PROTECHNO

ENGINEERING SERVICES AND TRADING

COMPANY PROFILE

Our Company

Protechno Engineering Services and Trading was established in February 2012 to support our partners in the field of metalworking, filtration, and services. We specialize in machine parts repair of any brand, oil restoration of used oil, earthquake detection and seismograph, and lastly, solar power.
Through the years, we were able to identify key solutions that will benefit our customers and of course, Mother Earth.

Our Vision

To promote effective solutions through cost efficient products and services to our customers. Therefore providing new technologies while reducing operation cost; thus protecting our customer's investments.
Make use of new technologies to preserve nature for the future generation.

Our Mission

In Protechno, we believe that the customer has:

- *the right to get the best price*
- *authority to demand efficiency*
- *the benefit of a quality product*

We believe in promoting our four R's

Repair - Reuse - Recycle - Renewable Energy

Company Details

Proprietor:
Engr. Josefino "JAY" De Jesus, RME

Office Address:
Block 7 Lot 21 Fiber Optic Street, PLDT Village. Bo. Soro-soro, Binan, Laguna 4024 Philippines

Contact Number:
Landline: +6346 4436169
Mobile: +63917 5659681

Email Address:
protechnoest@gmail.com

Website:
www.protechnoengineering.com

Admin/Sales Executive:
Ms. Denny Dee P. Bartolome

Repair Services

Motor Rewind/Repair

Pump Motors

AC Motors

Submersible Pump Motors

Induction/Stepper Motors

Amplifier Repair

Fanuc

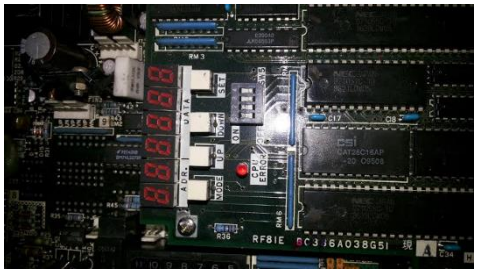
Mitsubishi

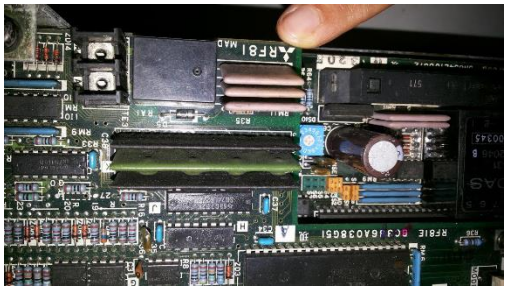
Sanyo Denki

Vexta

PCB Board Repair

I/O, Relay, NC, Slave, Memory (based on damage)





Machine Control Panel Coolers

APISTE, RITTAL, HABOUR

Our repair services will guarantee customers with a 40-50% savings based on brand new parts cost.
It will also help customer lessen their waste as defective parts are not thrown.
We can also provide a better lead time compared to delivery of brand new parts therefore reducing customer's machine downtime.

Repair Services

Machine Modules

Machine Controllers

Power Supply Modules

PLC

Machine Monitor Repair

Picture Tube

LCD

Others

Directional Valve

Cryometer

Flowmeter

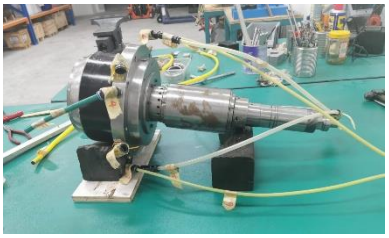
We specialize in the repair of all machine electronic parts.
We can also supply or outsource any machine parts as per customer's requirements.

Repair Services

CNC Machine Spindles

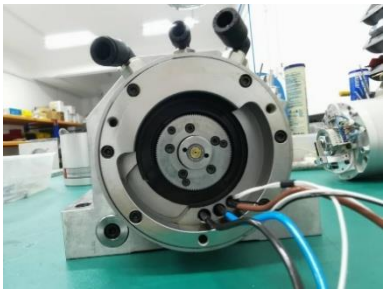
Brother Spindles
(all types)

Fanuc Spindles
(all types)

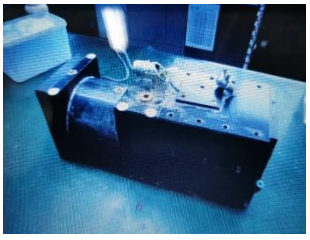


Makino Spindles
(all types)

Schneider Lens Grinding Spindles



Satisloh Lens Grinding Spindles



Lens Polishing Spindles

Disco Grinding Spindles

We repair ALL types of spindles. For Taiwan/China made CNC machines, we will be using original/branded bearings as replacement bearings.

Brand New Spindles

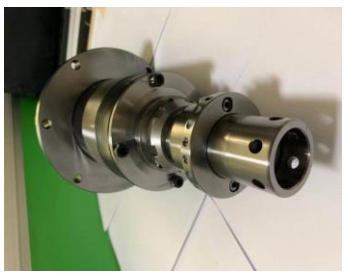
CNC Machine Spindles

Brother Spindles
(BT30)

Spindle Shaft
(BT30)

Drawbar
(BT30)

Fanuc Spindle



24K RPM

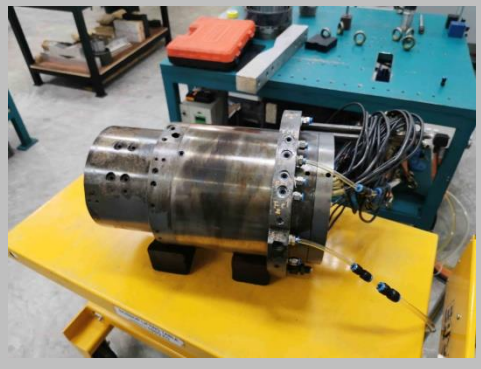
10K RPM

Machine Preventive Maintenance Services

Spindle Repair Process

Ball Bearing Type

Dismantle spindle assembly and assess each components



Assess coolant flow function of the spindle

Spindle Repair Process

Ball Bearing Type

Shaft and components

Analysis and Check










After Receipt of P.O.

Spindle cleaning and shaft rework


Spindle Repair Process

Ball Bearing Type

Quality Inspection Check After Rework.

Spindle Assembly. Replaced with brand new bearings and seals

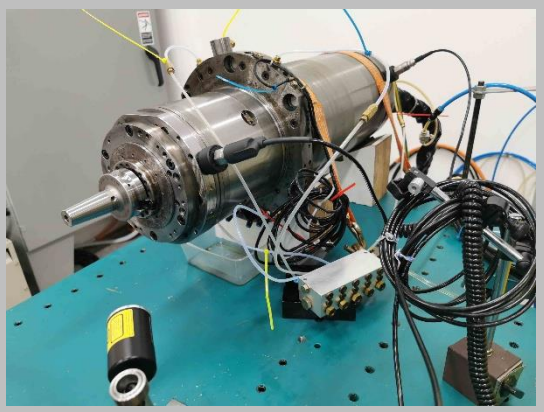
Spindle Clamping force Check

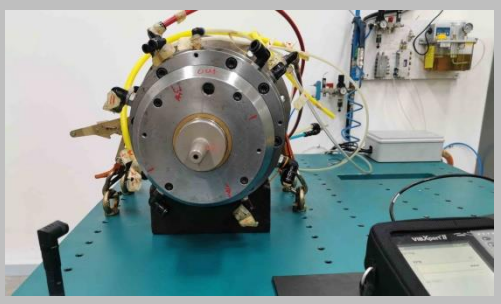
Spindle Repair Process

Ball Bearing Type

Spindle Run-out check.

Spindle Balancing





Spindle Speed Encoder Test

Spindle Repair Process

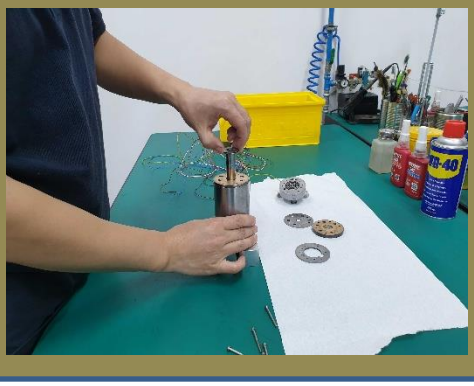
Air Bearing Type

Dismantle spindle assembly and assess each components

Spindle Analysis

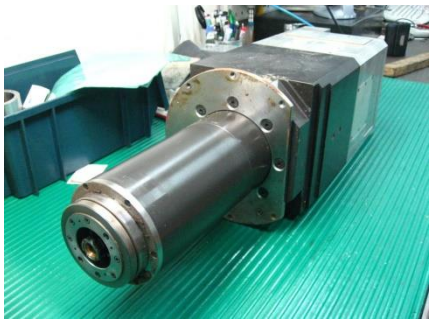
Shaft re-grind

Spindle Assembly



Spindle Repair

Spindles we repaired



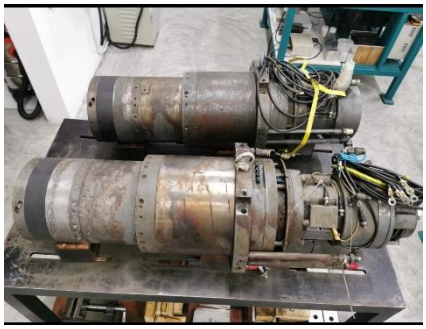
Wood Carving Spindle
Homag/Omlat

Lens Grinding Spindle
Schneider

YCM BT40 15K RPM
Spindle

Mori Seiki BBT40
14K RPM Spindle

DMG BBT40 15K
RPM Spindle



Toyoda BT40 15K
RPM Spindle

Mazak BBT40 12K
RPM Spindle

Horkos HSK A63 12K
RPM Spindle

Okuma BT40 15K
RPM Spindle

Spindle Repair

Spindles we repaired

Brother BT/BBT 15 and 30
10k/16K/27K/30K RPM Spindles

Fanuc 10K and 24K RPM Spindles

We also repair the following:

Howa BT15/30 Spindles
Kira BT30 Spindles
MEI System Grinding spindles

Spindle Tool Interface; BT/SK
BBT
HSK
KM6350
Internal grinding

SPINDLE REPAIR PROCESS FLOW

Inspection and Assessment

→ Quotation
- Standard parts replacement
- Other damages

YES → Receipt of P.O.
- Spindle cleaned
- Shaft/components rework/replace
- Assembly

→ Function test
- Run Out
- Clamping force check
- Speed Encoder Test
- Temperature test
- Coolant flow test
- Vibration Test
- Voltage and Ampere Test

→ Test Run
Balancing
Burn In

→ Packed and Shipped

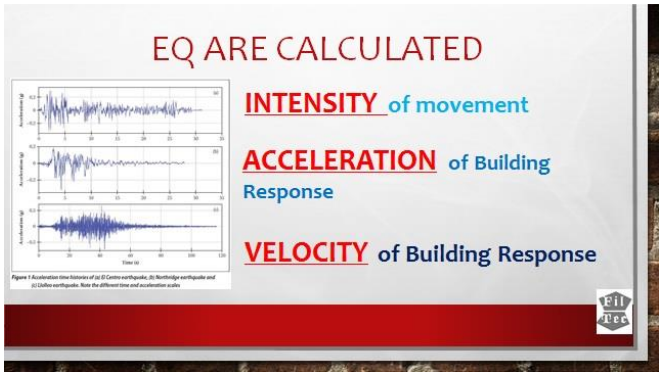
NO → Packed and Shipped

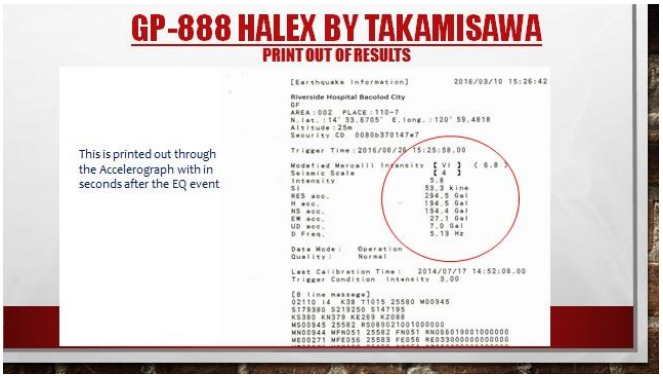
Seismic Accelerograph

Halex by Takimisawa is a seismic accelerograph or intensity meter that measures the earthquake's intensity of movement, acceleration and velocity of building response.

***Protechno Engineering is an authorized marketing arm for this equipment solution.*

Seismic Accelerograph





Benefits:

1. Can save you the time and money. Instead of asking and waiting for the official announcement of the government for the actual intensity of the earthquake, this equipment can give you a result in less than 5 minutes.
2. Your facilities can be an earthquake readiness compliant with regards to government requirements.
3. You can incorporate your alarm system and building safety features with this equipment.
4. Safety information and protocols can be immediately implemented after an earthquake.

CITY OF MANILA
OFFICE OF THE BUILDING OFFICIAL

CERTIFICATE OF INSTALLATION

EARTHQUAKE RECORDING INSTRUMENTATION

Is being awarded to the City Hall of Manila located at Padre Burgos Avenue, Ermita Manila on the 12th of September 2015., in compliance with the Guidelines and Implementing Rules on Earthquake Recording Instrumentation for Buildings as prescribed by the National Building Code Development Office – DPWH.

Name of Earthquake Recording Instrument Installed: GP888 Halex by Takamisawa Accelerograph + Intensity Meter

Engr. Armando L. Andres
Building Official

Not valid without dry seal

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

CERTIFICATE OF APPRECIATION

is awarded to

HALEX CORPORATION JAPAN

For installing a Seismic Accelerograph **GP-888 Halex by Takamisawa** (Distributed by Filipinas Tectonic Safety Systems Corporation) in our agency's Central Office Building Lobby last June 2015. This is in connection with the 2015 DPWH Guidelines and Implementing Rules on Earthquake Recording Instrumentation for Buildings that this agency released last January 2015. Given on this day 20 April 2017 at the Department of Public Works and Highways Central Office, Bonifacio Drive, Port Area, City of Manila.

Gilberto S. Reyes
Assistant Secretary
For Technical Services

Surviving an earthquake is everyone's business!

SERIES RG 400 – EQ-I81
Accelerograph Systems

שירות התרעה מציל חיים מרעידת אדמה

The technology – the ability to detect earthquake motion, and to reject non-seismic noises – was tested by some of the most advanced and renowned seismic laboratories and professionals in the world including:

- The Institute For Petroleum Research and Geophysics, Israel.
- Technical institute of Israel, Haifa, Israel.
- Structural Engineering and Earthquake Simulation Laboratory, State University of New York at Buffalo.
- Department of civil and environmental engineering at the University of California at Berkeley, USA.
- Department of Earthquake Engineering, Bogazici University, Turkey.
- National & Kapodistrian University of Athens, Laboratory of Seismology ("Seismopolis"), Athens, Greece.
- Institute of Geophysics, UNAM University, México D.F., México.

Specification EQ-I71

Measurements:	800 X 400 X 250 (h,w,d)	Power:	
Weight:	~25Kg (without battery)	Adapter Input Voltage:	230VAC,350mA,50Hz
Installation:	Wall mounted	System Input Voltage:	16VAC
Operating Temperature:	0~40° C	Power Consumption (idle):	70mA
		Battery:	20Ah 12VDC
Outputs:		Operating time (battery only):	> 8 days
TFD (Public address system)	300mV(p-p)@600Ω		
Local Siren			
Dry Contact	NO/NC (3A)		

Detection modules:

EQ-II1 type			
Input voltage:	18VDC 1A.	Operating temperature:	20~60° C
Adapter:		Storage temperature:	-20~60° C
Input:	110/240 VAC @ 50/60 Hz.		
Output:	18VDC 1A.		
Battery:	Rechargeable battery, 12V, 3.3Ah.	Connectivity:	RS232, internet via proprietary software
Operating time (Battery Only):	> 4 weeks.	Sample rate:	5-500 SPS
Installation:	Wall mount unit	Sensitivity:	≥ 5mg @ 0.1 Hz – 15 Hz
Enclosure:	4 mm, Aluminum cast.	Outputs:	8Ω, 40W audio; lineout (330mV @ 600Ω); 12V,1V, relay NO/NC (continuous or pulse)
Resistance:	IP-66	Dimensions:	190 X 245 X 92.5 mm (w,h,d)
EGA Type			
Installation:	Wall mount unit	Output:	
Dimensions:	238X160X193 mm(h,w,d)	Flashing lights	
Operating temperature:	0~40° C	Local Buzzer	103db @ 1m
Operating voltage:	12V, 6V	Dry contact	NO
Sensitivity:	≥ 5mg @ 0.1 Hz – 15 Hz	Sensor:	Mechanical with electronic filter

"EXPERIMENTAL EVALUATION OF EARHQUAKE ALERT DEVICES" Study Performed By Seismology Phds.: Carlos Valdes Gonzalez, Luis Quintanar Robles And Arturo Iglesias Mendoze. (Institute of Geophysics, UNAM University, México D.F., México.)

- "The device may be useful in mitigating injuries and loss of lives if an alert time of 15 to 45 sec is sufficient to put in to effect pre-established safety measures."
- "The device would be useful for shutting critical facilities before the arrival of large-amplitude ground motion."
- "The proposed device seems well suited to stop critical services and equipments during an earthquake before the arrival of intense motion."

"STUDY OF THE REJECTION CAPABILITIES OF NON SEISMIC NOISE OF THE EARLY WARNING DEVICE" By Dr. A. Hofstetter

The study was conducted under the guidance of by Dr. A. Shapira of the Seismology Division, The Geophysical Institute of Israel, conducted at the Department of Earthquake Engineering, Kandilli Observatory, Boagzici University, Istanbul, Turkey.

"... The aim of these tests was to check the response of the devices to the introduction of seismic or non seismic vibrations at various levels. Both units were found to operate well, i.e. issue an alarm shortly after the start of recorded motions of various earthquakes. The devices were not triggered by non seismic vibrations..."

SERIES RG 400 – EQ-I81 Accelerograph Systems

Technology – EQI81 is an Accelerograph system that is developed more than a decade ago in Israel to protect its people and structures from the devastating effects of earthquakes. Presently, Israel made it a policy that all school buildings and many other public buildings should be protected by the accelerograph system. To date, close to 2,000 buildings are now being protected by the EQ Technology – EQI81 accelerographs and are all being monitored in different command centers all around their country.

Specifications
EQ-I81 – Earthquake early warning system

Manufacturer	EQ Earthquake Ltd
Exclusive Distributor in Israel and Other Countries	Reshef Securities Ltd.
Exclusive Distributor in the Philippines	Filipinas Tectonic Safety Systems Corporation
Natural Frequency	>50Hz
Damping	50-70% Critical
Sensitivity	±3g
Bandwidth	DC to 100Hz
Environment	IP67
Sampling Frequency	100 samples per second
Time	20 seconds before the quake up to 30 seconds after Quake
RMS Noise	> 40g measured over 30Hz
Media	Memory Card
AD Converter	16 bits
Timing	
Interval	0.5 seconds or less
Accuracy	± 0.2 second per 100 seconds

Type	**NTP Server**
Triggering	Pendulum
Method	Sensor
Level	0.5 0 to 100 gals
Velocitimeter	5>m/s to 1mm/s
Time	0.1 second after activation
Power	Battery Maintained by Charger
Communication	
Ethernet	10 base 10/ 40
Protocol	TCP/IP, FTP/SFTP
Others	
Fault Detection	Positive (+)
Real Time Alarm Information - Visual / Audio	Positive (+) Real Time Alarm
Design Life	10 Years
Minimum of three components (Vertical, Longitudinal and Transverse)	Positive (+)
Stores seismic activity information as gathered by the attached accelerometer	Recording Accelerograph

שירות התרעה מציל חיים מרעידת אדמה

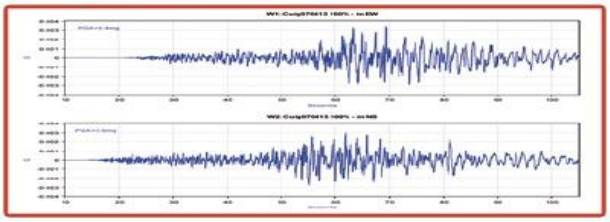
"EXPERIMENTAL EVALUATION OF "EARTHQUAKE ALERT" DEVICES" By Andrei M. Reinhorn, PE, Ph.D. Clifford C. Furnas Eminent Professor Department of Civil, Structural and Environmental Engineering Dohwan Kong, MS Ph.D. Candidate Department of Civil, Structural and Environmental Engineering Report No. CSEE-SEESL-2008-03 University at Buffalo. Buffalo, New York, 14260, USA.

- "The devices sensitivity as measured is above 5mg (median of several measurements)."
- "The response of the devices is consistent, usually independent on the location, if the time record has values larger than the minimum sensitivity."
- "The devices have a time delay of less than 0.5 seconds."
- "The devices did not trigger at high frequency noise, which was always present in the testing equipment prior to the earthquake motions."
- "The time of "warning" depends on availability of low (3mg) and high (50mg) acceleration waves representing P and S waves. The devices were able to detect a good part of the difference between the arrival times between P and S waves (P-S time)."
- "The warning time to the peak motion in the record is substantial exceeding 10 second in most records and up to 40 to 50 seconds (in case of a far field record of Mexico City)."
- "The devices as tested produce repeatable responses, and consistently triggered above the specified minimum threshold."





Ground Motion	Date	Station/Dist. (km)	Magn (Rich)	PGA(mg)
Aqaba.22	11/22/95		7.2	113.5
Kobe/FUK	01/17/95	Fukushima/30	7.1	41.4
Kobe/HIK	01/17/95	Higashi-Nada/20	7.1	146.8
Mexico City, Mexico MZH	9/19/85	S.C.Trans/400	8.1	171
Northridge/SantMon	1/17/94	Santa Monica/25	6.9	66.6
OKA				859.3
OSA				77.2
TOT				80.8
				76.7

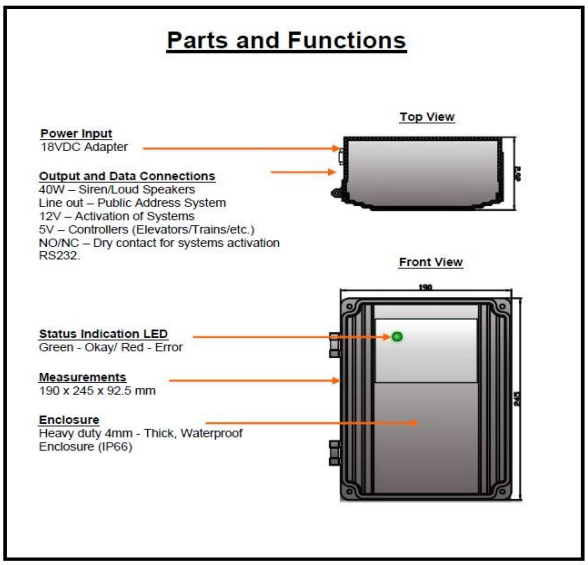


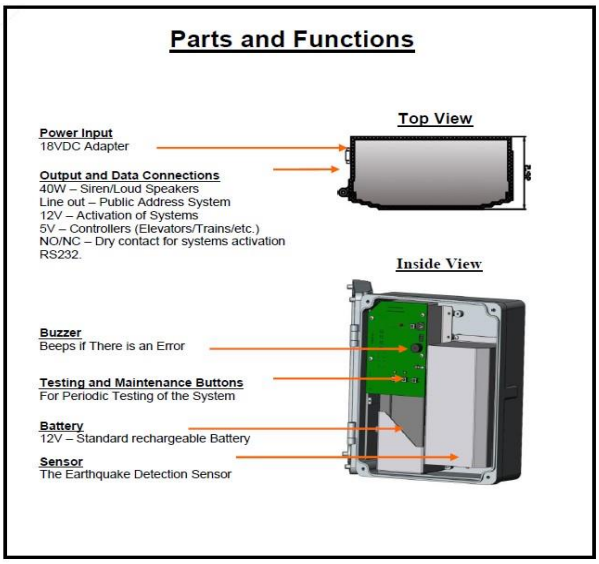
Special Features:

- While a centralized system might fail after an earthquake - it may suffer direct or indirect (infrastructure) damage. The EQ-I71 will keep functioning at local sites, providing further defense against the risk of aftershocks.
- The system can differentiate between potentially destructive earthquakes and non-destructive ones (the alarm will not sound if the earthquake will not be felt in the installation location, preventing unnecessary and costly response. The device was evaluated by the National Seismological (SSN) Service at the Universidad Nacional Autónoma de México, where it was installed and tested. "... Within the period of July 31 to August 12, 2007 the National Seismological Service (SSN) detected 19 quakes lower that 4.0 in magnitude and 26 quakes greater than or equal to 4.0 in magnitude. The system did not set off any alert during the tested period... "It is important to clarify that none of the enlisted quakes was sensed in Mexico City, which is where the device was located.
- Every installed EQ-I71 unit acts as a station for a larger scale seismic network (nation wide). This seismic network can provide more warning time in some cases by triggering farther interconnected sites from stations that are located closer to the epicenter of the quake.
- The system can store more than one warning message. For instance, if a school wants to initiate a drill (which is a mandatory part of its earthquake preparedness) it can use a slightly different warning message, one that indicates that a drill is taking place.
- The system uses both mechanical and electronic sensors. It is known that mechanical sensors are more reliable than electronic ones. They do not suffer from EMI (Electromagnetic Interference), power failures, and other possible noises that can cause them to malfunction.
- The system can operate for up to 3 weeks with no supply of external power (with only the backup battery). This makes it more reliable in case the power grid gets damaged from the earthquake and aftershocks are imminent (this is without mentioning all the other failures that may occur - radio transmission, internet, centralized system, etc.).
- The detection mechanism of the system has gone through rigorous testing in some of the most renowned seismic laboratories around the world with always excellent results.

Filipinas Tectonic Safety Systems Corporation
Address: U-206 FCC Building, 119 Rada St., Legaspi Village Makati City
Contact Number: (02) 834-2894
Email Address: filipinastectonic@gmail.com

The Israeli-made high technology **EQI81** boasts that it is **capable of identifying earthquake episodes up to 2 minutes before the actual arrival of earthquakes to a point or location with its advanced technology accelerometer or sensor.** It also takes pride in being able to incorporate its hi-tech processor or accelerograph with the accelerometer in one console unit. This system can be installed in any concrete wall on the ground floor, unlike in other machines which needs to get the buildings center of gravity for its placement.





Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE SECRETARY
Manila

GUIDELINES AND IMPLEMENTING RULES ON EARTHQUAKE RECORDING INSTRUMENTATION FOR BUILDINGS

The NSCP 2010 states that *"Unless waived by the building official, every building in Seismic Zone 4 over fifty (50) meters in height shall be provided with not less than three (3) approved recording accelerographs. The accelerographs shall be interconnected for common start and common timing."*

In the Philippines, the **SERIES RG-400 of EQI81 was recently launched in March 2019 to satisfy the Department of Public Works and Highways (DPWH) Guidelines and Implementing Rules on Earthquake Recording Instrumentation for Buildings 2015**. It also received several international testing laboratory certificates from the following: The Institute for Petroleum Research and Geophysics, Israel, Technical Institute of Israel, Structural Engineering and Earthquake Simulation Laboratory Buffalo, Department of Civil and environmental engineering at University of California, Department of Earthquake Engineering Turkey, National & Kapodistrian University of Athens Greece and Insitute of Geophycis Mexico.
The exclusivity to market, sell and maintain the RG400 SERIES in the Philippines is given to Filipinas Tectonic Safety Systems Corporation. There are now accredited dealers in the Philippines like One Direction Corporation

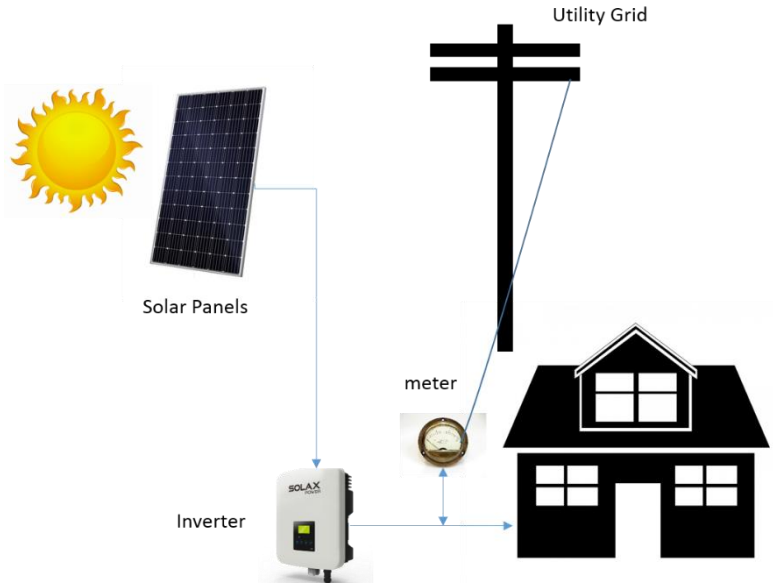
The SERIES RG-400 accelerograph in the Philippines is simple, plug-and-play and independent system once armed or terminated, is good to stand on its own while waiting for earthquake episodes for it to warn the people inside buildings whether they need to evacuate the building or not. Automatic shut off mechanisms of other amenities such as elevators, gas lines water lines and others can be controlled once connected to the system. After its installation, the building administration also will be freed from worries on how to operate the machine because the EQI181 SERIES 400 will give output results instantly from the assigned website for each building or structure where it is installed. The results can also be retrieved from the Accelerograph unit itself by downloading the results from its internal memory card. The system also does not need any other peripherals, laptop or other processors to function as an accelerograph- because of its unique function as a stand-alone independent unit.

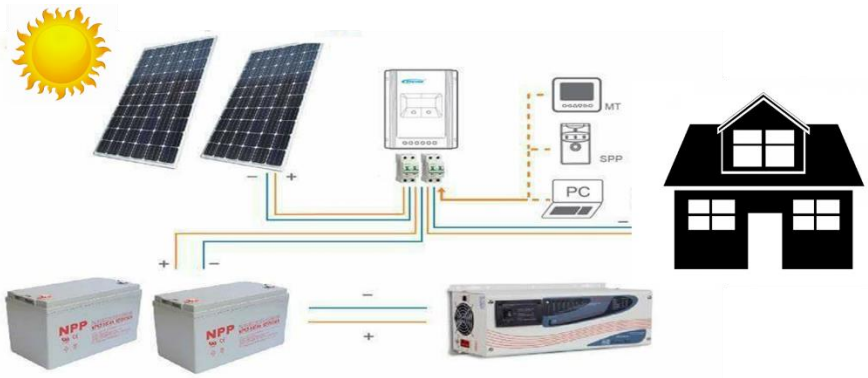
Worldwide, this Israeli-technologically made earthquake accelerograph system also has already proven its efficacy by the thousands of units installed all around Mexico and other South American countries which are prone to earthquake disasters. Hundreds of thousands of lives were warned and saved because of the use of this technology.

Solar Power Solutions

Protechno Engineering in partnership with Polygon Solar Energy Corporation provides solution for your Solar Power needs. We can install various solutions based on your requirements. We are also capable of providing solar power components as replacement parts for your existing solar power systems.

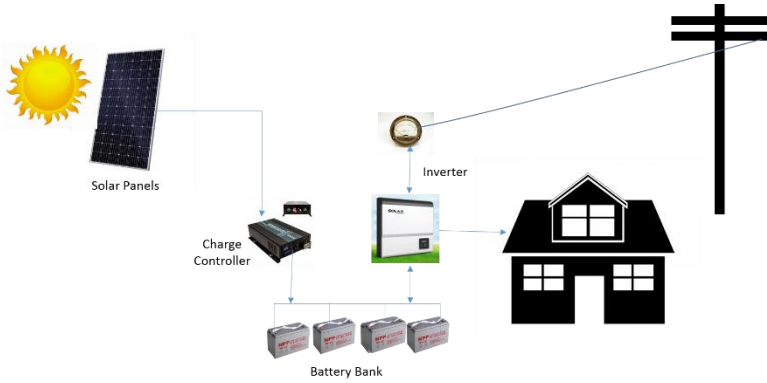
Power Grid-Tied Solar – a Solar Power System that is connected directly to the power grid.





Off-Grid Solar Power – a Solar Power System opposite the Grid-Tied type. Normally used for location when there no other source for power. A stand-alone system that may depend on the battery bank system.

Hybrid Solar Power – a Solar Power System opposite the Grid-Tied type. Normally used for location when there no other source for power. A stand-alone system that may depend on the battery bank system.



Solar Solutions

Solar lights, Solar ACU, Solar Submersible Pumps

Solar Lights

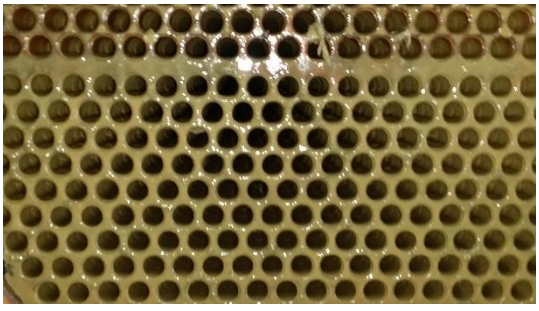
Solar Submersible Pumps

Solar ACU

Industrial Solution and Services

1. **Boiler (Product Boil Treat BWT-1260)**
    1. Anti-Scalant Water Treatment (Scale)
    2. Oxygen Scavenger
2. **Cooling Tower (Open Cooling)**
    1. Scale Inhibitor PENTREAT 5070 (Scale and Corrosion)
    2. Algaecide ALTREAT 1610 (Algae)
    3. Micro-biocide MITREAT 1620 (Micro-organism)
3. **Chilled Water (Closed Cooling)**
    1. Corrosion Inhibitor CHLTREAT 900 (Corrosion)
    2. Micro-biocide MITREAT 1620 (Micro-organism)
4. **Equipment for Supply and Installation**
    1. Chlorinator
    2. TDS Controller (on-line)
    3. pH Controller (on-line)
    4. Chlorine Analyzer (on-line)
5. **Services**
    1. Disinfection (Water Tanks and Pipelines)
    2. Pre-operational Cleaning/Passivation/Pickling (New installed Pipes and Equipments)
    3. Chemical Descaling (Bolier, Condenser, Evaporator, Cooling Tower, Oil and Air Coolers)
    4. Chemical Cleaning (Air Handling Units and Evaporators)
    5. Replacement of Plastic Filters (Cooling Towers)
6. **Waste Water Treatment (STP)**
    1. Bacteria with Enzyme (BOD, COD, OILS, etc)
    2. Chlorinator (Total Coliform, E. Coli, etc.)
7. **Preventive Maintenance Supplies**
    1. Heavy Duty Descalers
    2. Aircon Coil Cleaner
    3. Liquid Chlorine

Industrial Solution and Services



THANK YOU!

From us, it has been our solemn pledge to provide quality and efficient products and services to our esteem customers.

Given the chance, we ought to be your business partner for a lifetime.

As our environment calls for a need to reduce pollution and contaminants and at the same time, promoting the use of green and recyclable energy, we at PROTECHNO has taken a company aim of promoting services and products that will benefit our Mother Earth.

For any inquiries, suggestions, complains or simply want to talk to us regarding your factory problems and concerns, please contact us.