



FUJIKURA NEWS

Fujikura's Sensors Contributing to the Medical Field

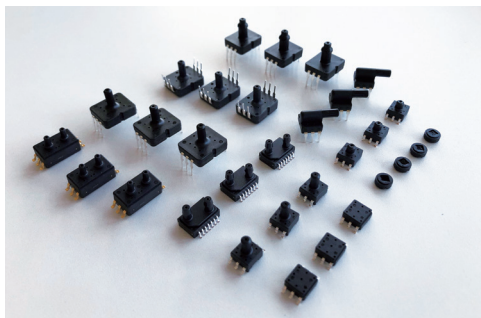
Fujikura's pressure sensors and oxygen sensors have been in production for about 40 years and currently are used in various fields such as industrial machinery, automobiles, and consumer products. Since right after the launch of the production, each sensor has been installed in a blood pressure monitor or oxygen concentrator and used in the medical field.

Oxygen concentrators use a pressure sensor to detect supply pressure and an oxygen sensor to measure oxygen concentrations. The oxygen concentrators are an important medical device for patients who need a high concentration of oxygen. These devices can also be used at home for home oxygen therapy (HOT) as well as at hospital. The devices treat and relieve patients' symptoms of chronic obstructive pulmonary disease (COPD), and the spread of increasingly miniaturized mobile oxygen concentrators helps the patients' quality of life (QOL) improve. In addition, recently, these devices have started to be used for home recuperation of the patients infected with the new corona virus.

As reported in the media, the Japanese government has supported other countries which have been suffering from the COVID-19 pandemic by providing them with oxygen concentrators. However, since the products are in short supply domestically, the government has requested each domestic manufacturer to increase production.

Against this backdrop, we are also expanding the production capacity by establishing an emergency system to increase the production.

All our pressure sensors and oxygen sensors have a high accuracy of sensing and, because of the quality, are used by medical device makers worldwide. Also, our sensors are used in devices to treat still raging COVID-19, as the components to play a key functional role. We contribute to the medical field by stably providing the products based on their high reliability and proven performance.

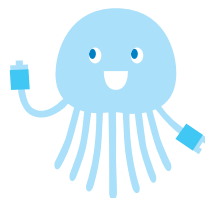


Pressure sensors



Oxygen sensors

Point applicable to SDGs17



Fujikura's pressure sensors and oxygen sensors, which have been used in medical devices since the start of the production, have been stably provided based on their high reliability and proven performance and thus contributed to the medical field.



Small-diameter High-density Slot-less Optical Fiber Cable Registered on Land, Infrastructure, Transportation and Tourism Ministry's New Technology Information System

Different types of small-diameter, high-density, slot-less optical fiber cables, such as sheathed ones have been registered on Land, Infrastructure, Transportation and Tourism Ministry's New Technology Information System. (NETIS register Number: KT-190087-A)

This has allowed us to offer the optimal structure for a wide range of scenarios, for example, the area damaged by birds and animals.

We will contribute to the development of an advanced telecommunication society by continuously developing new products to satisfy clients' requirements.

*1 New Technology Information System is a database system created by the Ministry of Land, Infrastructure, Transportation and Tourism with the aim of sharing and offering new technology-related information so that new technologies are utilized. When companies, which place orders for public constructions or work on the project, use a registered technology, this will give the companies an advantage of additional points to construction performance evaluation according to the effect of the utilization.

Small-diameter, high-density, slot-less optical fiber cable

<p>Sheathed cable</p>	<p>[Features]</p> <ul style="list-style-type: none"> • Sheathed to prevent damage by birds and other animals • Easier attachment of lead wire than previous sheathed cables • Increased number of fibers installed into conduit (effective use of conduit) • Decreased tension for installation and cable bending radius <p>[Applicable location]</p> <p>Section to prevent damage by birds and other animals</p>	
<p>Flame-retardant PE sheath, non-metallic cable</p>	<p>[Features]</p> <ul style="list-style-type: none"> • Flame-retardant/nonmetallic • Increased number of fibers into conduits (effective use of conduits) • Decreased tension for installation and cable bending radius <p>[Applicable location]</p> <p>Cable tunnel, Substation</p>	<p>Freestanding cable</p> <p>[Features]</p> <ul style="list-style-type: none"> • Decreased burden on utility poles • Freestanding structure to allow suspension-wire-free aerial wiring • Usable self-supporting structure <p>[Applicable location]</p> <p>Overhead</p>
<p>Flat cable (with support wire)</p>	<p>[Features]</p> <ul style="list-style-type: none"> • Decreased burden on utility poles • Freestanding structure to allow suspension-wire-free aerial wiring • Easier installing of lead wire than round cable <p>[Applicable location]</p> <p>Overhead</p>	<p>Flat cable (without support wire)</p> <p>[Features]</p> <ul style="list-style-type: none"> • Decreased burden on utility poles • Easier installing of lead wire than round cable <p>[Applicable location]</p> <p>Overhead</p>

Point applicable to SDGs17



The cables, which use our proprietary technology, support the advancement of 5G and higher-capacity networks and contribute to the progress of safe and robust infrastructures. Also, using environmentally-friendly materials fulfills our responsibilities for manufacturing.

Optical Cable Systems Division

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2021 BICSI JAPAN District Conference & Exhibition

2021 BICSI JAPAN District Conference & Exhibition is held by the BICSI Japan, virtual online on November 25 (Thurs.) and 26 (Fri.).

Fujikura will join this event and conduct technical workshops (30 min.) introducing the latest data center solutions, and optical-related products. We are excited to welcome you to the 2021 Bicsi Japan Conference & Exhibition! Immerse yourself in information and communications technology (ICT) education and technological advancements while networking with colleagues from all over the globe.

The activities of BICSI aim to improve the skills of network designers

and installation engineers. Fujikura supports the BICSI activities further advancing ICT society.

2021 BICSI Japan District Conference & Exhibition

Dates: November 25 (Thurs.) and 26 (Fri.) 2021

Site: Web site / URL: <https://www.bicsi.jp/>

*all content is available up to 14 days post-conference until December 17 (Fri.)



* BICSI (The Building Industry Consulting Service International): Established in 1974 in the United States. BICSI is a professional association supporting the advancement of the information and communications technology (ICT) profession and currently serves more than 26,000 members and credential holders. BICSI is the preeminent resource for the Connected World. Headquartered in Tampa, Florida, USA, BICSI membership spans nearly 100 countries.

Point applicable to SDGs17



Fujikura contributes to the improvement in correctly designing networks and properly installing even better quality products.

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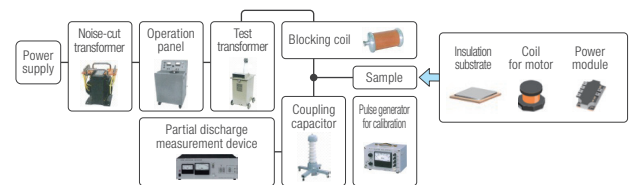
Contract Partial Discharge Test Services

Fujikura Dia Cable has started new contract partial discharge test services. We offer unique measurement services for our customers by taking advantage of our techniques and experiences as a national pioneer maker of partial discharge measuring devices.

Partial discharge means small discharge happening at defective areas such as voids in the insulators of electric devices and deteriorates the defects. So detecting partial discharge helps potential defects from occurring.

However, the implementation of partial discharge tests requires investment in facility and the know-how of measurement. Since we started the sales of partial discharge test device in 1969, we have had a long-term field-proven track record of manufacturing the measurement device for electric motors, power semi-conductors, and other devices. Consequently, we offer measurement services that utilize our experiences and knowledge.

Automatic measurement systems can obtain characteristics including the maximum partial discharge quantity, partial discharge inception voltage and conduct tests complying with different standards. We designed the measurement area not to be affected by noise, and also can prepare Fluorinert to suppress discharge around samples so that measurement results are free of the effect of noise as much as possible.



Partial discharge measurement circuit and samples

Point applicable to SDGs17



Widely offering our partial discharge measurement technology to detect small deterioration signal of insulators allows electric insulating products to gain high reliability and contributes to the progress of technology.

✉ Fujikura Dia Cable LTD. Engineering Department

<https://www.fujikura-dia.co.jp/contact/>

Addition of the Industry's Smallest FPC Connector FFA2 Series

With decreasing size and weight of mobile devices, customers demand for further miniaturization of FPC connectors. To satisfy the demand, we have developed a connector of the FFA2 series.

This product has the industry's narrowest contact pitch of 0.15 mm, mating height of 0.55 mm, and is equipped with 2 contacts, each of which can be energized even at 2 A.

With the industry's smallest connection structure^{*1}, the connector can maintain high performance using an FPC hook mechanism^{*2}.

Optimal connector for mobile devices such as wearable devices.

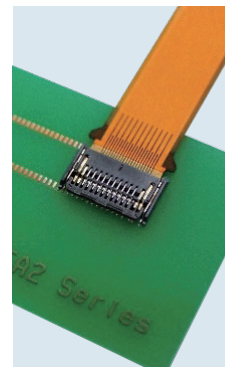
^{*1} Our proprietary connection structure: securing contact reliability and retaining holding FPC

^{*2} Our proprietary FPC hook mechanism: specialized to improve the retaining of FPC

■ Table 1. Product specifications

	Existing product	New product
Series	FF29B	FFA2
Mating height	0.66 mm	0.55 mm
Pitch	0.175 mm	0.15 mm
Depth	3.00 mm	
Voltage rating	AC 50 V (r.m.s.) / DC 50 V	
Current rating	Signal contact: 0.2 A / pin Power supply contact: 2.0 A / pin	
Dielectric withstand voltage	AC 200 V (r.m.s.) / minute	
Insulation resistance	DC 250 V 50 MΩ 以上	
Contact resistance	Signal contact: 100 milli ohm Max. Power supply contact: 40 milli ohm Max.	
Operating temperature	-55 °C ~ +85 °C	
Number of contacts	Signal contact	13,14,18,20,23
	Power supply contact	4,20
		2

■ Fig. 1 Appearance



Point applicable to SDGs17



Fujikura's connectors pursue miniaturization to meet demands in the markets of smartphones and mobile devices with higher functionality and contribute to the advancement.

✉ Connector Business Unit

ddk.contact@jp.fujikura.com



Optical cabling system of low-loss multi-fiber connector and the latest optical technology of SWR™ / WTC™ (WTC with multi-fiber hardened connector)

An optical cabling system which combines Fujikura latest optical technology of the Low-loss multi-fiber connector and the SWR™ / WTC™, has been adopted for the optical network of Chubu Electric Power Grid Co., Ltd.

The optical cabling system consist of a bayonet multi-fiber hardened connector which enables all 24 fibers of the aerial WTC cable to be connected collectively. By adopting this system, the installation of the access network could be quickly and economically performed.

This optical cabling system was jointly developed with Chubu Electric Power Grid Co for telecommunications of electric power systems required extremely

reliable. The excellent workability of the system was highly evaluated in actual construction of this fiscal year.

We pledge to continue to provide outstanding optical cabling systems which meet the market's needs.



Features of the optical cabling system

1 Light & Compact

Comparing with closure in terms of weight: 99% reduction, area exposed to wind: 96% reduction

2 Low loss

Insertion loss is less than or equal to 0.35 dB (Against reference connector)

3 Excellent workability

Bayonet connector enables 24 fibers collective connection

4 Reliable design

Ferrule is placed inside a connector, and it is a safe design that does not damage the ferrule during connection operation.

5 Flexibility

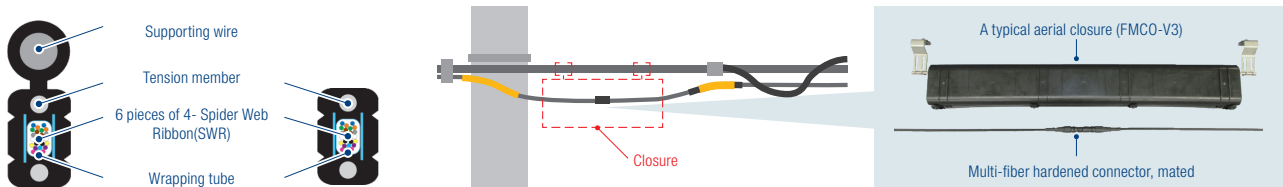
Besides direct cable connection, the product is able to connect to an existing closure and construct branch connections. A dedicated optical cleaner is available.

6 Excellent environmental performance cable

Materials with excellent environmental performance are adopted

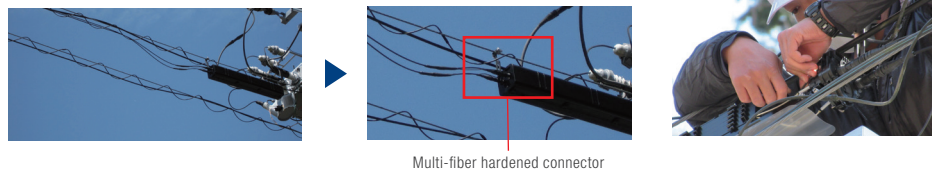
7 Cable adopted

Aerial WTC 24 fibers cable adopted, which enables a weight reduction of 69% compared to a slot-type cable.



Commercialized cases

Adopted in the networks of Chubu Electric Power Grid Co., Ltd.



Point applicable to SDGs17



Fujikura's latest optical technology offers optimal fiber-optic cabling to construct access networks quickly and economically.

Optical Cable Systems Division

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