminated. Models for three control voltages: 120, 240 and 480vac. Prices start at \$34.00 for 120 vac model.

7x24 Exchange

Web: <http://www.7x24exchange.org/>

A knowledge exchange for those who design, build and maintain mission critical enterprise information infrastructure. 7x24 Exchange's goal is to improve end-to-end reliability by promoting dialogue among these groups.

Siemens USA

Web: USA. <http://www.siemens.com/>

Energy and automation web site: <http://www2.sea.siemens.com/>

Sierra Sales Engineering Inc.

5690 Sonoma Drive
Pleasanton, CA 94566
Tel: (925) 484-2250
Fax: (925) 484-9764

Web: <http://www.sierrasales.net/>

Offices in South San Francisco, Sacramento, Stockton, Modesto,
Reps for utility metering, transformers, Associated Engineering Co CTs and PTs;
Electro Industries power monitors and AVO/Megger/Metrosonics

For Utility Products:

Sierra Utility Sales, Inc.

1054 41st Ave.
Santa Cruz, CA 95062
Tel: 831-464-2250
Fax: 831-464-9009

Web: <http://www.sierrautility.net/>

E-Mail: <mailto:info@sierrautility.net>

Joe Palandrani, Sales Manager <mailto:joep@sierrautility.net>

Silicon Power Corporation

252 Welsh Pool Road
Exton, PA 19341
Tel: (610) 648-3909
Web: <http://www.siliconpower.com>

President and Founder, Dr. Harshad Mehta, formerly with EPRI, was the first to perfect static transfer switch technology for medium voltage applications, the PowerDigm in 1995. Silicon Power manufactures both low voltage and medium voltage switches. The premise for using this technology is that there are two available sources. The local manufacturer's rep in our area is *McLaughlin Associates*

SNC Manufacturing Co, Inc.

101 West Waukau Ave.
Oshkosh, WI 54902
Tel: (920) 231-7370
Fax: (920) 231-1090
Web: <http://www.sncmfg.com/>
Email: telecom@sncmfg.com

Specialty transformer/magnetics manufacturer for electric power utilities and telephone noise mitigation. SNC Current Balancing Transformer (CBT) allows only those currents flowing to the farm on the primary to return on the neutral. This is a stray voltage solution. AC Induction/Noise solutions include: induction neutralizing transformers, noise chokes and harmonic suppression reactors. Provides an annual AC Induction Problems and Solutions Seminar, four days to learn how to troubleshoot and effectively use test equipment.

Soft Switching Technologies, innovative power conversion solutions

8155 Forsythia St.
Middleton, WI 53562
Tel: 800-226-5028
Fax: 608-662-7300
Web: <http://www.softswitch.com/>

Company developed a dynamic sag corrector technology using power electronics and smart controller. The DySC family of products is rated at 250VA to 3,000kVA. It is intended to protect against deep voltage sags down to 50% and momentary power loss up to 12 cycles. Manufacturer claims its cost is half the competition. Single phase unit sizes: 250VA to 36kVA. Three phase unit sizes: 9 to 200kVA, voltages: 208 and 480. The MegaDySC series comes in sizes from 200kVA to 2,000kVA. All units designed to meet the SEMI F47 ride-through standard. Soft Switch introduced in 2002, the I-Grid web based distributed power quality and reliability monitoring and notification system. Low cost, voltage only, single phase \$495 and three phase \$595. <http://www.i-grid.com/>. After purchase, annual subscription service is \$125. Local sales rep is Tom Schneider at *Buckles-Smith* in San Jose

Sola Hevi-Duty

EGS Electrical Group
9377 W. Higgins Road
Rosemont, IL 60018
Tel: (847) 268-6000
Web: <http://www.sola-hevi-duty.com/>

Sola makes ferroresonant transformers which they refer to as Constant Voltage Power Conditioners. Sizes from 30va to 15kva single phase. They also make UPSs, sizes from 300va to 10kva single phase. Manufacture transformers to 600kVA and surge suppressors.

Square D Company, Groupe Schneider

San Francisco District Sales Office
6160 Stoneridge Mall Road, Suite 200
Pleasanton, CA 94588
Tel: (925) 469-0986
Web: <http://www.squared.com/>

This office is responsible for Square D electric distribution products including: breakers, GFI breakers, panels, TVSS breakers and they represent the **Power Logic** circuit monitors. Groupe Schneider is a French company with a large subsidiary that manufactures UPSs for world-wide distribution. The trade name is MGE. This will be the new name for Square D products in PQ mitigation, like UPSs. Square D imports two other French product lines: a) Merlin Gerin and b) Telemecanique drives using Square D name. Schneider Electric acquired Power Measurement in April 2005 and plans to integrate line with PowerLogic line.

SSAC, Inc., Manufacturer of motor protector/voltage monitor

P. O. Box 1000
Baldwinsville, NY 13027
Telephone 1-888-385-1221
Fax: (315) 638-0333
Email <mailto:ssac.info@us.abb.com>
Application Assistance (800) 377 SSAC (7722)
Web: <http://www.ssac.com/>

This manufacturer offers a \$200 model (WVM Series) with adjustable trip delay, automatic restart and a ten-fault memory and fault display LEDs. There is a lower cost model without time delay. SSAC was taken over by *ABB* in June 2001, but still manufacture their own unique product line.

Staco Energy Products Company

301 Gaddis Blvd.
Dayton, Ohio 45403
Tel: (330) 854-1147 ext 181
Toll free: (866) 261-1191
Fax: (330) 854-1174
Website: <http://www.stacoenergy.com/index.htm>
Email: gouglerc@stacoenergy.com

Manufacturers of power factor correction and harmonic mitigation (active and passive) equipment, three-phase and single-phase UPS, along with voltage regulation systems.

Steven Engineering

230 Ryan Way
South San Francisco, CA 94080
Tel: (650) 588-9200
Ordering Inquiries: (800) 670-1253
General Inquiries: (800) 670-4183
Toll Free Fax: (888) 258-9200
Web: <http://stevenengineering.com/index.html>
Stocking distributor for SOLA, ferroresonant transformer

Superior Grounding Systems

P. O. Box 2171
Irwindale, CA 91706-6232
Sales: (800) SGS-7925
Support: (626) 814-1981
Fax: (626) 814-4552
Email: <mailto:info@sgscorp.com>
Web: <http://www.sgscorp.com/>

Manufacturer of a low-impedance grounding system using hollow copper tubing filled with chemically charged Calsoyte metallic minerals creating an electrolytic solution that conditions the native soil to provide a reduction in resistance between the electrode and the earth. Another enhancement is the use of special backfill materials to maintain moisture, provide cathodic and corrosion protection and enhance the surrounding soil conductivity. This system is designed for customers that have extreme low impedance grounding needs such as computer data centers or other mission critical processes in poor soil conditions. If you have normal soil conditions, then the usual multi-rod ground grid will normally be sufficient to get the impedance down to 1-5 ohms.

Surge Suppression, Inc.

P.O. Box 1212
Destin, FL 32540-1212
William (Will) Banker
Account Acquisition Director
wbanker@surgesuppression.com
www.surgesuppression.com
850-654-5559
888-987-8877 Toll Free
850-654-3844 Fax
888-900-8879 Toll Free Fax
850-259-3183 Cellular

William H Swain Co.

1611 S. Isabella Road
Mt. Pleasant, MI 48858
Tel: 989-773-3700
Toll free: 1-888-METER58 (638-3758)
Web: <http://www.swainmeter.com/>
Email: davec@swainmeter.com
info@swainmeter.com

In business since 1964 making low current DC current measurement devices principally for steel pipeline companies concerned with corrosion protection. Low current being from 1mA up to 20A. This is a specialty area because typical current clamp on devices are not accurate below 1A. Has also developed low current AC current measurement devices.

SymCom, Inc.

2880 North Plaza Drive
Rapid City, SD 57702
Tel: (800) 843-8848 / (605) 348-5580
Fax: (605) 348-5685
Web: <http://www.symcom.com/>
E-mail: <mailto:sales@SymComInc.com>

Manufacturer of electronic relays that provide motor current and voltage protection. It is advisable to only choose models that have an adjustable time trip delay to avoid nuisance tripping, which will increase cost of device.

T

TCI Transcoil International

7878 N. 86th Street
Milwaukee, WI 53224

Tel: (414) 357-4480

PQ Helpline (800) 824-8282

Fax: (414) 357-4484

Web: <http://www.transcoil.com>

Email: MTibbitt@Transcoil.com

Manufacture of Harmonic Mitigating Filters for use with Variable Speed Drives.

Input Filters include – Reactors, Drive Applied Passive, and Bus Applied Active Harmonic Filters Meeting IEEE-519.

Output Filters Include – Reactors, Long Motor Lead dv/dt Filters, and Sinewave Filters
EMI/RFI Filters.

Teal Electronics Corporation

10350 Sorrento Valley Road
San Diego, CA 92121

Bob Close (rclose@teal.com)

Web: www.teal.com

Tel: (858) 366-7606

Cell: (805) 294-2291

Teal manufactures nearly 90% of the power conditioning and distribution units for the medical imaging industry. They also provide the lowest impedance systems available for many large laboratory and system test installations for the semiconductor, and aerospace industry. They are now beginning to service the solar and other green power industries. All of their designs are custom.

Telogy

3200 Whipple Road
Union City, CA 94587

Toll free: (800) 835-6494

Web: <http://www.telogyllc.com/>

Rents electrical test equipment

Test Solutions West, manufacturers' representatives

1541 Goody Lane, Suite 100

San Jose, CA 95131

Tel: 408-452-1105

Fax: 408-452-1715

Email: mailto:Lfarrer@aol.com

Contact: Les Farrer

Firm was founded in 1994. Focused on the sale of quality instrumentation used in design, test, debug, and performance verification of products in the research, engineering, manufacturing, and quality assurance areas of the electronics industry. Including: **Dranetz-BMI**; Power innovation International-UPS; Boonton Electronics; and Guildline.

Time Mark Corporation

11440 East Pine Street

Tulsa, OK 74116

Tel: (800) 862-2875

Web: <http://www.time-mark.com>

Email: Sales: <mailto:sales@time-mark.com>

Engineering: <mailto:engineering@time-mark.com>

Manufacturer of voltage protection for three phase motors (20 models). It is advisable to only choose models that have an adjustable time trip delay to avoid nuisance tripping, which will increase cost of device.

Toshiba, Industrial & Power Systems Products

13131 West Little York Road

Houston, Texas 77041

Tel: (800) 231-1412

Fax: (713) 466-8773

Web: <http://www.toshiba.com/ind/>

Manufacturer of 4100 series UPS up to 100 kVA in Houston, Texas. Features low input distortion, high power factor for low burden on standby generator. IGBT front-end rectifier. Capable of 100% unbalanced load.

Transformer Engineering, LLC

2550 Brookpark Road

Cleveland, OH 44134

Tel: (216) 741-5282

FAX: (216) 741-4860

Web: <http://www.trenco.com>

Email: sales@trenco.com

Manufacturer of harmonic mitigating, multi-pulse transformers, chokes and reactors. Complete line of UL recognized 18-Pulse Autotransformers for low voltage applications. Medium voltage step down isolation transformers to multi-pulse secondary designs for 12-, 18- or 24-Pulse drives.

Tripp Lite Worldwide

1111 West 35th Street

Chicago, IL 60609

Tel: (773) 869-1111 also (773) 869-1000

Fax: (773) 869-1329

Web: <http://www.tripplite.com/> for models and prices

Small single-phase 120/240volt units. UPS, SPD, line conditioners, ferroresonant based voltage regulators.

U

Unisin Power Technology

P.O. Box 3308
444 North Amelia Ave.
San Dimas, CA 91773
Tel: (909) 305-4846
Fax: (909) 971-0206
Web: www.unisin.com
Contact: <mailto:wgilwood@unisin.com>

Company provides power quality solutions for complex and demanding electric power applications at all voltage levels. They engineer and manufacture filters including their Unisin 3100 Broadband Harmonic filter, which is a passive filter that can handle all harmonics with one filter, and achieve superior performance that is constant with load.

United Electric Motor Co.

1225 – 10th Ave.
Oakland, CA
Tel: (510) 834-9126
A GE authorized motor service center. Largest motor size for re-winding is 200 HP. Cannot do in-field work. In business since 1930's.

V

VAR + CONTROLS, INC.

P. O. Box 585
Whitmore Lake, Michigan 48189
Tel: (734) 449-4416; (800) KILOVAR
Email: <mailto:varcontrols@provide.net>
Web: <http://www.myronzucker.com/varcontrols.html>

Design engineer: Mr. William McConnell.

Design and build power factor correction, harmonic filters and transient correction. All systems are custom designed. VAR + CONTROLS is associated with Electrotek Concepts, Inc. Electrotek can perform harmonic studies so that power factor correction can be accomplished without problems.

VitaTech Engineering LLC

115 Juliad Ct., Ste. 105
Fredericksburg, VA 22406
Tel: 540-286-1984
Fax: 540-286-1865
Mobile: 703-906-1565
Web: <http://vitatech.net>

VitaTech Engineering performs comprehensive EMF/EMI/RFI (Electromagnetic Field/Electromagnetic Interference/Radio Frequency Interference) surveys, offers risk assessments, and designs/installs state-of-the-art magnetic and RF shielded rooms. Their EMF staff can simulate the magnetic field emissions and evaluate the potential EMI impact from transmission and distribution lines, substations, transformers, secondary feeders, switchgears, busways, conduits, electrical panels and virtually any power source including HVDC transmission lines. They also offer professional RF services measuring/documenting full FCC compliance of cell towers, roof-top antenna farms, commercial broadcast, mobile, marine, pager, and any RF antennas (emitters) up to 26 GHz.

VYCON

23695 Via Del Rio
Yorba Linda, CA 92887
Tel: (714) 386-3800
Fax: (714) 386-3891

Email: sales@vyconenergy.com

Web: <http://www.vyconenergy.com>

An innovator in the design and manufacturing of technologically advanced flywheel energy storage systems that enable a highly reliable, cost-effective and “green” energy storage solution for a variety of applications.

W X

Harold Wells Associates, a manufacturer’s rep

3223 Crow Canyon Road
Suite 300
San Ramon, CA 94583

Tel: (925) 355-9900

Web: http://www.hwales.com/nor_cal/nc_home.html

Emergency power and power quality mitigation

Contact: Jim Hoyt, Principal / Sales Engineer / Represents Russelectric

Y Z

Zero Surge, Inc.

889 State Route 12
Frenchtown, NJ 08825

Tel: 800-996-6696

Fax: 908-996-7773

EMAIL: <mailto:info@zerosurge.com>

Web: <http://www.zerosurge.com>

Incorporated in 1989 to develop surge protection that did not depend on MOV technology that fails and leaves the sensitive equipment unprotected. Solution is a series-mode inductor based design. Product is UL listed, but not 1449 second edition. We recommend for MOV-based units.