



In our **World**,
some things
are **FORBIDDEN...**

"Sinetamer® is our only business"

When we started off, in this fascinating world of power quality, we knew that if we could develop high quality suppressors with a design and performance that would make a difference, we would become valuable partners with electrical and electronic maintenance personnel around the world. We have achieved this objective and now have tremendous benefits to offer their companies and to themselves: that is our goal.

Jeff Edwards
President ECS



Our Company

From the very beginning, our goal was not only to develop a line of suppressors with other designs that would make a substantial difference and whose specifications could overcome the ones previously placed on the market, but that they could also be regarded as standard suppression., both in design and performance.

The utilization of qualified design engineers, plus their hard work and dedication, all contributed to our rapid growth and allowed us to position ourselves as industry leaders. Thus, through patience and effort, SineTamer® has increasingly become the preferred line of suppressors achieving significant results in all segments of the economy such as: Petroleum, Manufacturing, Telecommunications, Finance, Construction, Defense and Trade.

A Brief History...

The company was started in 1987 as an independent distributor of suppressor devices. Over the years, we have provided quality products and service to our customers and distributors. In 2003, we decided to create our own brand and design. A team of professionals with broad experience in the development of suppressors worked diligently to design SineTamer®.



"Longer equipment life, and increased production"

International Coverage

Energy Control Systems and its partners have managed to grow in the U.S. market as well as internationally, with the presence of major distributors worldwide. North, Central and South America, Europe, Asia, Africa and Oceania all have trained distributors, their own inventory and application engineers, they permanently provide advice to thousands of companies that require our services and which we will gladly serve.

SineTamer® is an industry leader in the design and implementation of surge suppression devices. Our engineering and support team participate in a wide variety of industry organizations:

- * IEEE Working Group 3.6.10, 3.2 and 3.6
- * IEC US TAG TC37
- * UL Industrial Advisory Council, since 1996
- * US Delegate to IEC SC37A, since 1996
- * American management Association
- * American Society for testing and Materials
- * Member, Chamber of Commerce and Better Business Bureau
- * Member, technology Coast manufacturing and Engineering Network of Northwest Florida

Vision - Mision Statement

INTEGRITY

At ECS we understand the importance of ethics, we know what is right, just and true. It is based on these values that we create our designs, manufacture our products and provide service, support and information.

URGENCY

At ECS we know that time is money. That is why we make every effort to resolve technical questions and consultations of our customers with unusual speed for the industry.

RELIABILITY

Today, the business world requires compliance and timeliness. There is a constant drive to serve our customers with greater excellence. In that sense, our contribution is essential for companies that care about their customers, since we understand that in a highly competitive world it is critical that you do not fall behind.

SERVICE

We are fully dedicated to our customers! They are our permanent motivation and that drives us to keep working. Our excellent service is the answer to the market's demands.



Our mission of protecting electronic infrastructure is what motivates us to continue reaching out around world. From the continual distributor training, client visits, participation invarious global trade fairs and presenting research papers; our mantra continues to be protect your investment in 21st century equipment with the application of 21st century surge protection – SineTamer®.

Contact us anytime at info@sinetamer.com or on our website at www.sinetamer.com.

Remember, we ARE the standard!



Number one in power quality problem

Transients, spikes, surges... these disturbances are the most destructive, costly and common power quality events in industry today. In the United States, these events represent billions of dollars a month in maintenance and production costs due to equipment failures, lost profits and losses due to opportunity costs. Over the years as virtually all equipment has become increasingly microprocessor based, such failures are more recurrent and more costly.

Other events such as fluctuations, blackouts and harmonics cause significant problems that are without a doubt disruptive, however as compared to transients, are much lower in actual damages.

Transients are able to stop equipment and plants for extended periods of time, causing disruptions in the processes, delays in deliveries and loss of credibility to clientele. Often, the repair costs are minimal compared to the cost of lost profits or deferred production. Equipment downtime prevents delivery of product demand and services that customers require.

The Power Transients Environment



What is a transient?

A transient is a brief but powerful high-voltage and high-current event that can last up to 100 microseconds (As defined by the ANSI / IEEE C62.41). It can climb as high as 100,000 volts during extreme events such as lightning, as high as 10,000 volts due to utility substation operations/grid switching events (external sources), as high as 6,000 volts for switching inductive loads (electric motors), and as small yet disruptive as 2,000 volts created internally. These internal causes can account for more than a million events per hour in heavy industrial environments.

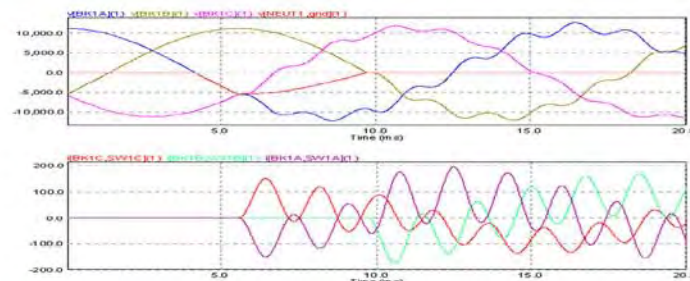


problem

It is critical to invest in protection systems in order to mitigate the damages caused by transients. The investment in SineTamer® products will cut annual maintenance electrical and / or electronic costs and provide the benefit of return on investment that typically ranges from 3 -18 months. Remember that these damages can occur at any time and in various ways: during a thunderstorm, a failure in the electrical system, in a blackout or even by a curious squirrel stumbling into an electrical transformer.

Critical system, always in danger

Electronic control systems can be found at: water treatment facilities, traffic control systems, point of sales (POS) terminals, automated industrial process plants, air traffic control systems, data processing centers, communication systems, radio base stations of cellular phone companies, clinics and hospitals, laboratories, financial centers, UPS's, and all manner of military defense systems. The consequences resulting from failures in these delicate circuits can, in many cases, be devastating.



External reasons - 20%

Dramatic and catastrophic lightning or electrical system failures represent 20% of the transient problems.

Internal sources - 80%

Switching of internal loads can produce up to 1,000,000 non-catastrophic yet disruptive transients per hour in very active industrial environments. This constant bombardment causes severe cumulative damage (electronic rust) and eventually serious failures.



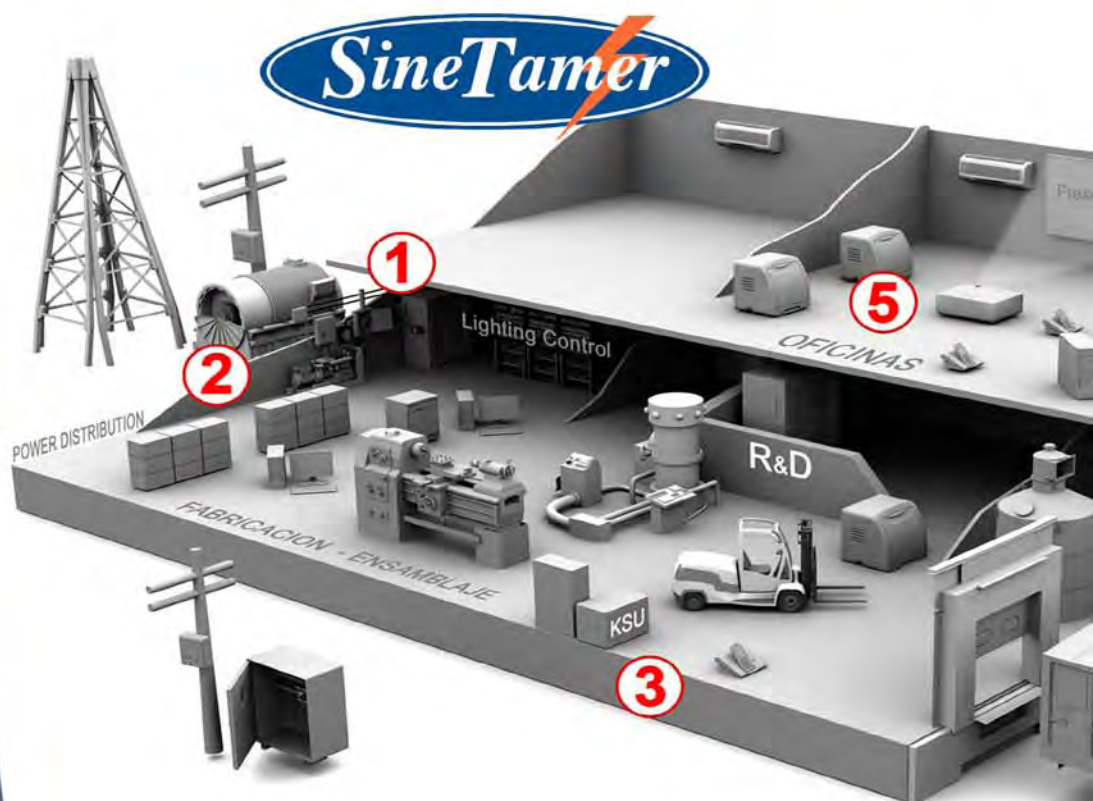
The Solution

Cascade Protection Network

The Optimal SineTamer® Protection Network consists of installing various types of protection units, strategically located at specific points where the critical equipment is located. These are known as levels 1 and 2, where an equipment failure can be lethal! The type, number and location of the specific SineTamer® units are determined by an on-site-survey by our trained distributor. This should be done on all of the panels, conducting a requirements analysis based on the critical nature of the connected loads. This cascade system will best cover all paths where transients are deemed to occur, reducing and eliminating the destructive effects of both types of transients. Even in the most severe conditions your system will survive and your equipment will continue operating..

U.S: NAVY Analysis of Pre/Post Installation of TVSS Systems on 23 Surface Ships

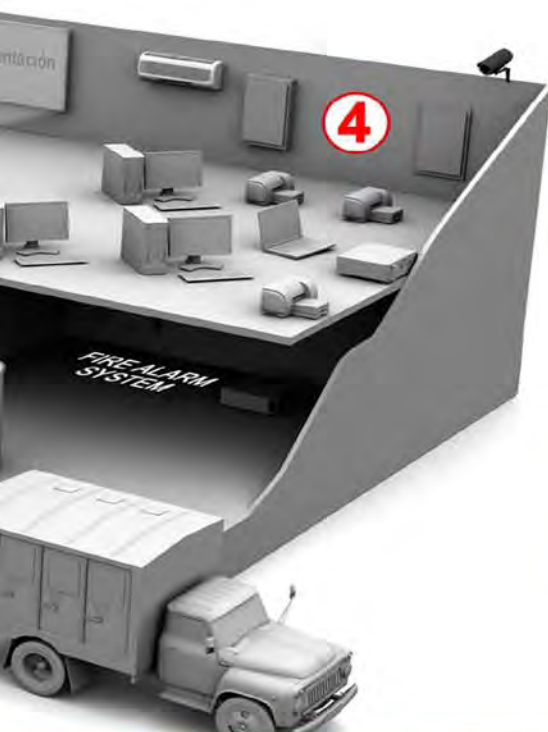
Annual Pre Install Maint. Costs	Annual Post Install Maint. Costs	TVSS Cost	Annual Savings
\$ 7,814,718	\$ 2,865,107	\$ 2,679,350	\$ 4,949,661



on

In addition to the protection system installed in the main panel listed in category C, it is strongly recommended that you also install suppressors in categories B and / or A, as per standard specification C62-72-2007, to be applied downstream of the electrical system.

ings	Payback Period (yrs.)
611	0.54



1. – Main Distribution Panel

The first line of defense is in the main distribution board. At this position the extremely high external surges begin to be attenuated and the high transient energy is reduced to levels that suppressors located downstream will eventually eliminate.



2. - Distribution Panel

The second line of defense aims to further reduce the residual missed by the first line, after receiving lightning or failures at the substation. Also to reduce transients generated in other boards.



3. - Telecom and Data Circuits

Control circuits and voice, data and signal transmission are also exposed to transients. These are very vulnerable, even minimal levels of transients voltage can damage communication ports and integrated circuits. Therefore, they should be protected throughout the facility and/or select the most critical or high risk spots.



4. - Sub Distribution Boards

Sub distribution boards are located to feed several areas for specific purposes, especially for critical loads and high value systems. These circuits, due to their value, must be protected



5. - Delicate Systems

It is very common to see extremely delicate control systems such as robotic controls, communications, security control centers, specialized machines and/or surgical. These systems need isolation from the transient generating sources to give them proper operational integrity. Making it extremely important to apply a good protection to mitigate the effects of transients.

Why Buy



SineTamer® is backed by a company of professionals in the design, development and implementation of high quality and internationally recognized surge protection systems. Our purpose is to provide our customers with individual attention thanks to the work of our engineers and of hundreds of professionals around the world who provide advisory services to technicians and engineers from many companies. As a result, they have acquired the ability to recommend and select the best alternatives for protection based on the experience, honesty and integrity of all those who form part of the SineTamer® family.



"The ultimate guarantee of the Industry"

Up to a Twenty Five (25) year guarantee against all failures by any electrical anomaly, including lightning. No fine print. We have many independent analysis and performance assessments of the SineTamer® system available.

ISO 9001
MANUFACTURER

ISO 14001
MANUFACTURER

Leadership in the high efficiency design

The best product in a "Real World". SineTamer® is best performing commercially available suppressor on the market today. We offer features such as "Discrete All Mode Protection" in other words: "True suppression with protection element in all modes". Compact design, capable of being applied into panel boards, with a high frequency conducting integrated circuit, encapsulated in a heat dissipating resin, with a true Frequency Attenuation system. All features that are now being copied but not equaled. As always our residual voltage remains the central focus of the design. We will never sacrifice its performance for a better commercial presence as other designs do.

The tool you need to make your buying decision

Real performance tests, transparent and complete specification sheets, efficiency tests with real-world applications ---no hidden evidence and false results, without specifications that are far from reality, no partial tests nor incomplete specifications. We want you to have real information at hand to make wise decisions.





Power Units

RM-LA-ST

These models are designed to be installed at main panels, automatic transfer switches and distribution boards, and in main breakers of machines, also for individual equipment such as variable frequency drives or CNC machine or other similar equipment.

The units are designed with the latest advances in circuit board design and computer modeling. All panel units are highly efficient suppressors with durability and stability carefully engineered in their circuit board and selected components.

We have units from 40KA to 600ka per phase, from 120VAC to 6900 VAC and up to 900VDC. Each are available with various options that are available on all models. Units are designed with fixed threshold clamping or

frequency attenuation circuit. Units are also available in various modes of protection – up to 10 discrete modes on three phase WYE systems.. The units are complete with heat dissipation resin covering all components to insure long term constant performance, compact design insuring short internal component lead length and , and standard thermal and current fusing.

All units are tested with the IEEE standards C62.41 and C62.45 for use in categories C, B, and A. Various families are also tested to IEC 61643-1 Class 2, 3. Below is an example of that information:



LA-ST Model

LA-ST devices provide the best protection available in units of their kind, units designed up for use in circuits up to 700VAC with capacities up to 300kA per phase, with all modes of protection, 10 in WYE, 6 in Delta, 6 in Split phase, and 3 in single phase circuits, with fixed threshold and frequency attenuation clamping, thermal fuse protected varistors, phase current fusing, and an absolute replacement guarantee for 20 years.

MEASURED LIMITING VOLTAGE PERFORMANCE AND ELECTRICAL SPECIFICATIONS

Model	Circuit Type	MCOV	Peak Surge Current (Amps) Per Mode	Mode	ANSI/IEEE C62.41 & C62.45 Let-Through Voltage Test Results		
					A1 2kV, 67A 100KHz Ring Wave 270° Phase Angle	ANSI/UL 1449- 2006 (Third Edition) Voltage Protection Rating (VPR)	C3 20kV, 10kA Impulse Wave 90° Phase Angle
LA-ST120 1P1	120V, Single O (2 wire + ground)	150 L-N 150 L-G 150 N-G	40,000 L-N 40,000 L-G 40,000 N-G 120,000 Total	L-N L-G N-G	45 60 55	500 500 500	914 1025 1176
LA-ST120 1S1	120/240V, Split O (3 wire + ground)	300 L-L 150 L-N 150 L-G 150 N-G	40,000 L-L 40,000 L-N 40,000 L-G 40,000 N-G 240,000 Total	L-L L-N L-G N-G	75 45 60 55	1000 500 500 500	1119 914 1025 1176

Control Power Units

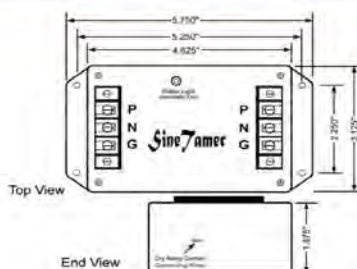
ST-SP, ST-SPT, FSPT Family

Controlling transients that disrupt the software of modern equipment is essential in proactive maintenance. Systems managed with microprocessors are extremely sensitive in single phase systems which is why they require the most effective protection.

The Family, including ST-SP, ST-SPT and FSPT units, is designed precisely for this purpose. Compact units to be installed in front of the power supplies and/or individual computers such as PLC's, servers, UPS's, laboratory equipment and many others find a solution in this family for the most demanding requirements. Their design, through the use of high conductivity integrated circuits, with thermal fused varistors, fixed threshold circuits, frequency attenuation and/or both, allow SineTamer® units with all protection modes, to deliver the lowest residual voltage ensuring the safe and secure operation of hardware and software.

These units, with 25 year warranty against defects generated by any electrical anomaly, have shown excellent performance in thousands of enterprises, giving users the required confidence to maintain their equipment fully operative.

They exceed the minimum requirements of the IEEE in Category A and IEC Class III categories respectively. Their residual voltages are among the lowest in the industry and therefore are able to provide the proper electrical operating environment for mission critical systems.



ST-SPT Series

The ST-SPT SineTamer® devices provide the best protection available for such units. These devices are designed for use in 120, 240 and 480 VAC and DC powered equipment in sensitive and critical equipment. They are extremely effective in limiting transients generated inside buildings, industrial plants, and medical centers. These areas often have significant ring wave generated events that attack microprocessors. All of the 15/30amp units provide 60ka of total energy dissipation.

MEASUREMENTS AND LIMITING VOLTAGE ELECTRICAL OPERATION AND SPECIFICATIONS

Model	High Voltage continuous operation	Modes	*ANSI/IEEE C62.41 - 1991 Through Voltage Testing		
			A1 2kV, 67A 100KHz Ring Wave 180 Phase Angle	A3 6kV, 200A 100KHz onda 90 Phase Angle	B3/C1 6kV, 3kA Impulse Wave 90 Phase Angle
ST-SPT24-15	30 L-N 30 L-G 30 N-G	L-N L-G N-G	20V (D) 43V (D) 29V (S)	66V (D) 133V (D) 66V (S)	197V (D) 252V (D) 385V (S)
ST-SPT120-15	150 L-N 150 L-G 150 N-G	L-N L-G N-G	28V (D) 62V (D) 41V (S)	94V (D) 190V (D) 94V (S)	290V (D) 380V (D) 550V (S)
ST-SPT240-15	300 L-N 300 L-G 300 N-G	L-N L-G N-G	38V (D) 70V (D) 51V (S)	121V (D) 220V (D) 121V (S)	610V (D) 605V (D) 605V (S)

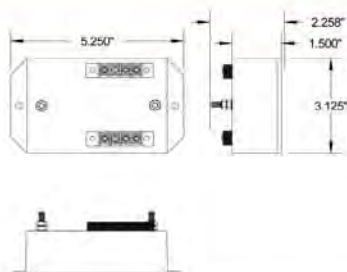


Intercom units / data

ST-CT / ST-TRJ / ST-T / ST-CXF / ST-CXBNC

SineTamer® has a wide range of data and telecommunications suppressors at your disposal. Designs that provide protection to all forms of telephone lines, including ISDN, E1 and T1. Models ranging from single, with screw-type terminals, in two blocks of connecting multiple pairs capable of protecting up to 25 pairs of lines.

The data lines of all types need to have an efficient lightning and surge protection. SineTamer® has models available for 4/20 mA, for load cell and flow meter applications, as well as 2, 10 and 100 Mbits and a single pair up to four pairs and are listed to UL497. SineTamer® is aware that security cameras are of great importance to the protection and safety of personnel and property. We have a complete line of coaxial protection units available - from a single port - dual port - and up to 12 rack mounting panels in ports.



ST Telecom/Data

These devices are designed to protect phone lines with standard voice quality. They are also intended for installation at the telephone demarcation point as well as to allow a common earth point. This device is available for a variety of line connections (1, 2, 3, 4, or 6 pairs) performed by using terminal strips and making installation very simple. An earth terminal is always provided on the face of the unit to ensure low ground impedance discharge path.

The unique design of these devices has turned them into the most versatile TVSS devices on the market, with superior performance specifications and an unrivalled guarantee.

Let-Through Voltages Using ANSI/IEEE C62.45 & C62.41 Test Environment: Static, positive polarity. All voltages are peak (+/-10%)

Model	Test Mode	Cat. B Impulse Wave 6kV, 3kA
ST-CLP24Ax-B	L-G L-L	<40 <40

ANSI/IEEE C 62.36-2000, C62.41.2-2002, C62.45-2002
Unpowered, Positive Polarity. All voltages are peak (+/-10%)

Let-Through-Voltages Tests:

Test Mode	Test Category B3/C1 Impulse Wave 6 kV 3kA
T-R T/R-G	< 420 V < 420 V

Table of Maximum Suggested Operating Limits, Data Rate & Additional Device Resistance

Nominal System Operating Voltage (Vnom)	CLP##Ax-B Operating Voltage Model Number	Maximum Continuous Operating Voltage (MCOV)		Maximum Continuous Operating Current (MCOC)	Maximum Digital / Analog Data Rates Vs. Additional Series Resistance
		Voltage (L-L)	Voltage (L-G)		2 Mbps / 20 MHz
15= Vnom < 32	ST-CLP24Ax-B	+36 Vpk	+36 Vpk	500 mA	5 Ohms per line (10 Ohms per pair/loop)

Below are just a few of our satisfied customers

Cementos Argos, Productos Familia, TIGO Medellín, Fabricato, Metro de Medellín, Postobon, Thyssen Krupp, Alpla, Femsa Coca Cola, Autoridad Autónoma del Canal de Panamá, Frito Lay, Tasa, Grupo Gloria, Xstrata Tintaya, Nextel, Essalud, América Movil, Interbank, CMPC Perú, BBVA Banco Continental, Parasa, Claro, Frigo Chorti, CIE, Caja Nacional de Salud Bolivia, La Papelera S.A., Matriplast, AXS Telecomunicaciones, Empresas Polar Venezuela, PDVSA, Digitel, Heinz, P & G Venezuela, Coca Cola, Chevron, Weatherford, Sidel Chile, Minera El Abra, Empresa Virutex Ilko, Coasin, Dow Chemical Argentina, Plus Petrol, VW, Ecco de los Andes, Roche, Renault, Repsol YPF, TGN y TGS Argentina, Franz Viegner Ecuador, AJE, El Comercio, El Universo, Eternit, Nokia Siemens Network, Petro Ecuador, Manuelita Colombia, Harinera del Valle, Vincorte, Colgate Palmolive, RTS Colombia, Holding Arauco, Holding CMPC, Inchalam, Casino Marina del Sol, Pemex, Exploración y Producción, Comisión Federal de Electricidad, Ingenio Benito Juárez, Cervecería Modelo, Mercasid, Aeropuerto Internacional CIBAO, Country Club Santo Domingo, Ecopetrol, Petrobras, Banagrario, EMCALI, Provenza, Bomberos Municipales, Publimer, Ministerios Ebenezer, Rhema Stereo Gospel, Liceo Cristiano Roca de Ayuda, Hospital Rawson, Grupo Peñaflor, Polimetel S.A., Energía Provincial Panele solares, Minera tea La Laja, CCU, Avx, Kimberly Clark, etc.



Improved performance
and a swift return on
investment (ROI) in
most applications

Energy Control Systems provides a competitive position all the way from large corporations such as Fortune 500 to the smallest business. Quality Power is needed in every sector, the commercial, industrial, services and defense. ECS provides comprehensive protection chains against the devastating effects of transients and against loss of opportunity and competitiveness. Lost profits increase costs and this has a direct impact on company profitability. Safeguarding critical systems is not only a wise precaution, it may even become a competitive advantage, and due to that and many other reasons, using SineTamer® is not only an option but a necessity.

SineTamer en Perú

"After carrying out installations in critical machines, maintenance interventions were no longer needed."



Ing. Emilio Moreno
Gloria SA

SineTamer en Venezuela

"Thanks to SineTamer®, we have eliminated 100% failure in control boards and power amplifiers."



Ing. Nelson Castillo
COL-PAL

SineTamer en Venezuela

"Installation of SineTamer® suppressors has enabled to increase production at very high levels."



Ing., Miguel Viloria
PETROBOSCAN

SineTamer en Venezuela

"SineTamer® has proven to be an invaluable partner to the oil industry by reducing deferred production generated by faults in electrical and electronic systems."



Ing. Frank Bustamante
Application Engineer

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