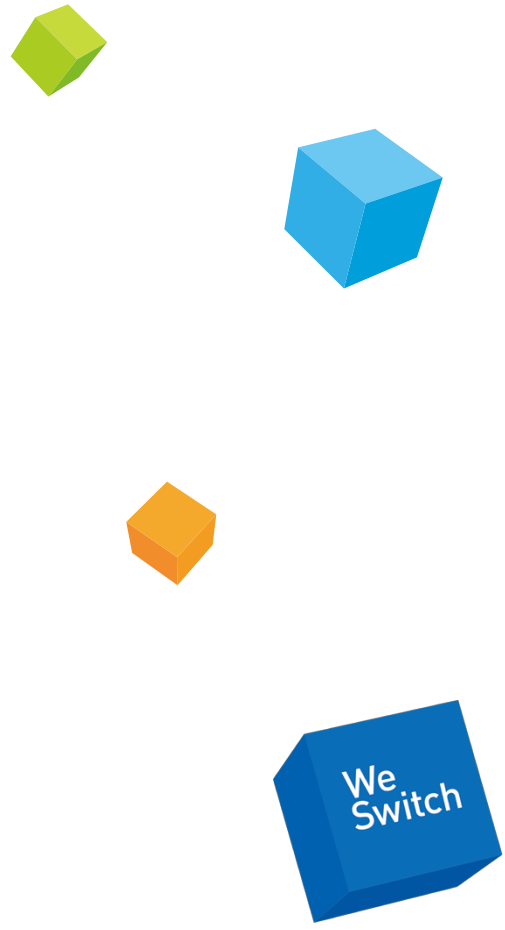
Fuji Electric

Innovating Energy Technology



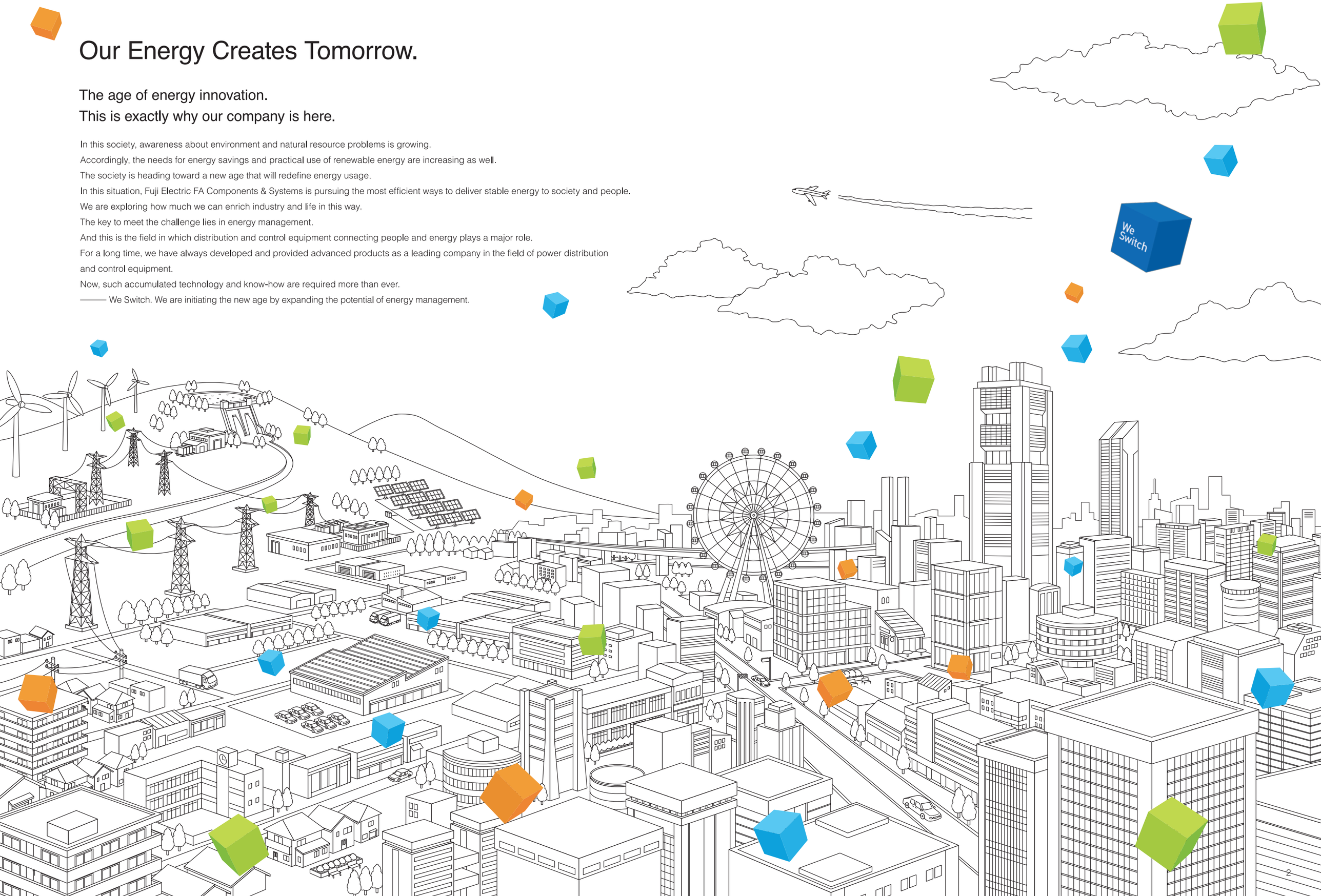
Fuji Electric FA Components & Systems Co., Ltd.

Corporate Profile

Our Energy Creates Tomorrow.

The age of energy innovation.
This is exactly why our company is here.

In this society, awareness about environment and natural resource problems is growing.
Accordingly, the needs for energy savings and practical use of renewable energy are increasing as well.
The society is heading toward a new age that will redefine energy usage.
In this situation, Fuji Electric FA Components & Systems is pursuing the most efficient ways to deliver stable energy to society and people.
We are exploring how much we can enrich industry and life in this way.
The key to meet the challenge lies in energy management.
And this is the field in which distribution and control equipment connecting people and energy plays a major role.
For a long time, we have always developed and provided advanced products as a leading company in the field of power distribution and control equipment.
Now, such accumulated technology and know-how are required more than ever.
——— We Switch. We are initiating the new age by expanding the potential of energy management.



Now is the time when power distribution and control equipment plays a vital role. We will combine our accumulated technologies and global knowledge to contribute to society.

These days, an unprecedented surge of change occurs in the energy management fields—creation, transmission and use.

Throughout the world, including developing nations, expectations for expanding electric power infrastructure and making practical use of solar and wind power generation are increasing.
Additionally, the importance of direct current (DC) applications is growing, and efforts are being made to introduce IT to control decentralized power generation and power supply networks.
In Japan, power consumption has been further reduced in factories, buildings, and homes and during logistics processes.
With active introduction of private power generation at more companies, it can be said that the world of electric energy has reached a major turning point.

It would not be exaggerating to say that power distribution and control equipment will play an important role in this innovative age.
Fuji Electric FA Components & Systems was established through the merger of the power distribution and control equipment division of Fuji Electric and the business in Japan of Schneider Electric.
It is our mission to gather the individually accumulated technical capabilities and global knowledge of the respective leading companies of Japan and the world, with their long history, to ensure that the new needs nowadays are met.
We assist our customers in expanding their business in Japan and outside Japan through our diverse lineup of international standard compliant products and total support system.
In addition, we are developing and proposing labor-saving products that streamline operations of customers and reduce their workloads.
To fulfill the responsibilities of a manufacturing company, we are revolutionizing our productivity by adopting IoT to the production lines and are making efforts to further improve our quality and cost competitiveness.
We will contribute to society through these efforts of linking and connecting our customers with newly created values.

Fuji Electric FA Components & Systems Co., Ltd.
President and Representative Director

MORIMOTO Masahiro

We Switch

Support industry.

We are pioneering the future of industry through increased automation and efficiency.

We Switch

Support life.

A stable and safe life is becoming normal.
Our technologies are supporting to ensure this life.

We Switch

Support the earth.

Contributing to the evolution of energy creation and energy savings is a duty of our company which utilizes natural resources.

Support industry.

Magnetic starter with top market share in Japan

Since the release of the RC3931-1 model in 1954, Fuji Electric magnetic starters have been bestsellers as core components of power control systems in all types of industrial fields. We reached a milestone in 2014 with the production of the 300 millionth unit.
We will continue to lead the way as a top manufacturer of magnetic starters so that we can always be ahead of the needs of the times through enhanced technology and quality.

We are pioneering the future of industry through increased automation and efficiency.

Factory automation accuracy determines productivity and quality control of a company.
It is no exaggeration to say that it is the foundation of the manufacturing industry.
Also, the energy, wiring and man-hour saved by automation greatly influences cost reductions.
Greater accuracy equates to greater efficiency. We have spent many years devotedly studying and improving the power distribution and control equipment on the production line. To contribute to further development of industrial activities,
We will continue to refine our knowledge and skills, to contribute to further development of industrial activities.

Main products that support factory automation lines

1

Low-Voltage Switches

Magnetic starters are devices that start/stop motors and prevent burnout caused by abnormal current. They are used in production facilities of factories and other facilities.

2

Switches and Operation Indicators

These switches and operation indicators for machinery are directly operated by human. For that we place emphasis on operability, design and visibility. They are used in machine tools and control panels.

3

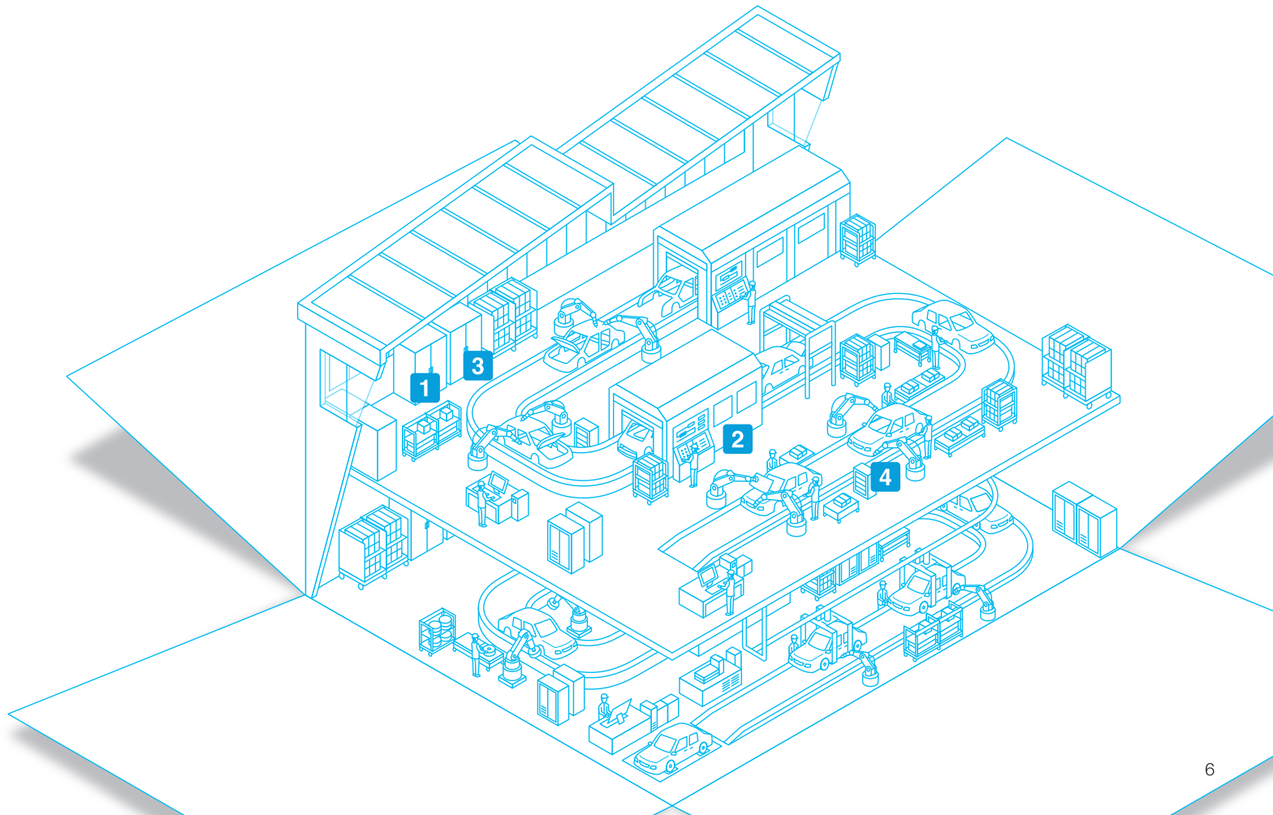
Low-Voltage Electrical Distribution Equipment

These molded case circuit breakers and earth leakage circuit breakers protect people and facilities from electric fires and electric shocks. They are used in factory electrical distribution switchboards and control panels.

4

Sensors and Limit Switches

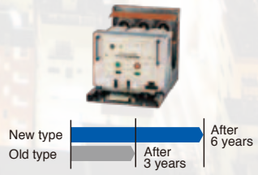
These FA sensors use contact and non-contact functionality to detect approaching objects and nearby objects. They are used on factory production lines.



Support life.

Medium-voltage vacuum circuit breakers for stabilizing power supply in factories and buildings

Fuji Electric medium-voltage vacuum circuit breakers support electrical facility safety and achieve high quality through integrated in-house vacuum valve production.
In recent years, the number of facility maintenance workers has decreased. We are thus making efforts to reduce the workload during equipment inspections, for example, by reducing lubrication points and extending inspection cycles, allowing users to reduce costs at all stages of product life cycles.



Inspections cycle is doubled

A stable and safe life is becoming normal. Our technologies are supporting to ensure this life.

Enjoying a stable continuous life not subject to significant changes is truly a blessing.
We believe that stable and safe quality means such a blessing.
In this regard, it can be said that the quality of power distribution and control equipment plays an indispensable role in providing a reliable supply of power to support stable and safe quality.
Our company stands with you so that your daily stable and peaceful life is ensured.
Fuji Electric FA Components & Systems will manage and monitor power supplied to facilities that cannot afford a power outage, such as data centers, hospitals, intelligent buildings and commercial facilities.

Main products that support the stable use of electric power

1

Power Management Devices

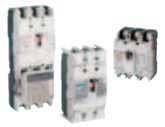
These power monitoring devices and their software visualize when, where, and how electricity is used. They are installed and used in power distribution boards and other equipment.

2

In-Board Medium-voltage Equipment

These air load break switches and vacuum circuit breakers open and close medium-voltage current conduction paths and cut off circuits at times of abnormality. They are used in the electric rooms of large-scale facilities.

3



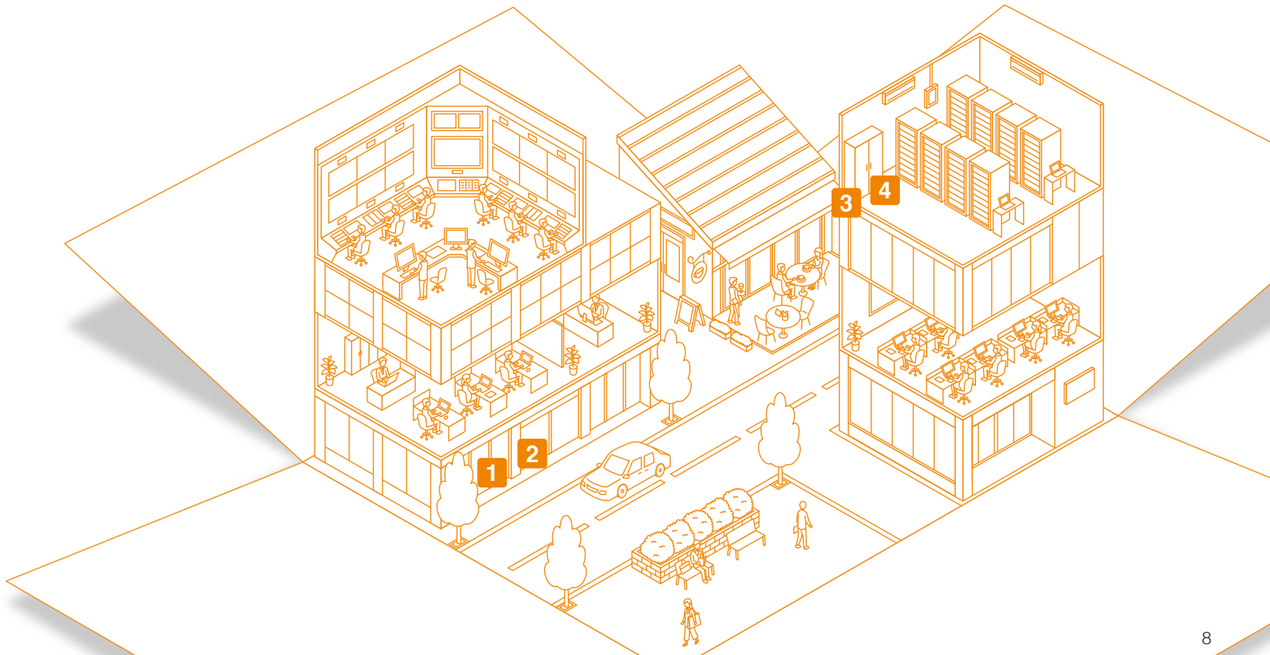
Low-Voltage Electrical Distribution Equipment

These molded case circuit breakers and earth leakage circuit breakers protect people and facilities from electric fires and electric shocks / accidents. They are widely used in homes and office buildings.

4

Low-Voltage Switches

These magnetic starters prevent burnout caused by motor starting/stopping and abnormal current. They are used in products like air conditioners, lighting equipment and elevators.

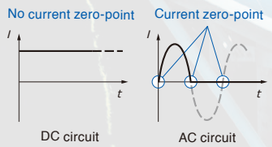


Support the earth.

DC devices for solar power generation facilities

DC circuits of a solar power generation system have, unlike AC circuits, no zero current point.
Therefore, breakers that are used for DC circuits need to adopt a technology for creating a zero current point. We have various elemental technologies for cutting off DC current, for example, forcibly applying a magnetic field with a permanent magnet to acquire arc driving force.

[Current waveform]



Contributing to the evolution of energy creation and energy savings is a duty of our company which utilizes natural resources.

What does it mean to handle energy?
This simply means to be engaged in the consumption of natural resources.
As a company that enjoys the blessings of the earth, we are obliged to contribute to its preservation.
We are thus committed to support energy conservation measures, such as efficiently converting solar and wind energy to electric energy and further promoting energy savings using our power monitoring system and other devices.
We are looking forward to prepare a beautiful future for the society by making use of our cultivated technologies in all technological fields.

Main products that support solar and wind power generation facilities

1

DC Devices

These DC switches and DC circuit breakers open/close and cut off DC circuit current. They are used in industrial solar power generation facilities such as mega solar power stations.

2

Low-Voltage Switches

These magnetic contactors are used to safely open and close conduction paths remotely. They significantly reduce conduction loss and power consumption and are used for new energy applications.

3

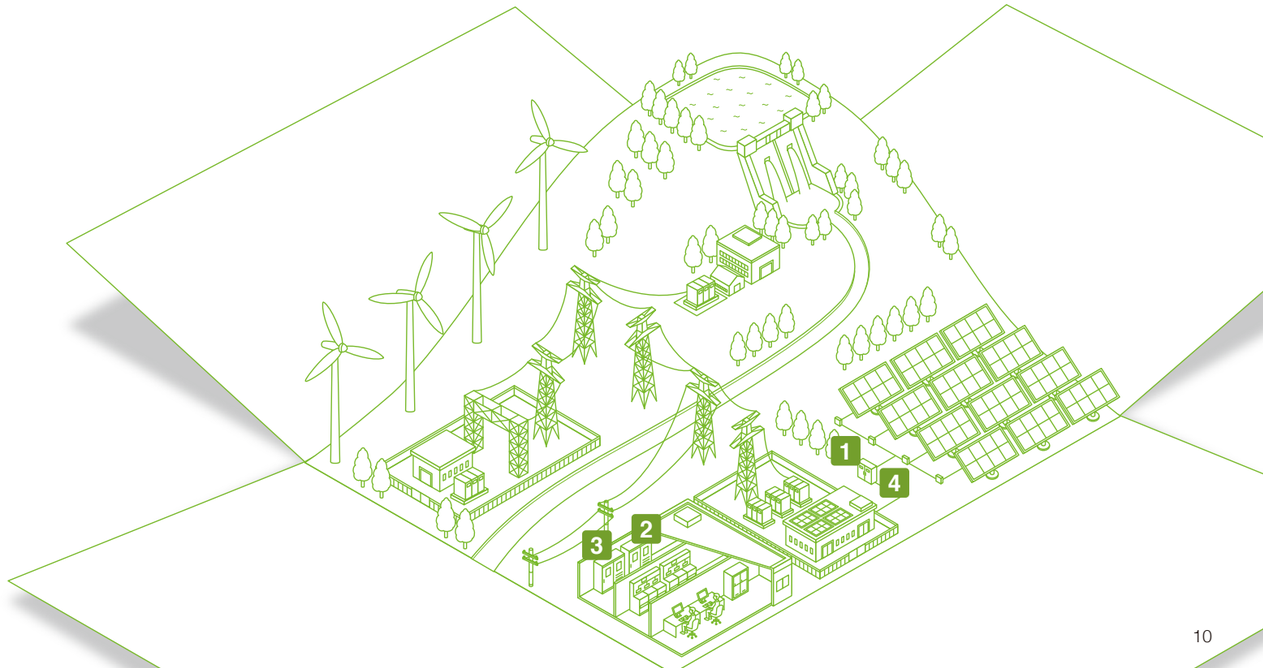
Power Management Devices

These power monitoring devices and their software visualize when, where, and how electricity is used. They are installed and used in power distributing boards and other equipment.

4

PV String Monitoring Units

These compact units collect data by measuring power generation voltage and current in solar power generation systems. They are installed and used in connection boxes and energy-saving boxes.



PRODUCTS

We will continue to provide a diverse lineup of products refined by our foresight and know-how.

Low-Voltage Switches

These products are utilized in motor-operated control equipment.
Fuji Electric's electromagnetic switches are our proud products with top share in Japan.

Magnetic Contactors, Switches and Thermal Overload Relays

Manual Motor Starters and Combination Starters

Solid-State Contactors

AC Power Regulators

Low-Voltage Electrical Distribution Equipment

An extensive product range compliant with major international standards.
We offer a broad array of equipment to accommodate borderless markets.

Molded Case Circuit Breakers and Earth Leakage Circuit Breakers

Miniature Circuit Breakers

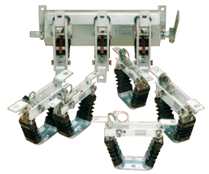
Low-Voltage Air Circuit Breakers

Circuit Protectors

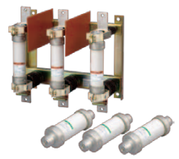
Low-Voltage Current-Limiting Fuses

Medium-voltage Electrical Distribution Equipment

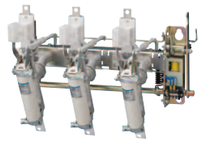
We provide customers with varieties of highly reliable medium-voltage electrical distribution products that are compatible with feature-rich electrical distribution systems.



Medium-voltage Disconnecting Switches



Medium-voltage Current-Limiting Fuses



Medium-voltage Air Load Break Switches

Medium-voltage Vacuum Circuit Breakers

Medium-voltage Vacuum Magnetic Contactors

Static Type Protective Relays

Power Monitoring Systems

We support customers to visualize their power situations through energy-saving monitoring technology.

Power Monitoring Systems

Digital Meters

Multifunctional Digital Relays

Automatic Power Factor Regulators

Control Equipment

A diverse product lineup that includes world-class products such as switches and operation indicators and sensors.

Switches and Operation Indicators

Control Relays

Sensors and Limit Switches

Time Delay Relays

Supporting advanced-level product development

[TECHNO LAB]

In the TECHNO LAB, we implement new material R&D, various-simulation-based verification and product-based performance assessments in order to always provide a high level of quality and performance. Furthermore, it acts as a development test building that enables people to observe work flows ranging from experiments to analysis, prototyping and evaluation.

R&D

– Research and Development –

The capability to always meet tomorrow's needs. This is where our products come from.

Enhanced performance, lower power consumption, miniaturization... We are constructing comprehensive systems and advanced development environments to meet the continuously-changing needs of customers and to develop advanced equipment that further promotes the spread of new energies.

Design review at a development meeting

Quick product development via 3 department collaboration

Our Marketing Department works diligently to quickly understand market needs. Market information is reflected in product design by the Development Department. The Technological Development Department verifies the design. It also implements new material research, analysis, and experiment evaluation to develop future fundamental technologies. Through close collaboration, these 3 departments are capable of achieving speedy product development.

Cutting-edge facilities for achieving high quality

We have established in-house development facilities to help us accumulate technology and know-how for the company. These facilities include one of the few breaking test facilities in Japan capable of testing large currents in anticipation of accidents. In order to meet market needs in a timely manner, we have introduced cutting-edge development and testing facilities to further raise the quality of our products.

Using a high-definition 3D printer to mold a nylon based sample

Breaking test to verify safety during large current flow accidents

Sample observation using digital microscope with up to 5,000× magnification

Manufacturing

High level quality of products and work are maintained by the fusion of people and advanced systems.

To produce the best products, optimized production facilities are needed. To construct such facilities, we place emphasis on production technology, on-site capabilities and human resources. Each employee continues to refine his or her skills, sensibilities and utilizes his or her ideas with cutting-edge technologies in production line development. We are making continuous efforts to reduce costs and improve productivity.

Production technology capabilities to create a flexible automated production line

We possess the quality and cost competitiveness to meet the requirements of our customers. This is the result of our flexible automated lines that meet ever-changing market needs. We are able to make constant innovations for our lines by using the ideas proposed by expert on-site personnel and by utilizing sensor and robotic technologies. We develop facilities that contribute to customers. This pursuit has no end.

High-level on-site capabilities achieved through team strength and use of IoT

We are working to improve productivity even more by strengthening our on-site capabilities; for example, we are improving skills capable of raising product reliability and team capabilities for quickly solving a problem to achieve ambitious goals, visualizing electric power, production, facility and quality information through IoT, and achieving spiral up in information quality and the improvement level.

Introducing IoT to ascertain the states of production lines in real time

Skilled workforce to support global manufacturing

Our network extends from Japan to China and all of Asia. As the production activities expand, cost reduction overseas through local design, local production and consumption are more required than before.
Our Japanese factories are positioned as mother factories that train and refine personnel that can convey their manufacturing capabilities to overseas production sites to raise productivity on a worldwide scale.

Relationships between Japanese factories and overseas production sites

(Magnetic contactors and thermal overload relays mother factory)

Fukiage Factory (Japan) → Production technology collaboration → Fuji Electric (Changshu) (China)

(Molded case circuit breaker and earth leakage circuit breaker mother factory)

Otawara Factory (Japan) → Production technology collaboration → Fuji Electric Dalian (China)

Assembly line automation with autonomous double-arm robots

We have been able to increase production efficiency and stability, while improving our ability to respond to multi-product variable-lot production requirements by utilizing next-generation double-arm autonomous robots on our compact magnetic contactor and magnetic starter assembly lines. Moreover, we made co-work of robots and humans possible by eliminating the need of a safety cover.

Showroom

[TECHNO WAVE FUKIAGE]

This is a communication space where visitors can see, touch and experience the business and history of Fuji Electric, future and technologies of power distribution and control equipment, and manufacturing.

Open: 10 a.m. - 4 p.m. Closed: Saturdays, Sundays, national holidays, and days when the factory is closed
For bookings and inquiries, contact: E-mail: twf@fujielectric.com

Support & Services

Aiming to be your best partner.
We always stand beside our customers.

Customer feedback is our most precious asset. Customers are invited to contact us at any time. For that, we have established a comprehensive support system both in Japan and abroad.

System for responding to inquiries quickly

We have established a special unit that provides technical support to the Quality Assurance Department to help respond to customer suggestions and reflect corresponding solutions into future product development.
The unit is composed of experience-rich staff members who are capable of answering technical questions and giving advice regarding product selection, installation and usage.

Special unit providing product technical support

Technical Consultation Counter

Fuji Electric FA Component & Systems Product Inquires

E-mail: ed-c@fujielectric.com
https://www.fujielectric.com/fcs/

Network strongly supporting overseas expansion

We are expanding our global network so that our products can be obtained all over the world. In particular, we are supplying the Asian markets with products that meet their local needs. In addition, we are providing after-sales services at many of our sales agencies so that we can respond to problems quickly.

Conveying technical expertise and the latest information

We are currently holding "Fuji Electric Technical Seminars" that cover topics ranging from basic product knowledge to applications and specialized content for the engineers and electrical facility maintenance personnel of machine and control panel manufacturers. In addition, we have also opened a showroom called Techno Wave Fukiage for introducing cutting-edge products and the latest topics in the industry.

CSR
– Corporate Social Responsibility –

Coexisting in harmony with the environment and the local community is our principle as a company engaged in the energy industry.

We are conscious of our role as a company closely connected with natural resource utilization, and as a business that connects energy and people. In this regard, we actively contribute to the environment and local community through activities that help us to fulfill our social responsibility.

Reduction of environmental burdens during development and production

We perform a development assessment for all new products during the development stage to evaluate the product contribution to the environment and register the product as an Eco-friendly Product if it satisfies certain criteria. In addition, we are working to reduce power consumption by utilizing our own proprietary energy monitoring and energy-saving systems into production activities.
Moreover, we are also implementing measures to reduce hazardous substances and utilize alternatives.

What are eco-friendly products?

☐ Eco-conscious products
These are products that are designed to reduce environmental burdens at all stages of the product life cycle including procurement, manufacturing, logistics, usage, disposal and recycling of products and its materials and parts.
→ "SK Series" magnetic contactors and thermal overload relays
"G-TWIN ⊠ (Lambda) Series" molded case circuit breakers and earth leakage circuit breakers "minico Series" command switches

☐ Eco-friendly products
These products contribute to preserving the environment.
→ "F-MPC Series" power monitoring systems


SK Series


G-TWIN ⊠ (Lambda) Series

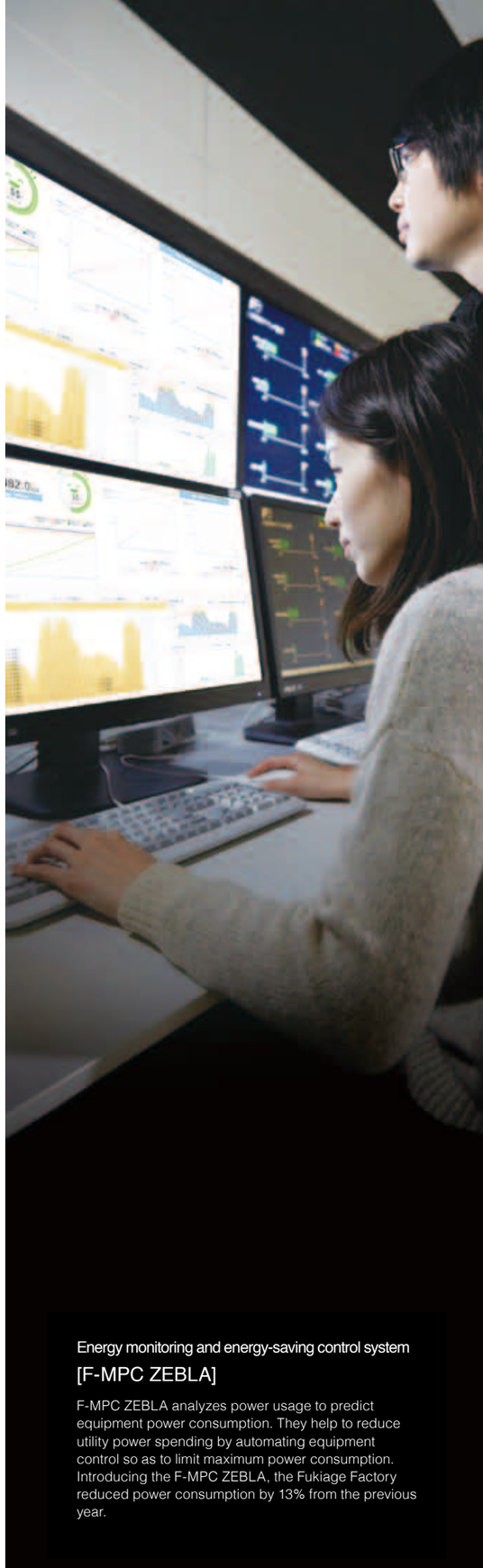

minico Series

F-MPC Series

Mutual activities to get in touch with the community and to educate people

We actively hold exchanges with people in the local community through factory festivals, participation in community events and factory tours for community groups. We also provide factory tours and internships for students from elementary schools to universities so that we can convey to them the pleasure, difficulties and work ethic involved in manufacturing.

Holding a science class for neighborhood elementary school students



Energy monitoring and energy-saving control system

[F-MPC ZEBLA]

F-MPC ZEBLA analyzes power usage to predict equipment power consumption. They help to reduce utility power spending by automating equipment control so as to limit maximum power consumption. Introducing the F-MPC ZEBLA, the Fukiage Factory reduced power consumption by 13% from the previous year.

Company Outline

Company Name	Fuji Electric FA Components & Systems Co., Ltd.
Head Office Address	Mitsui Sumitomo Bank, Ningyocho Bldg., 5-7, Nihonbashi, Odemma-cho, Chuo-ku, Tokyo 103-0011, Japan Tel: +81-3-5847-8000
Representative	MORIMOTO Masahiro President and Representative Director
Established	October 1, 2008
Paid-in Capital	7.6 billion yen
No. of Employees	(non-consolidated) Approx. 900 (consolidated) Approx. 2,600 (as of March 2019)
Shareholder Composition	Fuji Electric: 63% Schneider Electric: 37%
Business Activities	Development, manufacturing, sales and services related to power distribution and control equipment, etc.

Manufacturing Sites

Fukiage Factory

1-5-45 Minami, Konosu-shi, Saitama 369-0192, Japan
Tel: +81-48-548-1111

Otawara Factory

1043 Nakadawara, Ohtawara-shi, Tochigi 324-8510, Japan
Tel: +81-287-22-7111

Chichibu Fuji Co., Ltd.

755-1, Ogano, Ogano-machi, Chichibu-gun,
Saitama 368-0193, Japan
Tel: +81-494-75-1111

Fuji Electric Dalian [China]

Fuji Electric Dalian Co., Ltd.
No.3 The Third Street of Northeast, Dalian Economic & Technical Development Zone, Dalian 116600, China
TEL: +86-411-8762-2000

Fuji Electric (Changshu) [China]

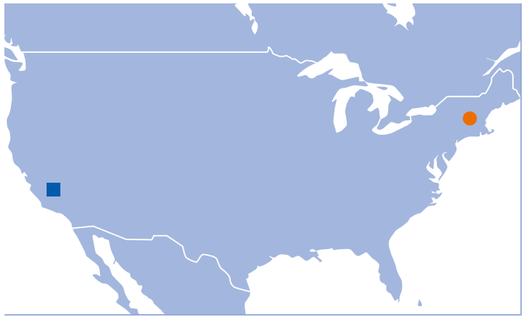
Fuji Electric (Changshu) Co., Ltd.
No.18, Dongshan Road, Changshu City, Jiangsu Province, 215500, China
TEL: +86-512-5284-5642

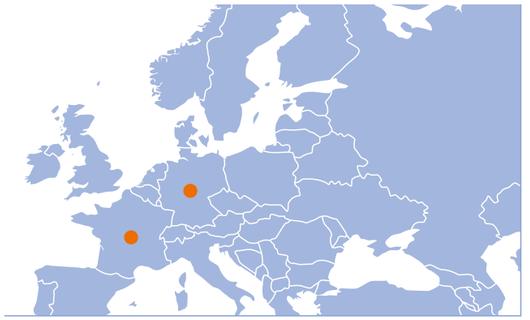
Company History

- **1923** Establishment of “Fuji Electric Manufacturing Co., Ltd.”
- **1943** Started operation of the “Fukiage Factory”
- **1954** Magnetic switches launched
- **1960** Command Switch control display devices launched
- **1967** Establishment of “Chichibu Fuji Co., Ltd.”
Earth-leakage circuit breakers launched
- **1972** Establishment of “Fuji Electric Technica Co., Ltd.”
- **1973** Started operation of the “Otawara Factory”
- **1984** Changed company name to Fuji Electric Co., Ltd.
- **1990** Twin Breaker dual molded-case circuit breaker and earth-leakage breaker launched
- **1994** Establishment of “Fuji Electric Dalian Co., Ltd.”
- **1998** Reached cumulative production of 200 million magnetic switches
- **2001** Establishment of “Fuji Electric (Changshu) Co., Ltd.”
- **2003** Due to shift to pure holding company system, incorporation-type company split undertaken with equipment and control operating division established as Fuji Electric FA Components & Systems Co., Ltd. the core operating company of Fuji Electric Holdings Co., Ltd.
Started reciprocal supply of products
- **2004** Establishment manufacturing joint venture for molded-case circuit breakers in Dalian, China
- **2007** Started supplying molded-case circuit breakers and earth-leakage circuit breakers under the Schneider brand overseas
- **2008** System equipment business and power supply sales integrated into Fuji Electric Systems Co., Ltd.
Started joint venture between Schneider Electric Japan Ltd. and power distribution & control equipment operations
- **2010** Relocated the Izumiotsu Distribution Center for Schneider brand products to the Fukiage Office
- **2012** “TECHNO WAVE FUKIAGE” showroom opened
- **2014** Reached cumulative production of 300 million magnetic switches
Opened R&D Center “TECHNO LAB” at the Fukiage Factory
- **2017** Reached the production milestone of 20 million magnetic contactors at Fuji Electric (Changshu)

Overseas Operation

● Sales Company ■ Branch Office



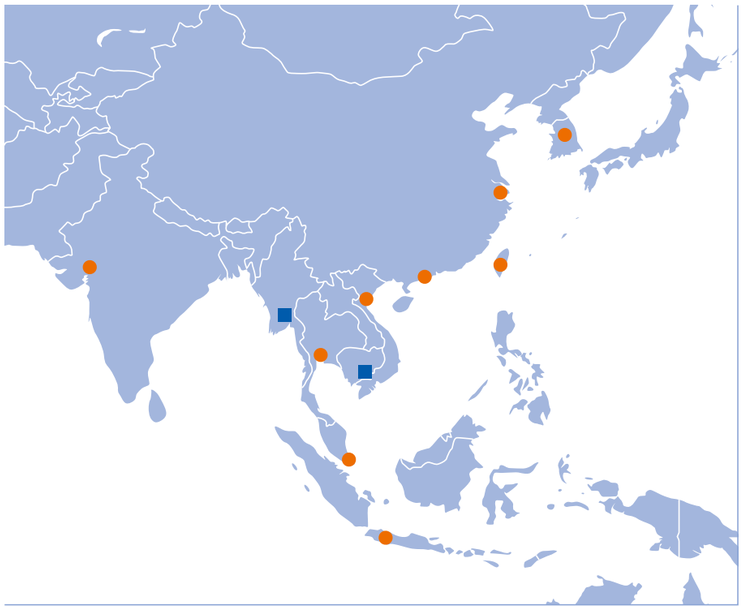


America Area

● USA	Fuji Electric Corp. of America	+1-732-560-9410
■ USA	Fuji Electric Corp. of America	+1-510-440-1060

Europe Area

● Germany	Fuji Electric Europe GmbH	+49-6966-90-290
● France	Fuji Electric France S.A.S	+33-4-7398-2698



Asia Area

● Korea	Fuji Electric Korea Co., Ltd.	+82-2-780-5011	● Thailand	Fuji Electric (Thailand) Co., Ltd.	+66-2-210-0615/6
● China	Fuji Electric (China) Co., Ltd.	+86-21-5496-1177	● Singapore	Fuji Electric Asia Pacific Pte. Ltd.	+65-6653-0014
● Taiwan	Fuji Electric Taiwan Co., Ltd.	+866-2-2511-1820	● Indonesia	PT Fuji Electric Indonesia	+62-21-574-4571
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● Vietnam	Fuji Electric Vietnam Co.,Ltd.	+84-4-3935-1593			

■ Cambodia	Representative office of Fujielectric Co., Ltd. (Cambodia)	+855-(0)23-964-070
■ Myanmar	Representative office of Fujielectric Co., Ltd. (Myanmar)	+95-1-838-2714

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