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## Sanyo Denki in Society

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Sanyo Denki's products are used in many products for various applications and contribute to society in this way.

Our servo system and cooling system products are used as parts, therefore they are rarely seen by the general public. Many power system products also serve a role as part of systems therefore, for the most part, go unnoticed by most people. Here, I would like to introduce the places where our products are used.

The main applications of our products are as follows.

Servo system products are used to move things.

Many of our products are used particularly in applications which demand high speed and high accuracy.

The main applications include machine tools, robots, injection molding machines, semiconductor manufacturing equipment and chip mounters.

Cooling system products are used to cool things.

Our products are used in applications which demand high cooling performance, low power consumption, long life, resistance against heat, water, oil and high temperatures, as well as high environmental resistance.

The main applications include telecommunication equipment, servers and power sources.

Power system products are used in the management of electric energy.

Our products are used in applications which demand high reliability and high conversion efficiency.

The main applications include photovoltaic power generation systems, communication networks, government/public systems and servers.

The general public is not very familiar with these kinds of applications.

However, many Sanyo Denki's products play an active role in places the average person is very familiar with.

As excellent examples, banks and convenience stores use many of our products.

Bank automatic teller machines (ATM) use stepping motors for bank books and printing receipts.

Stepping motors are also used in the recycle unit for bank notes and over ten stepping motors are used for each ATM.

ATMs fill out bank books internally. Each time a page is turned, the thickness of the portion being printed on changes, therefore the load applied to the printer changes. Moreover, the load on the transfer motor when transferring bank notes fluctuates, as some bank notes are brand new, while others are old and crumpled. A motor with high torque which does not step-out when load fluctuates in this way is required for such applications.

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Meanwhile, banks wish to downsize ATMs so that they can install as many as possible. Consequently, motors which are compact yet display high torque are adopted.

Moreover, Sanyo Denki's cooling fans are used to cool the control panels inside ATMs and uninterruptible power supply (UPS) is used to supply power constantly, with no risk of power outage.

Our motors are used in the scanning mechanism of photocopiers and internally our cooling fans are used to transfer and dry paper. Photocopiers are required to achieve clearer images. For this reason, motors used in the scanning mechanism must be capable of smooth movement free of vibration.

Our cooling fans are also used in the refrigerator/freezer showcases of convenience stores. Refrigerators are used to maintain a constant temperature through the internal circulation of cool air, therefore cooling fans are used to create air curtains which prevent cool air from scattering.

Moreover, the humidity level inside refrigerators is high, therefore cooling fans with excellent water resistance are required.

Cooling fans are also used in the recently popular coffee machines to disperse aroma and remove any internal humidity.

The POS systems at cash registers use cooling fans to cool their CPU, as well as UPS.

The security cameras mounted on the ceiling use cooling fans to cool their internal printed circuit boards and hard disks, while stepping motors are used for positioning.

Convenience stores exert effort to minimize their overall power consumption, therefore products with low power consumption are preferable. For this reason, Sanyo Denki provides motors and cooling fans with low power consumption.

In this way, Sanyo Denki's products are used in many applications in convenience stores, an extremely familiar part of our everyday lives. Different specifications are required for the various applications. We provide products which can be flexibly applied to individual specifications.

The majority of our products are used as parts. Parts are not often seen by members of the general public. However, by providing parts with high performance, high reliability and special specifications to our customers, we are improving the performance and reliability of their products, and can contribute to society in this way.

This Technical Report introduces Sanyo Denki's technical accomplishments. We will offer these new, superior products to society.