FUJIKURA HISTORY

Road to independence: The economic boom and bust cycle prompted Fujikura to develop new technologies and strengthen its sales networks amid increasing competition. Meanwhile, the company also improved welfare programs, establishing different in-house systems and opening resort facilities for the employees. With in-house news having been issued in 1954, the company's internal management system has been augmented.

Shaping the future with "Tsunagu" Technology.

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Power & Telecom

Release of Fiber Optic Splice Closure for Ultra-High Density Cable

Fujikura Ltd. has released fiber optic splice closure for ultra-high density cable. The maximum installable fiber count is 3,456F. The closure is designed as small as possible even though it installs high fiber count such as 3,456F. Small size splice tray for housing fibers and efficient fiber route management to enable the closure to be compact design. In this time, Fujikura has released in-line type and dome type closures for ultra-high density cable. Therefore, the closures can adapt any wiring environment such as installing into the tight manhole and mounting on a power pole that is often seen overseas.

In current years, ultra-high fiber count cable installation has been increasing due to expansion of data center construction. Recently, Fujikura has released high fiber count cable "Wrapping Tube Cable™(WTC™)" with 3,456F and 6,912F. In order to install, connect and distribute 3,456F and 6,912F, the closure is definitely required. To adjust the ultra-high fiber demand, Fujikura continues to develop the next closure for 6,912F that is designed same size for 3,456F with full efforts. In order to increase splicing capacity from 3,456F to 6,912F in a same size closure, there are three significant key elements. Firstly, Spider Web Ribbon™(SWR™) is Fujikura's original flexible optical fiber ribbon and it consists of 200 μm fibers, so it enables to be smaller and lighter compared to conventional SWR with 250 μm fibers. Secondly, applying thinner splice sleeves increases installable number of fibers per one splice tray. Lastly, new fiber organizing tube has been developing and it contributes an efficient and economical fiber route management. As current working for ultra-high fiber count solution, Fujikura continuously develop advanced products to support the high capacity data transmission.

● Dome Type Closure (FSCO-BUW)

Size	H700 mm × ϕ285 mm
Weight	7 kg
Cable Diameter	10 - 30 mm
Maximum Number of Cables	8 Cables
Number of Splice Trays	24 Trays

● Inline Type Closure (FSCO-TN-HA)

Size	H250 mm×L620 mm ×W300 mm
Weight	11 kg
Cable Diameter	8 - 33 mm
Maximum Number of Cables	6 Cables
Number of Splice Trays	24 Trays

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EL Electronics

Temperature-compensated Differential Pressure Sensor AD2 Series

Fujikura has developed a new sensor for measuring differential pressure, the AD2 series, and will start the mass production in spring 2019. This differential pressure sensor has two pressure inlets and allows clients to measure based on any desired pressure and use the product in different applications including both industrial and consumer equipment. Combining an ultra-small differential pressure sensor chip with a signal processing IC using Fujikura's technologies of MEMS, assembly and packaging enabled the pressure sensor of high precision, low-power consuming, and environmental and high pressure resistance. In addition, the shape and arrangement of pins of the new product are also compatible with those of the previous products, and so our clients can continuously use their substrates without design changes, which facilitates the replacement. We will continue to contribute to society by developing new eco-friendly high-accuracy sensors.

New product (AD2 series)

Sensor Business Unit sensor@jp.fujikura.com

EX Exhibition

Exhibition at IZB in Germany

Fujikura exhibited at International Suppliers Fair (IZB) held in Wolfsburg, Germany, from October 16 to 18. IZB is one of the largest exhibitions for automotive components and hosted by Wolfsburg City and Volkswagen once in every two years. Fujikura Automotive Europe GmbH of the Fujikura Group sets up its booth there every year. Fujikura's exhibition booth this time featured an acryl car as the centerpiece. The car was equipped with a wire harness architecture, high-voltage components, a high-speed large-data backbone using active optical cables (AOC), FPC modules, heat pipe modules and a passenger detectable AI camera, as Fujikura's next generation car solutions, to suggest future technologies.

The event was so meaningful that we were able to actively discuss with our major European clients. Fujikura will work as one to introduce new products that can be the pillar of development and evolution of our automotive business toward a once-in-a-century period of transformation.

Fujikura staff (in front of the booth)

Sushi event at Fujikura booth

Automotive Products Company automotive@jp.fujikura.com

Information

Publication of Fujikura Group CSR Integrated Report 2018

The Fujikura Group has published Fujikura Group CSR Integrated Report 2018, which describes the company's CSR activities of last year. The CSR Integrated Report features the group's business model, financial information and ESG (environment, society, and governance) and is intended for all the stakeholders including stockholders, investors and clients.

This report covers a substantially increased volume of the message from the president and a value creation model illustrating social values created through the business model for the first time. In addition, the report also includes new contents of the company's efforts in promoting SDGs (sustainable development goals), which currently draws attention, and CSV (creating shared value) activities to meet our stake holder's requirements.

The integrated report are available in pamphlet (available in PDF) and HTML. We hope that you will read it and expect our efforts toward the Fujikura Group's continuous growth and solving social challenges.

▶ URL: http://www.fujikura.co.jp/resource/pdf/csr2018_all.pdf

Fujikura Group CSR Integrated Report 2018

Top message

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Information

Fujikura Volunteers in Disaster Relief in Minamisoma City, Fukushima Again in 2018

The Fujikura Group conducted volunteer work to support reconstruction of devastated area in Minami Soma City, Fukushima, from October 26 to 27, 2018. More than seven years and a half have passed since the Great East Japan Earthquake and the subsequent Fukushima Daiichi nuclear power plant accident occurred on March 11, 2011. In current years, a decrease in the number of volunteers visiting the devastated areas has raised concerns about the recovery in Fukushima losing momentum.

The Fujikura Group has been involved in volunteer activities in Fukushima annually since 2014. This year marks our fourth volunteering activity, which took place from October 26 to 27, 2018 with 20 participants, the highest number. In cooperation with an NPO, Minamisoma City Volunteer Work Center, we cut the grass on the slope near a reservoir and around houses left standing.

Although our volunteering may be just a small step in reconstructing Fukushima, we will continue supporting the stricken areas to live up to people's expectations for a quick recovery.

Cutting glass on slope

Group photograph of participants

CSR Promotion Team fjk.csr@jp.fujikura.com

Development of Four-core Three-mode Optical Fiber for Large Capacity Communications

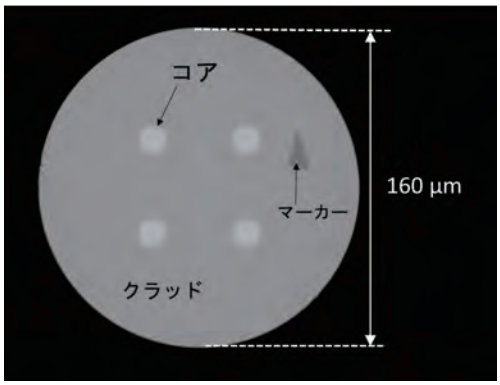
Fujikura has developed an optical fiber that has four cores capable of transmitting in three modes and an outer diameter of 160 μm. National Institute of Information and Communications Technology (NICT) has succeeded in large-capacity transmission testing with this optical fiber. NICT also presented the results at the largest international conference in Europe regarding optical communication, European Conference on Optical Communication (ECOC) 2018 held in Rome, Italy in September. This thesis *1 has been so highly evaluated that it has been accepted as a post-deadline thesis*2.

Currently, data traffic has been increasing worldwide, and existing optical transmission system using optical fibers will reach capacity in the near future. Many organizations are researching on spatial multiplexing transmission using few-mode multicore fibers (FM-MCFs), which have multiple cores capable of transmission in different modes, as the next-generation optical technology that surpasses the limitations.

Against such a background, we have researched on and developed optical fibers for spatial multiplexing transmission for a while. Until now, FM-MCFs that achieved transmission capacity of more than 1 petabit (Pbit) per second had a large outer diameter (diameter of glass) so as to accommodate as many cores as possible. However, optical fibers with a large outer diameter entail many challenges including decrease of long-term reliability and manufacturability.

The new fiber designed by Hokkaido University and produced by Fujikura has four cores and three modes, which make 12 transmission channels. The outer diameter is limited to 160 μm, which is close to 125 μm of an existing optical fiber. Consequently, the new fiber can be easily made into cables and easily connected to existing optical fibers. NICT has succeeded in testing of transmission of large capacity as much as 1.2 Pbit/second using this FM-MCF. We will research and develop toward the construction of future large capacity optical networks, which will support the progress of broadband services.

● Cross-sectional photo of four-core three-mode optical fiber



*1 Ruben S. Lu'ıs et al., ECOC 2018, Th3B.3 (2018)
*2 a paper accepted after submission deadline. Only highly-regarded studies are allowed to report on the results.

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